

SPATIAL MEDIATION

Buildings as commodities for exhibitions discourses: the case of the Bienal de São Paulo (1957-2018)

Lívia Morais Nóbrega

Recife, Brasil
2022

Federal University of Pernambuco
Postgraduate Programme in Urban Development

Lívia Morais Nóbrega

SPATIAL MEDIATION:
Buildings as commodities for exhibitions discourses –
the case of the Bienal de São Paulo (1957-2018)

Recife
2022

Lívia Morais Nóbrega

SPATIAL MEDIATION:
Buildings as commodities for exhibitions discourses – the case of the Bienal de São Paulo (1957-2018)

Thesis submitted to the Postgraduate Programme in Urban Development of the Federal University of Pernambuco (UFPE), as a partial requirement for obtaining the degree of Doctor of Urban Development.

Area: Urban Development.

Main supervisor:
Luiz Manuel do Eirado Amorim, Ph.D (UFPE/Brazil)

Second supervisor:
Daniel Koch, Ph.D (KTH/Sweden)

Recife
2022

Catalogação na fonte
Bibliotecária Lílian Lima de Siqueira Melo – CRB-4/1425

N754s Nóbrega, Lívia Morais
SPATIAL MEDIATION:Buildings as commodities for exhibitions discourses – the case of the Bienal de São Paulo (1957-2018) / Lívia Morais Nóbrega. – Recife, 2022.
570f.: il., fig., tab.

Sob a orientação de: .Luiz Manuel do Eirado Amorim.
Sob a coorientação de: Daniel Koch.
Tese (Doutorado) – Universidade Federal de Pernambuco. Centro de Artes e Comunicação. Programa de Pós-Graduação em Desenvolvimento Urbano, 2022.

Inclui referências e apêndices.

1. Desenvolvimento Urbano. 2. Arquitetura;. 3. Bienal de São Paulo. 4. Edifícios. 5. Exposições. 6.Mediação espacial I. Amorim, Luiz Manuel do Eirado (Orientação). II. Koch, Daniel (Coorientação) III.Título.

711.4 CDD (22. ed.) UFPE (CAC 2022-66)

Programa de Pós-graduação em Desenvolvimento Urbano
Universidade Federal de Pernambuco

Lívia Morais Nóbrega

Spatial Mediation: Buildings as commodities for exhibitions discourses – the case of the Bienal de São Paulo (1957-2018)

Tese apresentada ao Programa de Pós-Graduação em Desenvolvimento Urbano da Universidade Federal de Pernambuco, como requisito parcial para obtenção do título de doutorado em Desenvolvimento Urbano.

Aprovada em: 08/04/2022.

Banca Examinadora

Participação via Videoconferência
Prof. Luiz Manuel do Eirado Amorim (Orientador)
Universidade Federal de Pernambuco

Participação via Videoconferência
Prof. Fernando Diniz Moreira (Examinador Interno)
Universidade Federal de Pernambuco

Participação via Videoconferência
Prof. Cristiano Felipe Borba do Nascimento (Examinador Externo)
Fundação Joaquim Nabuco - FUNDAJ

Participação via Videoconferência
Profa. Sophia Psarra (Examinadora Externa)
The Bartlett School of Architecture, UCL

Participação via Videoconferência
Profa. Ioanna Stavroulaki (Examinadora Externa)
Chalmers University

Participação via Videoconferência
Profa. Kali Tzortzi (Examinador Externo)
University of Patras

Caixa Postal 7809 Cidade Universitária – CEP: 50732-970 Recife/PE/Brasil
Tel: +55 (81) 2126311 / Fax: +55 (81)21268772
E-mail:mdu@ufpe.br www.ufpe.br/mdu

To Edna, Edson, Eduardo, Lucas, and Chinito.

ACKNOWLEDGEMENTS

The completion of this thesis would not have been possible without the support of all those who crossed my personal and professional trajectory in these five years. I thank my colleagues and professors from the doctoral course of the Programa de Pós-Graduação em Desenvolvimento Urbano (MDU/UFPE), Architecture and Urbanism research line, in particular to my main supervisor, Luiz Amorim, for his inspiring work, precise guidance, and confidence in my research.

Thanks are due to my second supervisor, Daniel Koch, who welcomed me and carefully guided the research during my stay at the Royal Institute of Technology (KTH), in Stockholm, along with Ann Legeby, Adrià Carbonell, Matilde Kautsky and Lena Stina Andersson, colleagues of the Critical Morphology and Spatial Analysis (SAD) research profile, great co-workers and excellent debaters on higher seminars. I also thank colleagues from the Spatial Morphology Group (SMoG), especially Gianna Stavroulaki and Jorge Gil, from Chalmers University of Technology, in Gothenburg, for the rich discussions and thesis defenses I was able to attend during my stay in Sweden. I also thank Professor Sophia Psarra, for having appreciated my research proposal and for agreeing to supervise me during a possible visiting doctoral period at the Bartlett School of Architecture. This visiting doctoral period (2019-2020) was essential for the maturation of the research, and it was possible thanks to the financial support of the Coordenação de Aperfeiçoamento de Pessoa de Nível Superior (CAPES). The Swedish experience, although interrupted by a pandemic, was warmer thanks to the affection of Patrícia, Alex, and their families, to whom I am deeply grateful.

My most sincere thanks are also due to the researchers and professors who made valuable contributions at the various phases in which this investigation was open for discussion and evaluation, namely Cristiano Borba, Edja Trigueiro, Fernando Diniz Moreira, Kali Tzortzi, and Moacir dos Anjos. I am also grateful for the opportunity to participate and present an excerpt of this research in the 1st International Space Syntax PhD Conference, whose discussions were of great contribution to the final development of this thesis.

The object of this research, the Bienal de São Paulo, could only be deeply known thanks to the collaboration of: the Arquivo Histórico Wanda Svevo of the Fundação Bienal de São Paulo, especially Ana Paula Marques, Marcele Souto, and Thiago Gil; the architects Álvaro Razuk, Anna Helena Villela and Marta Bogéa, for the enlightening conversations about their participation in the projects of the BSP 27, 29, 31, 32 and 33. The trips to São Paulo were also welcomed by Daniel Dana, to whom I am sincerely grateful.

I also thank my former students, now professional colleagues, who helped me to start the first redrawings of the plans, especially Manoela Jordão, Pâmela Clericuzzi, Thaís Castello Branco, and Victória Albert. I also thank Flavia Lopes, for her attentive mediation in a webinar presentation of this research, as well as for her help with the map of the presence of countries in the Bienal de São Paulo. The colleagues from the Departamento de Arquitetura e Urbanismo (DAU/UFPE), who supported my partial or total absence from undergraduate classes, also deserve my sincere thanks.

The intellectual production of the Laboratory for Advanced Studies in Architecture (lA2/UFPE), with more than twenty years of research, was also of fundamental importance, not only for the development of this thesis, but for the state of art of morphological studies of buildings in Brazil. The laboratory, coordinated by Luiz, was also founded by Claudia Loureiro (*in memoriam*), whose thesis, in addition to being insightful, begins every paragraph with sentences in bold (to whom I pay a simple reference).

Finally, I also thank my loved ones, especially my parents, Edna and Edson, for always encouraging my choices; to my brother, Eduardo, for his complicity and for the beautiful illustrations that make up the outer and inner covers of this thesis; my closest and distant friends, especially Bella, Joana, Lili, and Nanda; the inspiring women who support me in many ways, Helga, Heloísa, and Luísa; and my companion, Lucas, all for their emotional support, not only in the development of this work, but in a longer and deeper life journey.

“Mediators are fundamental. Creation is all about mediators. Without them, nothing happens. They can be people – artists or scientists for a philosopher; philosophers or artists for a scientist – but things too, even plants or animals...”. (Deleuze, 1989, p. 285)

“The Bienal [de São Paulo] destiny was to find a place that should be between the market, the art fair and the museum”. (Pérez-Oramas apud Cypriano and Grinspum Ferraz, 2012)[1]

“Commodities, like persons, have social lives”. (Appadurai, 1988, p. 3)

[1] All translations by the author, unless otherwise noted.

ABSTRACT

This thesis proposes the concept of spatial mediation as a configurational strategy for the exchange between people and things, which is particularly evident in exhibition spaces – whose main function is precisely to foster these exchanges. In contrast to other types of mediation, spatial mediation occurs not through educators or technological devices, but through the system that structures the interaction between displayed contents and its visitors. This concept is characterized by a double-faceted logic that concerns the very definition of exhibition spaces – settings for exchange that operate through the display of artifacts, for cultural and economic purposes. These two facets are made up of pairs of concepts that address the following issues: 1) discourse and narrative – which describe how things are arranged in space and how the messages embedded in this arrangement can be interpreted through spatial navigation; 2) commodity and capital – which represent the syntactic and semantic role of the building in defining a system of material and symbolic exchanges. These two facets are objectively represented by the short-term layout of the exhibitions and the long-term layout of the building that houses it. This phenomenon is investigated at the Bienal de São Paulo (BSP), an expression that designates both a building (designed by Oscar Niemeyer in 1954), and a set of exhibitions (with 34 editions, 31 of which held in the same pavilion). This long overlap between building and exhibitions provides robust evidence for the proposed discussion, which was obtained through exploratory diachronic studies (on 30 BSP, from 1957 to 2018) and through specific case studies (on 9 BSP). These studies allowed us to delimit: a) the territory in which spatial mediation takes place – a spatial system open enough to support a multiplicity of occupations, but closed enough to minimally structure the movement; b) how it works – by transforming a spatial system that is simultaneously complex and generic into a system that is highly specific. The first aspect required the development of three representation models – complex, generic, and specific, to describe the spatial systems of buildings and exhibitions based on different criteria, thus generating different levels of network descriptions. And the latter enabled the characterization of two types of spatial mediation, mediation as a means and mediation as an end, whose characteristics describe how the attributes and elements of the exhibition layout are situated in relation to those of the building layout, whether within its limits or beyond them – the former related to the notion of commodity and the latter to a process of commodification. This approach, which is essentially based on the distinction between perennial and ephemeral layouts, can provide new perspectives of morphological thinking for the design and study of uses and internal arrangements of other types of buildings and spaces.

Keywords: architecture; Bienal de São Paulo; buildings; exhibitions; spatial mediation.

RESUMO

Esta tese propõe o conceito de mediação espacial enquanto uma estratégia configuracional de troca entre pessoas e coisas particularmente evidente em espaços expositivos – cuja função principal é precisamente a de fomentar estas trocas. Em contraste com outros tipos de mediação, a mediação espacial ocorre não por meio de educadores ou dispositivos tecnológicos, mas através do sistema espacial que estrutura a interação entre conteúdos expostos e seus visitantes. Este conceito caracteriza-se por uma lógica de dupla faceta que diz respeito à própria definição de espaços expositivos – instalações para a troca que operam por meio da exposição de artefatos, para fins culturais e econômicos. Estas duas facetas são compostas por pares de conceitos que abordam as seguintes questões: 1) discurso e narrativa – que descrevem como as coisas estão dispostas no espaço e como as mensagens embutidas neste arranjo podem ser interpretadas por meio da navegação espacial; 2) mercadoria e capital – que representam o papel sintático e semântico do edifício na definição de um sistema de trocas materiais e simbólicas. Estas duas facetas são objetivamente representadas pelo layout de curta duração das exposições e pelo layout de longa duração do edifício que as abriga. Tal fenômeno é investigado na Bienal de São Paulo (BSP), expressão que designa um edifício (projetado por Oscar Niemeyer em 1954) e um conjunto de exposições (com 34 edições, 31 delas realizadas no mesmo pavilhão). Essa longa sobreposição entre edifício e exposições fornece evidências robustas para a discussão proposta, que foram obtidas por meio de estudos diacrônicos exploratórios (sobre 30 Bienais, de 1957 a 2018) e por meio de estudos de casos específicos estruturados (sobre 9 Bienais). Estes estudos permitiram delimitar: a) o território em que a mediação espacial acontece – um sistema aberto o bastante para suportar uma multiplicidade de ocupações, mas fechado o suficiente para estruturar minimamente o movimento; b) como ela funciona – por meio da transformação de um sistema espacial que é simultaneamente complexo e genérico em um sistema altamente específico. O primeiro aspecto requereu o desenvolvimento de três modelos de representação – complexo, genérico e específico, que descrevem os sistemas espaciais de edifício e exposições com base em diferentes critérios, gerando com isso níveis distintos de representação das redes. E o segundo possibilitou a caracterização de dois tipos de mediação espacial, mediação como meio e mediação como fim, cujas características descrevem como os atributos e elementos que constituem o layout da exposição estão situados em relação àqueles dos layouts do edifício, se dentro dos seus limites ou se para além deles – relacionados aos conceitos de mercadoria e mercantilização, respectivamente. Essa abordagem, que se baseia na distinção entre layouts perenes e efêmeros, pode fornecer novas perspectivas de pensamento morfológico para a concepção e estudo de usos e arranjos internos de outros tipos de edifícios e espaços.

Palavras-chave: arquitetura; Bienal de São Paulo; edifícios; exposições; mediação espacial.

LIST OF FIGURES

Figure 1 -	Palace of Industries, São Paulo, 1954	28
Figure 2 -	Crystal Palace, London, 1851	28
Figure 3 -	Museum of Unlimited Growth, Le Corbusier, 1938	29
Figure 4 -	Museu de Arte de São Paulo, Lina Bo Bardi, 1968	29
Figure 5 -	Educational mediation in BSP 18 (1981)	43
Figure 6 -	Primary and secondary forms of mediation	44
Figure 7 -	Palace of Industries (Pavilhão Bienal) and BSP 12 (1973)	48
Figure 8 -	BSP 1 (1951) building and exhibition plans (floor 0)	52
Figure 9 -	BSP 1 main circulation path, plan (floor 0) and contents	55
Figure 10 -	Nickelio's museum and library (1727) and The Crystal Palace (1851)	59
Figure 11 -	Markus' building classification system (1993) and associations with the empirical object (1993)	70
Figure 12 -	Elements and exchange relations in exhibition spaces of commercial and cultural use	72
Figure 13 -	St. John's Market (1822) and The Commissioners' design for the 1851 exhibition building (1850)	73
Figure 14 -	Space dimensions and plan representation: axial, visual field, convex, and justified graphs	84
Figure 15 -	Bisociative approach of exhibition space	90
Figure 16 -	First facet of the bisociative approach	95
Figure 17 -	Second facet of the bisociative approach	103
Figure 18 -	BSP 18 – A Grande Tela (1985)	106
Figure 19 -	BSP edition (top) and year (bottom) distribution	108
Figure 20 -	BSP organization system – Timeline	110
Figure 21 -	The Museum Era – BSP 1 (held in the temporary Pavilhão Trianon) and BSP 6 (held in the Pavilhão Bienal)	112
Figure 22 -	The Matarazzo Era – BSP 7 (Lygia Clark, *Bichos*) and BSP 15 (Ernest Pignon-Ernest, *Intervention de Grenoble*)	114
Figure 23 -	The Curators' Era – BSP 16, BSP ("central void"), and BSP 24 (Performance by Laura Lima, sculpture by Edgard de Souza and paintings by Albert Eckhout) (1981-1998)	116
Figure 24 -	The International Professional Curators' Era – BSP 25 (Carmela Gross, Hotel) and BSP 31 (O Treme Terra, Esculturas Sonoras, opening activity)	119

Figure 25 -	Examples of the three classification systems – BSP 4, 16 and 27	125
Figure 26 -	BSP organization (bottom) and classification (top) systems	126
Figure 27 -	Natural History Museum – Axial map and convex map	131
Figure 28 -	Tate Gallery – Composite model of the axial and convex organization with the pattern of global integration	131
Figure 29 -	Closed and open works diagrams	138
Figure 30 -	Spatial types of movement in museums/galleries	138
Figure 31 -	The Sainsbury Wing (left), Centre Georges Pompidou (top) and Tate Modern (bottom) plans	144
Figure 32 -	*Outra 33 Bienal de São Paulo*, Bruno Moreschi and Gabriel Pereira	146
Figure 33 -	Pavilhão Trianon – BSP 1 (1951)	149
Figure 34 -	Palace of the States (BSP 2) and Palace of the Nations (BSP 2-3)	150
Figure 35 -	Location and identification of pavilions: A) Pavilhão Trianon (BSP 1); B, C, D) Palace of the States (BSP 2), Palace of the Nations (BSP 2-3) and Palace of the Industries (4-33 BSP) and Parque Ibirapuera in 1954	152
Figure 36 -	Palace of the States during the 2 BSP and Palace of the Nations during BSP 2 and 3	154
Figure 37 -	Palace of Industries (Pavilhão Bienal) during the IV Centenary exhibition (1954)	158
Figure 38 -	First version of the Palace of Industries	159
Figure 39 -	Parque Ibirapuera and Pavilhão Ciccillo Matarazzo (Pavilhão Bienal)	160
Figure 40 -	Plans of versions 2 (left) and 3 (right) of the Pavilhão Bienal	161
Figure 41 -	Northwest and southeast façades and longitudinal section of version 3	161
Figure 42 -	Palace of Industries	162
Figure 43 -	Interiors of the Pavilhão Ciccillo Matarazzo (Pavilhão Bienal)	165
Figure 44 -	Schemes on the relation of space, commodities, and social situations	172
Figure 45 -	Original and proposed supermarket layouts	173
Figure 46 -	Through-movement (a, b), to-movement (c, d), and attractors, configuration, and movement relationship (A, C, M)	177
Figure 47 -	Plans of two science exhibitions in different museum settings	180
Figure 48 -	Example of sector analysis – Convex map and justified graphs of the Reynaldo House	182
Figure 49 -	Number of artists, artworks, and countries in BSP 4-33	191
Figure 50 -	Examples of the artistic formats displayed in BSP 4-33	196

Figure 51 - Advertisings with artists exhibited at BSP 22 (1994) and 23 (1996) 198
Figure 52 - BSP 1-33 – Proportional map and chart of countries' participation 200
Figure 53 - BSP operating system – pre and post curatorship 202
Figure 54 - BSP 1-33 – Covers of the main exhibition catalogues 203
Figure 55 - Number (top) and volume (bottom) of publications per BSP 205
Figure 56 - BSP 9 and 13 - Special rooms that were the subject of specific publications 207
Figure 57 - Entrance (left) and overview of Sala Brasília (right) on BSP 13 (1975) 207
Figure 58 - Examples of the four catalogue structuring categories – country (BSP 4), theme (BSP 18), artist BSP 29) and project (BSP 31) 210
Figure 59 - Catalogue classification system 211
Figure 60 - Advertisements from BSP 2-10 catalogues 213
Figure 61 - BSP 29, 30 and 31 – Architectural design premises of the exhibitions 216
Figure 62 - BSP 24 publications – Main catalogue, historic nucleus, national representations, and guides 218
Figure 63 - Classification structure and word cloud of the types of documents available at AHWS/FBSP 221
Figure 64 - Original plans – BSP 1-8 224
Figure 65 - Original plans – BSP 9-22 225
Figure 66 - Original plans – BSP 23-33 226
Figure 67 - Examples of situations identified in the original plans (BSP 15, 26, 20 and 32) 228
Figure 68 - Original and redrew plans – Separation of floors 1 and 2 (BSP 8) 229
Figure 69 - Definition of exhibitions and non-exhibition areas 231
Figure 70 - Exhibition plans and plans of their respective buildings 232
Figure 71 - Overview of some BSP exhibitions and its pavilion 232
Figure 72 - Redrew plans – 1957 building and BSP 4 234
Figure 73 - Global arrangements – Market and museum modes of occupation 236
Figure 74 - Local arrangements (longitudinal) – Sparse occupation 242
Figure 75 - Local arrangements (longitudinal) – Mezzanine 242
Figure 76 - Local arrangements (longitudinal) – Central corridor 244
Figure 77 - Local arrangements (longitudinal) – Circulation rings 244
Figure 78 - Local arrangements (transversal) – Transition sector (floors 3 and 4) 245

Figure 79 - Pavilhão Bienal – Original design (OD) and as built (AB) with indication of changes 254
Figure 80 - OD and AB – Visual graph analysis (integration and connectivity) 258
Figure 81 - OD and AB – Isovists from 3 points per floor 260
Figure 82 - OD and AB – Path isovists 261
Figure 83 - OD and AB – Convex maps 263
Figure 84 - OD and AB – Convex analysis (seven attributes) 264
Figure 85 - Views from the most used entrance to the building and key spaces in terms of choice and control of the spatial system 266
Figure 86 - BSP spatial changes – Timeline with the main changes and variation in exhibition/non-exhibition areas 269
Figure 87 - BSP spatial changes – Key cases (1957, 1969, 1981, 1996, 2018) 270
Figure 88 - Five cases – Configurational changes (integration and connectivity) 272
Figure 89 - Five cases – Configurational changes (mean depth and choice) 272
Figure 90 - Five cases – Configurational changes (control and controllability) 273
Figure 91 - Five cases – Configurational changes (summary of global values) 273
Figure 92 - Configurational sectors of the Pavilhão Bienal 277
Figure 93 - OD and AB – Variation of attributes and delimitation of configurational sectors 278
Figure 94 - Five cases – Variation of attributes and delimitation of configurational sectors 279
Figure 95 - Spatial situations in which columns were fully or partially considered (lateral galleries and projection of the void, above) or disregarded (mezzanine, below) 284
Figure 96 - AB version (floor 2) – Complex and generic convex maps and their translation criteria 285
Figure 97 - OD and AB – Convex analysis (7 attributes, complex and generic models) 288
Figure 98 - Five cases – Convex analysis (integration, connectivity, intelligibility) 289
Figure 99 - Five cases – Convex analysis (mean depth and choice) 290
Figure 100 - Five cases – Convex analysis (control and controllability) 293
Figure 101 - Five cases – Number and reduction of convex spaces and connections of each model (complex and generic) per floor/sector 292
Figure 102 - OD and AB – Minimum circulation path (path isovists, complex and generic convex maps) 296

Figure 103 - Five cases – Minimum circulation path (complex and generic convex maps) 298

Figure 104 - OD and AB – Descriptive models of movement (complex/generic j-graphs and MCP j-graphs) 301

Figure 105 - Five cases – System of multiple routes (complex and generic j-graphs) 304

Figure 106 - Five cases – System of origins and destinations (complex and generic MCP j-graphs) 305

Figure 107 - OD and AB – Components of the MCP j-graphs 307

Figure 108 - BSP 4 – Building (left) and exhibition (right) plans 310

Figure 109 - Spatial situations in which columns are considered (totally or partially) or disregarded and specific convex map (BSP 4, floor 2) 312

Figure 110 - 1957 building x BSP 4 – Plans and complex, generic, and specific convex maps 313

Figure 111 - 1957 building x BSP 4 – Complex, specific, and generic models (numerical synthesis of results) 316

Figure 112 - 1957 building x BSP 4 – Complex, specific, and generic models (integration, connectivity, mean depth) 317

Figure 113 - 1957 building x BSP 4 – Complex, specific, and generic models (choice, control, controllability) 318

Figure 114 - 1957 building x BSP 4 – Minimum circulation path (complex, specific, and generic models) 320

Figure 115 - 1957 building x BSP 4 – J-graphs (top) and MCP j-graphs (bottom) 321

Figure 116 - 1957 building x BSP 4 – Circulation elements (top) and regions (bottom) 322

Figure 117 - Nine selected cases – Narrative (top) and capital facets (bottom) 328

Figure 118 - Narrative facet cases – BSP 4, 16, 27 and 33 330

Figure 119 - BSP 16 and 27 – Exhibition sectors and classification principles 332

Figure 120 - BSP 16 – Examples 3 (top), 2 (bottom left) and 4 (bottom right) 335

Figure 121 - BSP 27 – Example 1 (Security, by Jane Alexander; Cânone, by Marepe) 337

Figure 122 - BSP 27 – Example 2 (Tomas Saraceno – left, Lucia Koch and Héctor Zamorra, Atelier Bow Wow, bottom right) 337

Figure 123 - BSP 27 – Example 3 (Goshka Macuga and Rirkrit Tiravanija) 338

Figure 124 - BSP 27 – Example 4 (Grönlund/Nisusen, Marcel Broodthaers and Gordon Matta-Clark) 338

Figure 125 - BSP 4 and 33 – Exhibition sectors and classification principles 340

Figure 126 - BSP 4 – Examples 2 (Victor Brecheret), 5 (theater biennial), 4 and 3 (Brazil/Franz Weissmann and Bruno Giorgi) 343

Figure 127 - BSP 33 – Rest spaces located between individual/collective exhibitions *344*

Figure 128 - BSP 33 – Examples 1 and 2 (Antonio Balester Moreno and Alejandro Corujeira) *345*

Figure 129 - BSP 33 – Example 3 (collective exhibition by Sofia Borges) *346*

Figure 130 - BSP 33 – Examples 4 and 6 (individual exhibitions by Lucia Nogueira, top, and Denise Milan, bottom) *347*

Figure 131 - BSP 33 – Examples 5 and 7 (collective exhibitions "To our parents", top, and "The appearances", bottom) *347*

Figure 132 - Capital facet cases – BSP 11, 19, 23, 25 and 29 *349*

Figure 133 - Main entrance to the building in 2018 and during BSP 33 *350*

Figure 134 - BSP 11, 19 and 25 – Entry/exit of exhibitions (floors 2 and 1) *352*

Figure 135 - BSP 11, 19 and 25 – Indoor and outdoor spaces for entry/exit *353*

Figure 136 - BSP 19 – Segregation on floor 3 between ramp and stairs *355*

Figure 137 - BSP 23 and 29 – Museological space (left) and space adjacent to the fourth floor auditorium (right) *357*

Figure 138 - BSP 23 – Advertisements with exhibited artists, access to the museological space, and special rooms Andy Warhol and Pablo Picasso *360*

Figure 139 - BSP 29 – Works exhibited in the museological space (Artur Barrio, left) and in the space adjacent to the auditorium (Marcelo Silveira, right) 361

Figure 140 - Analytical framework *363*

Figure 141 - Building and exhibition plans of selected cases and their facets – Narrative (top) and capital (bottom) cal framework *364*

Figure 142 - Analytical matrix – Building layout *365*

Figure 143 - Analytical matrix – Exhibition layout *366*

Figure 144 - Analytical matrix – Building and exhibition layout and classification *367*

Figure 145 - Analytical matrix – Building and exhibition layout and classification *367*

Figure 146 - Nine cases – Number of artworks, artists, and participating countries *375*

Figure 147 - Nine cases – Diversity of artwork formats *377*

Figure 148 - Type 1 and 2 artworks – Paintings by Egon Schiele (Austria) and sculpture by Franz Weissmann (Brazil) at BSP 4 *378*

Figure 149 - Type 2 and 4 artworks – On air (Tomás Saraceno, BSP 27) and White Flag (Nuno Ramos, BSP 29) *379*

Figure 150 - Nine cases – Main and additional catalogues by edition 380

Figure 151 - BSP 11 – Special rooms that correspond to specific sections of the catalogue 381
Figure 152 - BSP 33 – One of the six routes suggested in the additional catalogue Portolano 382
Figure 153 - BSP 19 – Special rooms corresponding to additional catalogues 384
Figure 154 - BSP 25 – Curatorial axes and architectural axes (floors 1 and 2) 386
Figure 155 - Operating system – Model j-graph (textual) 388
Figure 156 - Nine cases – Operating system j-graphs 390
Figure 157 - Building layout – Plans and periods of the spatial system (shortened/lengthened) and variation of exhibition areas (by floor/total) 395
Figure 158 - Building layout – Occupation analysis (integration, connectivity, and intelligibility) 397
Figure 159 - Building layout – Occupation analysis (mean depth and choice) 399
Figure 160 - Building layout – Occupation analysis (control and controllability) 401
Figure 161 - Building layout – Summary of occupation analysis 403
Figure 162 - Building layout – Movement analysis (SMR) and variation of attributes (topological levels, convex spaces, and connections) 405
Figure 163 - Building layout – Movement analysis (SOD) and variation of attributes (topological levels, convex spaces, and connections) 407
Figure 164 - Building layout – Summary of movement analysis 409
Figure 165 - Exhibition layout – Plans and periods of the classification system (NR, NR+CP, CP) and variation in the number of displays (floor/sector) 411
Figure 166 - Exhibition layout – Occupation analysis (integration, connectivity, and intelligibility) 413
Figure 167 - Exhibition layout – Occupation analysis (mean depth and choice) 415
Figure 168 - Exhibition layout – Occupation analysis (control and controllability) ` 418
Figure 169 - Exhibition layout – Summary of occupation analysis 421
Figure 170 - Exhibition layout – Movement analysis (SMR) and attribute variation (topological levels, convex spaces, and connections) 422
Figure 171 - Exhibition layout – Movement analysis (SOD) and attribute variation (topological levels, convex spaces, and connections) 425
Figure 172 - Building and exhibition layout – Plans and classification periods 429
Figure 173 - Building layout and exhibition layout – Integration, connectivity, and intelligibility 434
Figure 174 - Building layout and exhibition layout – Mean depth and choice 437

Figure 175 - Building layout and exhibition layout – Control and controllability 440

Figure 176 - Building layout and exhibition layout – Synthesis of SMR 444

Figure 177 - Building layout and exhibition layout – Synthesis of SOD 445

Figure 178 - Spatial mediation, movement, and occupation – relationship between specific, complex, and generic models 448

Figure 179 - Spatial mediation – Empirical synthesis of occupation analysis 454

Figure 180 - Spatial mediation – Empirical synthesis of movement analysis 458

Figure 181 - Spatial mediation – Empirical synthesis of movement and occupation analyses 460

Figure 182 - Spatial mediation – Theoretical synthesis 462

Figure 183 - Space as a means – Integration, mean depth, and choice in BSP 4, 16 and 25 469

Figure 184 - Space as a means – Integration, mean depth, and choice in BSP27 470

Figure 185 - BSP 29 and 33 – Oblique partitions 478

Figure 186 - BSP 19 and 23 – Configurational differences and artworks by Tunga, Tomie Ohtake, Jesus Soto, and Sol Lewitt 481

Figure 187 - Anselm Kiefer (Palette with Wings), Marcel Duchamp's ready-mades, and Geo Ripley (*Utopia-Símbolo, Realidade-Símbolo*, front) and Marta Palau (*Instalação*, back) rooms 481

Figure 188 - BSP 23 – Svend Wiig Hansen, Andy Warhol, and Anish Kapoor rooms 483

LIST OF TABLES

Table 1 -	BSP 1 (1951) classification system	53
Table 2 -	BSP organization system – General description	110
Table 3 -	BSP classification system – General description	121
Table 4 -	Distribution of National Representations along the Palace of the States and the Palace of the Nations in 2 and 3 BSP (1953 and 1955)	153
Table 5 -	Description of changes between the original and built versions	254
Table 6 -	Attributes to be analyzed and their definitions	256
Table 7 -	BSP spatial changes – Description and identification of floors	269
Table 8 -	Movement systems (SMR and SOD) – Descriptive models	299
Table 9 -	BSP 23 and 29 – Artists exhibited in the same three spaces on the fourth floor	359
Table 10 -	Mediation as a means – Attributes, elements, and exceptional cases	462
Table 11 -	Mediation as an end – Attributes, elements, and exceptional cases	474

LIST OF ABBREVIATIONS AND INITIALS

AHWS	Arquivo Histórico Wanda Svevo
BP	Built project
BSP	Bienal de São Paulo
CP	Curatorial project
CSS	Complex spatial system
FBSP	Fundação Bienal de São Paulo
GSS	Generic spatial system
J-graph	Justified permeability graph
JPG	Justified plan graph
MAC-USP	Museu de Arte Contemporânea da Universidade de São Paulo
MAM-SP	Museu de Arte Moderna de São Paulo
MASP	Museu de Arte de São Paulo
MCP	Minimum circulation path
NR	National representation
OP	Original Project
SOD	System of origins and destinations
SMR	System of multiple routes
SSS	Specific spatial system
VGA	Visual Graph Analysis

CONTENTS

1	**INTRODUCTION**	26
1.1	OUTLINE OF THE THESIS	26
1.2	THESIS STRUCTURE	36
2	**MEDIATION IN THE CONTEXT OF EXHIBITION SPACE**	40
2.1	THE NOTION OF SPATIAL MEDIATION	41
2.1.1	**From educational practice to architectural perspective**	41
2.1.3	**From museum buildings to exhibition spaces**	46
2.1.3	**Spatial mediation in BSP 1 (1951)**	51
2.2	A SOCIO-SPATIAL CHARACTERIZATION OF EXHIBITION SPACE	58
2.2.1	**Cultural and economic interplay at the origin of exhibition space**	58
2.2.2	**Spaces for the exchange between people and things**	67
2.2.3	**Describing and analyzing exhibition spaces**	79
2.3	A BISOCIATIVE APPROACH TO EXHIBITION SPACES	90
2.3.1	**The discursive dimension of exhibitions**	92
2.3.2	**Buildings as commodified objects**	96
3	**EMPIRICAL OBJECTS OF SPATIAL MEDIATION**	105
3.1	EXHIBITIONS AS SPATIAL DISCOURSES	106
3.1.1	**The four eras of the BSP organization system**	108
3.1.1.1	The Museum Era (1951-1961)	111
3.1.1.2	The Matarazzo Era (1961-1979)	113
3.1.1.3	The Curators' Era (1981-1998)	115
3.1.1.4	The International Professional Curators' Era (2002-2014)	117
3.1.2	**The three periods of the BSP classification system**	120
3.1.2.1	The National Representation System (BSP 1-15)	122
3.1.2.2	The NR + CP System (BSP 16-26)	123
3.1.2.3	The Curatorial Project System (BSP 27-33)	124
3.1.3	**On space and knowledge**	128
3.1.3.1	From transmission to knowledge exchange	129

3.1.3.2 Museums as narratives in space 136
3.1.3.3 Exhibition spaces as specific networks 142
3.2 BUILDINGS AS SPATIAL COMMODITIES 146
3.2.1 The first three Bienal de São Paulo pavilions (1951-1955) 148
3.2.1.1 The Trianon Pavilion (BSP 1, 1951) 149
3.2.1.2 Palace of States and Palace of Nations (BSP 2 and 3, 1953-1955) 150
3.2.2 The Palace of Industries (Pavilhão Bienal, 1957-2018) 156
3.2.2.1 Social antecedents and the first three versions of the building 157
3.2.2.2 Characterization of the second version and the built version 160
3.2.3 On space and things 166
3.2.3.1 The spatial complexity of classifying things 168
3.2.3.2 Buildings as movement economies 176
3.2.3.3 Complexly generic buildings 179

4 EXHIBITIONS AS SPATIAL DISCOURSES: THE BIENAL DE SÃO PAULO EVENT 188
4.1 THE PRESCRIPTIVE TEXT OF EXHIBITIONS 190
4.1.1 Curatorship as an operating system 191
4.1.2 Catalogs as sources of spatial approach to curatorial discourses 203
4.2 FROM CURATORIAL DISCOURSE TO SPATIAL CONFIGURATION 220
4.2.1 The redrawing process as a research device 220
4.2.1.1 Potential and limitations of the original data 221
4.2.1.2 Methodological considerations and adopted conventions 227
4.2.2 Different discourses, similar arrangements 233
4.2.2.1 Global arrangements – similarities with museums, fairs, and markets 235
4.2.1.2 Local arrangements – on similar floors and areas of the building 241

5 BUILDINGS AS SPATIAL COMMODITIES: THE BIENAL DE SÃO PAULO PAVILION 250
5.1 CHANGES AND CONTINUITIES IN THE MORPHOLOGY OF THE PAVILHÃO BIENAL 253

5.1.1 Comparative study between the original design and the built version 253
5.1.1.1 System analysis – VGAs and isovists 257
5.1.1.2 System analysis – convex maps and justified graphs 262
5.1.2 Spatial changes, configurational implications 267
5.2 COMPLEXITY AND GENRICITY IN THE PAVILHÃO BIENAL 276
5.2.2 Limits and possibilities of occupation 277
5.2.2.1 Configurational sectors of the Pavilhão Bienal 277
5.2.2.2 Complex and generic models of description 282
5.2.3 Limits and possibilities of movement 294
5.2.3.1 Defining a system of origins and destinations – Minimum circulation path (MCP) 295
5.2.3.2 Representing simultaneously complex and generic systems – j-graphs and MCP j-graphs 299
5.3 FROM COMPLEX TO SPECIFIC SPATIAL SYSTEMS 309
5.3.1 Exhibitions as a specific spatial system 310
5.3.2 Between complex, generic, and specific spatial systems 315

6 MODELING OF ANALYTICAL CASE STUDIES 327
6.1 CASE SELECTION AND CHARACTERIZATION 328
6.1.1 Narrative facet – BSP 4, 16, 27 and 33 330
6.1.1.1 BSP 16 and 27 331
6.1.1.2 BSP 4 and 33 339
6.1.2 Capital facet – BSP 11, 19, 23, 25 and 29 349
6.1.2.1 BSP 11, 19 and 25 350
6.1.2.2 BSP 23 and 29 357
6.2 ANALYTICAL FRAMEWORK 363
6.2.1 Analytical matrix 364
6.2.1.1 Building layout 365
6.2.1.2 Exhibition layout 366
6.2.1.3 Building and exhibition layout 367
6.2.2 Analytical steps 368

6.2.2.1 Mediation between things 368
6.2.2.2 Mediation between people 369
6.2.2.3 Spatial mediation 371

7 SPATIAL MEDIATION IN BSP 4, 11, 16, 19, 23, 25, 27, 29 AND 33 373
7.1 MEDIATION BETWEEN THINGS 374
7.1.1 Artworks, formats, and classifications 374
7.1.2 Exhibition operating systems 387
7.2 MEDIATION BETWEEN PEOPLE 393
7.2.1 Building layout 394
7.2.1.1 As a complex occupation system 397
7.2.1.2 As a hybrid movement system 404
7.2.2 Exhibition layout 410
7.2.2.1 As a specific occupation system 412
7.2.2.2 As a hybrid movement system 422
7.3 SPATIAL MEDIATION 429
7.3.1 Spatial mediation, occupation, and movement 430
7.3.1.1 Comparative discussion of occupation analyzes 431
7.3.1.2 Comparative discussion of movement analyzes 443
7.3.2 Empirical synthesis 453
7.3.2.1 Synthesis of occupation analysis 454
7.3.2.2 Synthesis of movement analysis 458
7.3.3 Theoretical synthesis 462
7.3.3.1 Mediation as a means 463
7.3.3.2 Mediation as an end 475

8 CONCLUDING REMARKS AND FURTHER PERSPECTIVES 489
8.1 RESUMING THE ARGUMENT 489
8.2 ON SOME FINDINGS 493
8.3 FURTHER RESEARCH 502

REFERENCES 505

APPENDIX A - LIST OF BSP EXHIBITION ORGANIZERS 523
APPENDIX B - ORIGINAL PLANS OF BSP EXHIBITIONS 526
APPENDIX C - REDRAWN PLANS OF BSP EXHIBITIONS AND BUILDINGS 533
APPENDIX D - OCCUPATION ANALYSIS 562
APPENDIX E - MOVEMENT ANALYSIS 568

1 INTRODUCTION

This thesis seeks to formulate the concept of spatial mediation, based on the study of exhibition spaces, in particular the *Bienal de São Paulo* (BSP), which represents both a building (initially called *Palácio das Indústrias* – Palace of Industries – and today known as *Pavilhão Bienal*[1], designed in 1954 by Oscar Niemeyer and his team[2]) and a set of exhibitions (with 34 editions, 31 of them held in this building[3]). This concept is intended to describe how the layout of the exhibition, often on microscale and of short duration, interacts with the perennial and macroscale layout of the building to structure a network of messages contained in the artifacts and especially in the arrangement between them, as well as to guide the movement and interaction between people through these networks.

In this context, before presenting the theoretical framework, as well as the empirical object that provides evidence for the development of this investigation, topics discussed in Chapters 2 and 3, some premises and concepts are briefly introduced, which in this chapter are structured under the following topics: 1.1) outline of the thesis; 1.2) thesis structure.

1.1 Outline of the thesis

> An exhibition can be compared with a book insofar as the pages of a book are moved to pass by the reader's eye, while in an exhibition the visitor moves in the process of viewing the displays. Reading a book, however, is a more restful occupation as compared to the physical efforts that are necessary for perceiving communications simultaneously with the act of walking (Bayer, 1961, p. 276).

[1] Throughout this thesis, the terms Bienal de São Paulo (São Paulo Biennial) and Pavilhão Bienal (Biennial Pavilion) are kept in Portuguese, as they constitute the nomenclature under which they are widely known.
[2] Zenon Lotufo, Hélio Uchôa, and Eduardo Kneese de Mello (Villela, 2019, p. 57).
[3] This works covers only BSP 4 to 33, held between 1957 and 2018, since BSP 34 was held from September to December 2021, in the final months of research development, and BSP 1-3 were held in buildings other than the Palace of Industries.

Visiting an exhibition can be understood as reading a text through navigation between things arranged in space. This aspect makes exhibitions rich sources of recognition of the forms of organization of a society and exhibition spaces powerful means of exchanging knowledge between people through things.

In general, the exhibitions are temporary settings, of short or long duration, whether artistic, scientific, or even commercial – although the latter has a different purpose, they are all intended for exchange, of knowledge or monetary, and operate through the display of artifacts. Understanding how ideas are transposed, not only through the selection of the objects, but also through the proposed arrangement between them and the possibilities of apprehension of these messages by visitors, is a theme on which various disciplines have been focusing on since the second half of the twentieth century (when exhibition design, museum studies, and curatorship emerge and consolidate as disciplines).

The exhibitions, however, date from a much earlier period, which refers to the creation of museums as public institutions, from the 18th century, and to Universal Exhibitions (or World Fairs) in the mid-19th century, a period in which "the emergence of the exhibition as a public spectacle" (Birnbaum and Wallenstein, 2019, p. 13). While the first derives from private curiosity cabinets, with well-defined collections, buildings and themes, the latter was generally held in specifically designed temporary pavilions, for the exhibition of artifacts that reflect the development of a country and its industries (Markus, 1993).

This historical approach highlights some aspects of the exhibitions that have been little addressed by studies in these fields. One of them suggests that its origin is embedded in a mix of art and industry, culture and commerce, collection of antique objects and production of new artifacts, or, in other words, "the insertion of art into a continuum with science and commodities" (Birnbaum and Wallenstein, 2019, p. 20). In other words, while most studies treated museums and exhibition pavilions as distinct objects, their origin and development merge when analyzed through the perspective of the exhibition.

In the context of this investigation, these issues and objects are approached from a socio-spatial perspective, which considers that the spatial structures of buildings incorporate aspects of a social order (which include historical, economic, behavioral, and cultural aspects), as well as, to some extent, shapes the everyday lives of its users. That is, although signs, colors, motifs and materials are also an important part of the building organization system, they is an underlying spatial layer that constitutes this first ordering system (Holanda, 2013).

This paradigm underlies the Theory of the Social Logic of Space (Hillier and Hanson, 1984), whose body of knowledge is also known as space syntax (Hillier et al., 1976), which demonstrates how the spatial configuration of buildings and urban settlements are, to some extent, generated from habits, norms and social rules, which in turn, contribute to the generation of new behaviors and social patterns. Configuration, in this context, means relations that take into account other relations (Hillier, 1996b, p. 1), which goes beyond the notion of spatial relationship, also considering how a relationship between two spaces can change when they are related to a third space (Hanson, 1998, p. 23), in which buildings are primarily understood as a system of barriers and permeabilities.

If, on the one hand, museum buildings and exhibition pavilions seem to be treated as quite distinct objects (or not even addressed, in the case of the latter), on the other hand museum studies often approach the layout of the building and the layout of the exhibition as a single element. In some museum cases this actually occurs, as their spatial configuration is made up of sequentially and clearly delimited rooms, often displaying artifacts that were directly supported on the walls of these rooms (such as paintings or books on shelves) or self-supporting objects (as sculptures).

In the case of exhibition pavilions, whose open spatiality requires the introduction of barriers to support the exhibited artifacts that vary according to the content of the exhibition, this distinction between building layout and exhibition layout is latent. This introduction of barriers not only supports the display of artifacts, but structures the messages contained in their arrangement (through the sectorization of distinct objects, based on their function, theme, materiality, place of origin, period, among other labels) and the navigation and interaction of people among them (Figures 1 and 2).



Figure 1. Palace of Industries, São Paulo, 1954 (Manchete, 1954).



Figure 2. Crystal Palace, London, 1851 (Bayer, 1961).

These aspects were explored in morphological studies of museums, which attribute to their spatial configuration the way in which the contents were arranged and the patterns of encounters and exploration of people, as discussed in Chapter 3. Given the various contributions of these studies, the main one refer to how the morphology of the building can contribute to the transmission of knowledge, as they generate more open or closed spatial models to movement and occupation, and consequently, to interpretations (Choi, 1999; Hillier and Tzortzi, 2006; Peponis et al., 2003; Psarra, 2009; Wineman and Peponis, 2010). The notions of closed and open in this context refers to the spatial permeability offered by the buildings, that is, the way in which they allow the performance of generic space functions, which are occupation and movement (Hillier, 1996b).

In practice, it is evident that no museum building is closed enough to determine the layout of the exhibitions and the movement of its visitors, nor are the pavilions open enough to allow interference-free movement and occupation. However, some examples clearly illustrate the distinction between these two models, where the possibilities of occupation and especially of movement have only one direction (closed), as is the case with the Museum of Unlimited Growth, by Le Corbusier (1939), or in cases where occupation and movement can acquire multiple configurations, as is the case of the Museu de Arte de São Paulo (MASP), designed by Lina Bo Bardi (1968) (open). The latter is characterized by a wide span free of internal barriers, whose glass supports seem to suspend the artworks in the air, allowing the visitor to choose multiple paths – although displays can be arranged in ways that, to a certain extent, can define routes (Melo, 2019). Whereas the former, does not seem to offer the visitor the possibility of choosing a different route other that shaped by the building – which is not true since the plans show that the continuous spiral gallery did indeed have transverse passages that allowed for other patterns of movement and navigation (Amorim and Rolim, 2018; Shih and Huang, 2014) (Figures 3 and 4).

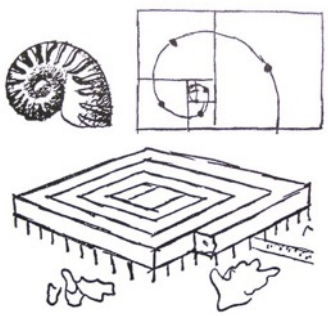


Figure 3. Museum of Unlimited Growth, Le Corbusier, 1938 (Montaner, 2003).



Figure 4. Museu de Arte de São Paulo/MASP, Lina Bo Bardi, 1968 (Vainer et al., 1996).

In fact, in many studies**,** the building layout and the exhibition layout are treated as a single element. This treatment be attributed to several aspects, such as the fact that, in the case of museums, many of these institutions are initially housed in adapted buildings (often the houses of their owners), whose content classification follows the partition of the building (that is, each room is destined to a single content or set of contents), making the building layout and the exhibition layout to be understood as a single component.

There is also the fact that museums have been studied from a semiotic perspective, such as the widely disseminate concepts of the white cube and the black box, supposedly neutral environments for the exhibition and appreciation of artworks. The former can be described as an interference-free container (generally composed of smooth, and mostly white, walls, floors and ceilings), and the latter as a dark room with flexible lighting and sound installations (in an analogy to the idea of black box of photography and similar to a theater) (Flusser, 1983; O'doherty, 1999).

However, both approaches, in addition to emphasizing only aesthetic aspects of space (such as the colors and lighting used and their interference in the appreciation of the artwork), seems to approach the experience of an exhibition as an act of passive consumption, rather than environments that encourages visitor engagement (Birkett, 2012). Furthermore, they seem to disregard the relationships that the spaces establish with each other, that is, an understanding of exhibition as a spatial narrative, constituted by its network of spaces and contents (Psarra, 2009). In other words, "whereas knowledge and discourse are often thought to be most eloquent expressed in the visual and aesthetic qualities of architecture the museum shows how they can both unfold in the organization of the plan" (Peponis and Hedin, 1982, p. 21).

In this context, the architectural dimension of art exhibitions seems to lack spatial thinking, whose criticism is often based on arguments that establishes a competition between art and curatorship, and perpetuate "the doctrine of the 'white cube' and the belief in the functioning of biennials as an extension of the logic of a museum" (Lagnado, 2015, p. 84). The discussion proposed here, therefore, considers that aspects involved in the discussions of the white cube or black box, although relevant, are secondary to the understanding of the spatial configuration of the building and its exhibitions, and that, looking first at these configurations, distinguishing what is characteristic of the building of what is proper to the exhibition, interdependent structures that are neither fully autonomous nor fully integrated, can shed light on these issues.

Another aspect that may explain the fact that building layout and exhibition layout are usually treated as a single element is the predominance of the building layout in the definition of exhibition layout, whose partition of rooms and corridors largely define the sectoring of the displayed artifacts (Hillier et al., 1996; Monteiro, 2018; Peponis and Hedin, 1982; Stavroulaki and Peponis, 2003). Therefore, few supports were introduced to the underlying building, and it can be argued that their consideration would produce little difference in configurational analyses. Also, these are often temporary supports, that do not change the long-term structure of the building, yet another possible reason for the emphasis on describing the building layout at the expense of detailing the exhibition layout.

However, this research understands that the consideration of such supports can provide a more detailed description of how these contents were arranged in space, experienced by its visitors, and what is the role of the underlying building in this arrangement. Therefore, none of these aspect seems to fully justify this overlap between building and exhibition layout, since even ephemeral, these exhibitions and events are, to some extent, responsible for the constitution of contemporary art and curatorship as disciplinary fields, as well as for the configuration of history and the art market (Braden, 2018; Braden and Teekens, 2020; Jones, 2016). A similar argument can be used to describe the role of their buildings, as seemingly small aspects, such as the placement of entrances and exits, or even the dimensioning and repetition of their structural module, can constitute significant elements for the conception and perception of new spatial configurations.

Therefore, a careful look at these two elements, the layout of the building and the layout of the exhibition, seems to point towards a research field that can be better characterized and explored, whose notion of spatial mediation, by proposing a dialogue between these two elements, can shed light on how such settings and buildings are designed and studied.

In this work, exhibition spaces are defined as spaces for the exchange between people and things (definition that is better discussed throughout chapter 2, section 2.2), whether they constitute entire buildings or sectors of buildings composed of other functions (as is the case of museums, which, in addition to exhibition spaces, present areas that are not accessible to the public, such as the areas that house their collections).

This definition is based on the junction of two categories of buildings, according to the classification proposed by Markus (1993), which is that of buildings that relate people and knowledge (such as museums and galleries) with buildings that relate people and things (such as markets and pavilions that house commercial activities), as it is argued that the

exhibition spaces are characterized by logics present in these two categories of buildings. These logics refer mainly to the fact that both categories of buildings operate through the exhibition of artifacts, whether for cultural or commercial purposes, which in turn are objects of symbolic or material exchanges.

This bisociative approach (which is characterized in chapter 2, section 2.3), considers that the layout of the exhibitions is the result of both the structuring of the discourses contained in the arrangement of artifacts (dimension that was associated with the notion of narrative), as well as the economic use of the spatial resources offered by the building for that (dimension that was associated to the idea of capital). If, on the one hand, these concepts may seem antagonistic, on the other, they overlap from the very origin of the exhibitions, in which industrialized products were exhibited in an artistic atmosphere (Birnbaum and Wallenstein, 2019).

This approach allowed the identification of a much wider range of studies that support the understanding of buildings and exhibitions in an integrated manner. These studies refer both to "the way in which architecture becomes enmeshed in the organization of knowledge" (Peponis and Hedin, 1982, p. 21), and to how the spatial configuration of cities (and apparently also that of buildings) embeds aspects that characterize an economy (as the thoughtful use of available resources) of movement and occupation (Hillier et al., 1993; Marcus, 2010; Bobkova, 2019;).

Thus, the idea of spatial mediation seems interesting to address not only the way in which building layout and exhibition layout objectively interact, but also the way in which these different facets of the exhibitions are also symbolically related. This notion seeks to provide both a theoretical framework on how different disciplines interact to constitute the layout of an exhibition, as well as an empirical approach to understanding how building layout and exhibition layout interact, as mediation takes place precisely in the relationship between things and/or people, not in people or things themselves (Deleuze, 1985, p. 285).

The term is a reference to the notion of mediation as used in museum studies, where educators or technological devices (such as maps or guides) mediate the encounter between the visitor and the displayed objects. In this case, the interest lies in understanding how space constitutes this first mediation layer, without which the others do not exist. In this context, it is argued that the exhibition layout represents a spatial discourse (a concept embedded in the notion of narrative) and its buildings, whose spatial resources are used

rationally and economically, were related to the idea of commodity (a concept that is included in the notion of capital).

These broader concepts of narrative and capital are drawn from the literature on morphological studies of buildings and cities, where the former describes how the formation of space incorporates aspects of cultural meaning and collective knowledge (Peponis and Hedin, 1982; Psarra, 2009), and the latter suggests that space, according to its attributes of accessibility, density and diversity (of forms and uses), is endowed with a capacity or capital that generates movement and induces certain types of occupations (Hillier et al., 1993; Hillier, 1996a; Marcus, 2010, 2017; Bobkova, 2019).

In other words, the former suggests that navigating through space allows the perception of things, their relational structure and the extraction of interpretations, the main structuring elements of a narrative (Bordwell, 1985; Cobley, 2001; Psarra, 2009). Whereas the second argues that specific configurational attributes, such as the configuration of streets (if characterized by multiple routes or by prominent origins and destinations) and the distance, density and diversity of subdivisions of plots can attract the movement of people and favor the occupation of specific uses (Hillier et al., 1993; Marcus, 2010; Bobkova, 2019). That is, if exhibitions constitute a discourse that is told through space, its buildings can present configurational attractors on which this discourse is structured[4].

These concepts are better described and related throughout Chapter 2. However, it is important to note that, just as the notions of discourse and narrative are addressed from a spatial perspective (although they are built based on other disciplinary fields, such as literature and cinema), the notions of commodity and capital are also considered from a socio-spatial perspective. That is, although the morphology of the exhibitions may have an impact on the price of works by certain artists (Braden and Teekens, 2019), or their buildings have an economic value, this research seeks to understand how concepts such as capital, commodity and exchange affect this discussion from a socio-spatial perspective. Therefore, in addition to characterizing a possible spatial capital of the building, we are interested in highlighting how the exhibition spaces foster symbolic and social exchanges between people and things, which in turn are related to social and cultural forms of capital – in this case understood as accumulated labor (Bourdieu, 1986; Bourdieu et al., 1991).

[4] Such association is due to the fact that urban space plays a similar role, that is, its configuration performs as an attractor for certain uses and movement of people, as discussed in Chapters 2 and 3, and that the Pavilhão Bienal has dimensions and attributes that resemble an urban space, which led to the selection of studies on urban spaces to address the problem.

In the search for an object that could provide evidence for this investigation, the Bienal de São Paulo (BSP) may shed light on several of the issues discussed, due to its global recognition, long-term existence and spatial particularities identified so far. In fact, this is an object full of dualities, both in terms of its exhibitions and its building (which are carefully characterized in sections 3.1 and 3.2 of this work).

> The term Bienal has many meanings. In São Paulo, in addition to designating the most important exhibition of contemporary art, the Bienal is also a building, an architectural piece. The Bienal de São Paulo format is linked, in a way, to changes in its physical space (Oliveira, 2001, p. 159).

Created in 1951, with the aim of spreading national and international artistic production, from 1957 onwards (BSP 4), the event is hosted at the Palace of Industries, officially called Pavilhão Ciccillo Matarazzo (in honor of the event's founder and president of the Fundação Bienal de São Paulo until 1977, when he died) and today known as Pavilhão Bienal (Alambert and Canhête, 2004; Farias, 2001). Despite being ephemeral exhibitions, lasting three months each, they have been held every two years since its creation in 1951[5].

Unlike a museum building, for example, at the Bienal de São Paulo, the distinction between exhibition layout and building layout is evident. In other words, it is possible to identify it is relatively easy to identify which components were originally part of the building and which were added by its exhibitions. Examining these exhibitions allows us to understand, among other aspects, the different forms of classification of artistic content, as the event witnessed several transformations in the fields of art and curatorship. These classifications reflect the various thoughts on how these artifacts should be arranged, whether with emphasis on the countries of origin of their artists, or according to principles defined by a curatorial project, or even if according to both logics, which coexist for a long period in the history of the event (aspects that are analyzed in Chapter 4).

However, this is not the only duality that makes this object an interesting case study. Its building, a pavilion measuring approximately 35.000 square meters, a great icon of modern Brazilian architecture, also presents a very ambiguous spatial configuration. If most of its spaces justify its description as an open-plan building (composed of a 10x12 meters structural module and 10x6 meter modules on its outer perimeter), its double height ceiling and mezzanine that connect floors 1 and 2, the curved void and ramp connecting floors 2 to 4, and its multiple access possibilities (on floors 1 and 2), make it a building that curiously

[5] Except for BSP 22 (in 1994, 3-year gap), BSP 25 (2002, 4-year gap) these two attributed to institutional crises (Alambert and Canhête, 2004), and BSP 34 (3-year gap, due to the COVID-19 pandemic).

is best known for the internal expressiveness of these elements (mezzanine, ramp, and void), where Niemeyer's signature can be mostly recognized.

These aspects make the Pavilhão Bienal a building whose underlying layout cannot be disregarded when studying the layout of its exhibitions. In fact, the exceptionality of its architecture, at the same time repetitive and singular, is related to the very origin of the building, which also mixes art and industry, economy, and culture. The historical context that preceded its conception was marked both by the expansion of the Universal Exhibitions and by the Venice Biennale (1895), references that permeate both the creation of the event and the design of the building (Mulazzani, 2014).

The Palace of Industries is part of a complex comprising other pavilions, also designed by Niemeyer, located in the Parque Ibirapuera, all built in the 400tth anniversary of the city (Curi, 2018). As its name implies, it was designed to house exhibitions of industrial artifacts, such as the IV Centenary Exhibition of the city of São Paulo, as illustrated in figure 1,1, held in 1954 (three years before BSP 4, the first biennial held in this building). This exhibition (which is better described in section 3,2, in the characterization of the building) brought together the production of Brazilian industry, elevating these artifacts to the status of artistic objects, just as happened in the universal exhibitions (Birnbaum and Wallenstein, 2019), where the building's spatiality[6] is also responsible for this elevation.

This object seems to constitute a solid ground to understand how spatial mediation takes place in the context of exhibitions, since, in principle, all these exhibitions were mediated by the classification principles established by its international commissioners[7] and curators and, on the other, by the underlying architecture of the Pavilhão Bienal. In it, the cultural and economic interplay are embedded in the atmosphere that surrounded the creation of the Bienal de São Paulo event, but also be in the very architecture of its building.

To describe how spatial mediation occurs, descriptive models and analytical scenarios were developed in order to capture its long trajectory in time, the different dimensions of the object (exhibitions and buildings), and its two spatially mediated functions (of movement and occupation). These scenarios consist of the analysis of seven cases of building layouts throughout Chapter 5, to characterize the spatial configuration of the

[6] Spatiality, in this context, refers to an abstract understanding of space as the "output of economic and social processes, rather than a substantive pattern of interest in itself" (Hillier, 2005, p. 3). However, this thesis seeks to explore precisely the opposite notion, of space not only as a by-product of society, but as a "substantive pattern of interest in itself (Hillier, 2005, p. 3).

[7] Responsible for selecting artworks in BSP 1 to 26 (1951-2004), when the artifacts were totally or partially classified according to the artists' countries of origin, period in which curatorship was still in affirmation process as a discipline.

building and understand how it behaves over time (since several spatial changes were identified in the process of redrawing its plans). And the analysis of nine cases of BSP exhibitions and their respective buildings, characterized in Chapter 6, and analyzed in Chapter 7. These analyzes describe the building layout as complex and generic spatial systems and the exhibition layout as specific spatial systems (concepts introduced in Chapter 3 and demonstrated in Chapters 5 and 7).

From these three models, two sets of analyzes are developed, both for buildings and exhibitions, in order to describe their possibilities of movement and occupation (both those potentially provided by the building, and those that were actually consolidated by the exhibitions). And finally, two types of spatial mediation are characterized, as well as some interpretations and future research possibilities are woven in Chapters 7 and 8 of the thesis, whose structure is detailed below.

1.2 Thesis structure

To approach in an orderly way the themes, questions and objects discussed in the previous topic, the thesis was structured in three parts, according to the elements that constitute the notion of narrative (Bordwell, 1985; Cobley, 2001; Psarra, 2009): 1) Things; 2) Structures; 3) Interpretations.

Part I, On Knowledge, People, and Things (theoretical framework and empirical object), consists of Chapters 2 and 3, where the first defines the theoretical framework of the research and the second presents the empirical object to be investigated. Both chapters cross-review the literature that is basis for the development of the following parts. The title of this part reflects the main elements mediated in exhibition spaces and is a reference to the classification system of buildings proposed by Markus (1993), addressed in this part. Chapter 2 discusses the idea of mediation in the context of exhibition spaces. For this, it launches an initial idea of spatial mediation (and how this differs from other types of mediation, such as educational or technological). Defines the territory where this type of mediation occurs – exhibition spaces, and outlines a bisociative approach to its study, which considers the way in which certain curatorial discourses are spatialized and the role of the underlying building in such spatialization.

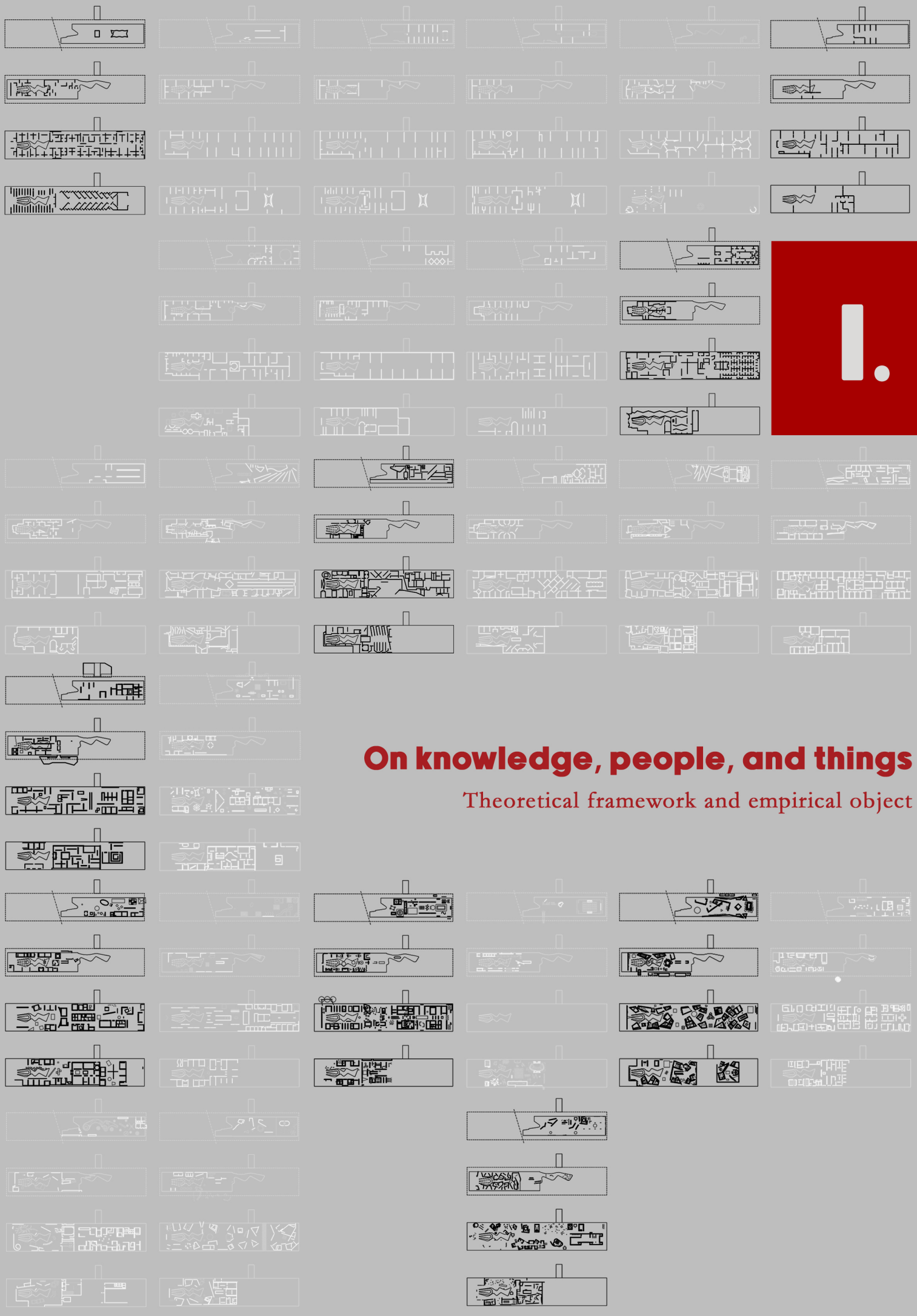
Chapter 3 characterizes the idea of spatial mediation through the presentation of the empirical object of research. This chapter is divided into two parts, which reflect the two main dimensions of argument and object – exhibitions as spatial discourses and buildings as spatial commodities. The first part describes the main systems under which the discourses of the BSP were organized and classified, as well as reviews morphological studies that dialogue with similar issues of spatialization of knowledge. And the second part presents the building in which the BSP exhibitions were held, with emphasis on the most emblematic of them, the Palace of Industries (known as Pavilhão Bienal) and brings together related studies on buildings and the spatial classification of things.

Part II, Structures (diachronic studies of BSP exhibitions and buildings), is composed of Chapters 4 and 5, which develop a diachronic and exploratory study of the different dimensions of the Bienal de São Paulo as a whole (that is, covering the 30 cases held in the same building). These dimensions consist of institution and event (chapter 4) and building (chapter 5). This study also allows to select and characterize specific cases (9 in total), as well as designing steps and procedures for their analysis (chapter 6), to be developed in the third part of the thesis. Chapter 4 makes a description of the prescriptive text that preceded the discourse of each exhibition, characterizing the event's operating system (pre and post-curatorship), as well as raising spatial order information from their catalogues. In this chapter some considerations extracted from the treatment of the data are also made, mainly from the redrawing of the plans of all the exhibitions and the reconstitution of the plans of its buildings. With this, some intersections between curatorial discourses and spatial configurations are outlined, pointing out contradictions and identifying some local and global spatial patterns. In chapter 5, which to some extent works as a pilot study for chapter 7, develops the first set of configurational analyzes of the building, to assess the impact of the spatial changes it has undergone over these six decades. These studies are done first for two cases (original project and built project, both from 1954) and then expanded to five cases (1957, 1969, 1981, 1996 and 2018), years in which the building underwent significant spatial changes. These first set of analyzes allow to characterize the three spatial description models that distinguish the building layout (complex and generic) and the exhibition layout (specific).

Finally, Part III, Interpretations (development and discussion of analytical case studies), consists of Chapters 6 and 7, which are intended for in-depth analysis of specific cases. Chapter 6, models these analyzes, based on the findings of the two previous

chapters. This modeling is based on the selection and characterization of nine cases (BSP *4*, 11, 16, 19, 23, 25, *27*, 29 and 33), which reflect the two facets of the phenomenon studied, that is, how the curatorial discourse structures these exhibitions while their underlying building also plays a role in this regard (summarized in the ideas of narrative and capital). In this chapter an analytical framework, composed of analytical steps and an analytical matrix that allows to describe the cases and their periods of classification together, is designed to address the building layout and exhibition layout both in terms of movement and occupation (generic functions of space). Finally, Chapter *7* develops an investigation of the notion of spatial mediation based on nine specific BSP cases (chapter *7*), dividing these analyzes according to the elements mediated in each of them, namely: mediation between things (which describes the displayed artifacts and characterizes the discourses of each exhibition), mediation between people (describing the layout of the buildings and exhibitions in terms of occupation and movement) and mediation between people and things – which jointly discusses the results of the two previous steps. With these analyzes, two types of spatial mediation are characterized, mediation as a means and mediation as an end, that describe how the specific layout of the exhibition is situated in relation to the complex and generic layouts of the building (whether within its limits or beyond them) and which spatial mechanisms are responsible for this situation.

In addition to these three parts, Chapter 8, References, and Appendices are also included in this manuscript. Chapter 8 summarizes the discussion, returning to the initial argument, reflecting on the main findings and limits of this investigation, and pointing out possible paths for future research. The Appendices are also an important part of this thesis, as they contain: the list of organizers of the BSP exhibitions (a); the original exhibition plans as collected in the Arquivo Histórico Wanda Svevo of the Fundação Bienal de São Paulo (b); the redrawn plans of the exhibitions, as well as the reconstitution of their buildings in the year of each event, from 1957 to 2018 (BSP *4*-33), as well as the plans of the Pavilhão Bienal (original design and as built, from 1954 (c); and data from occupation (d) and movement analysis (e). All these appendices, in general, and the redrawn plans, in particular, are of fundamental importance for the construction of this document and should be consulted throughout its reading.



I.

On knowledge, people, and things

Theoretical framework and empirical object

2 MEDIATION IN THE CONTEXT OF EXHIBITION SPACES

This first part of the thesis presents and discusses the theoretical framework (Chapter 2) and the empirical object in a strict and latu perspective (i.e., the Bienal de São Paulo, as a set of exhibitions and buildings, as well as morphological studies of related objects (Chapter 3) in order to provisionally formulate the notion of spatial mediation to be explored and characterized in the following parts of this thesis.

The title of this part, On knowledge, people, and things, is a reference to the building classification system proposed by Markus (1993), as highlighted previously, and discussed in this chapter, as it is argued that these elements are essential for the definition of exhibition spaces and the very notion of spatial mediation.

The aim of this chapter is to present what spatial mediation would be in the context of exhibition spaces, to elaborate a more precise definition for such spaces, and to formulate an approach that articulates the two dimensions from which spatial mediation operates, suggested in the title of this thesis – exhibitions as discourses and buildings as commodities.

This chapter is divided into: 2.1) the notion of spatial mediation – which discusses the subject from an educational to an architectural perspective; 2.2) the characterization of exhibition spaces – that discusses different concepts and examples towards the construction of this definition, as well as presents the theories and instruments from which they can be theoretically and empirically approached; 2.3) a bisociative approach to exhibition spaces – which articulates the previous discussions and formulates an approach, which reflects the duality of the Bienal de São Paulo, to describe the two dimensions from which the notion of mediation can be addressed.

2.1 The notion of spatial mediation

This topic formulates the notion of spatial mediation as a concept that describes what is understood to be the main function of space in the context of exhibitions: to mediate the exchanges embedded in the arrangement of things and in people's access to these things and to other people, an exchange that, in the case of artistic exhibitions, is argued to be predominantly of knowledge (notions that are discussed throughout this chapter).

What motivates the construction of such a concept is the recognition of the primary role of space in the definition of this system of exchanges, which finds many similar studies to support it, as well as the identification of similar concepts in other fields of knowledge. These ideas, therefore, are discussed throughout this section from three perspectives: 1) from the discussion of existing mediation concepts and the proposition of a mediation concept specific to the field of architecture (section 2.1.1); 2) the proposition of a change of approach, which does not necessarily consider entire buildings, such as museums, but sets of spaces that operate through expository principles (section 2.1.2); 3) and the discussion of a very simple but very illuminating example of how mediation can be spatially constructed and communicated (section 2.1.3).

2.1.1 From educational practice to architectural perspective

One of the most common meanings of 'mediating' is to divide in half, to split something in two equal parts. When understood from this perspective, mediation can be related to separating, disconnecting, and distinguishing between portions. This meaning is frequently used in the context of the division of groups of things or people, where the mediator's role is to categorically separate subjects and/or objects (Merriam-Webster, n.d.).

Although this is a perspective that is also used throughout this research (for instance, when proposing the categorical division of the Bienal de São Paulo into buildings and exhibitions, as discussed in Chapter 3), the notion of mediation that is interesting to discuss is precisely the one that operates in the sense of interposing, reconciling, or intermediating two or more elements, disciplines, or agents (Merriam-Webster, n.d.). This second meaning of mediation, in turn, can be observed in many levels throughout this work, particularly as a concept that connects the different disciplines related to exhibitions (architecture, art, and curatorship) and the elements that characterize the exchange that takes place in the exhibition spaces (knowledge, people, and things).

In the publication Key Concepts of Museology (Desvallées and Mairesse, 2010) the term mediation refers precisely to this second meaning, designating "the action of reconciling or agreeing two or more parties, that is, in the museological framework, the museum's public with what it is given to see" (p. 52). The same authors also claim that mediation:

> "plays a fundamental role in the project of understanding of the self in each visitor – an understanding that the museum facilitates. In fact, through mediation, the encounter with the works produced by other humans takes place, which allows a subjectivity to be reached that promotes self-knowledge and the understanding of the human adventure that each one lives" (Desvallées and Mairesse, 2010, p. 54).

It is interesting to note that the authors attribute to the museum the role of facilitator of such meetings, which can be both the institution and the building, In the context of this research, understanding of the role of space in this facilitation is restricted to exhibition spaces, since the museum building comprises many other spaces that do not necessarily interfere in this role (as discussed in the following section).

The definition of the quote above unfolds a philosophical perspective also explored by other authors, such as Gilles Deleuze (1985), which suggests the idea of mediators as a key concept for understand what happens "in between", shifting the focus away from the concerns about origin or destination, beginning or end, and suggesting starting to think *par le milieu*. According to his notion that "philosophy is the art of forming, inventing, and fabricating concepts" (Deleuze et al., 1991, p. 471), that is, the discipline whose object is to create concepts, Deleuze's ideas are also used here to support the creation of a new concept, which is the notion of spatial mediation.

The author also associates the notion of mediator as something that can relate art, philosophy and science, arguably quite distinct and dissociated disciplines, whether they are people or things (or even plants and animals) (Deleuze, 1985). Although mediation is not precisely defined by Deleuze, the debate takes place in the context of a critique of the contemporary thinking, which, as he argues, by focusing on the problem of origins, makes it difficult to analyze movements and vectors.

Deleuze's concern with origins and movements, or, in other words, with mediation as a way of focusing more on relationships and less on origins, seems particularly useful to the formulation of the notion of spatial mediation that this thesis defends which, in general, refers more to the understanding of space as a system of relationships and its role in the articulation of disciplines, things and people, and less to its original or absolute attributes.

Returning to the field of museological studies, the idea of mediation is a widely debated subject, particularly from the educational point of view, which some authors argue to be the main social function of museums (Falk et al., 1998; Hooper-Greenhill, 1999, 1992). This educational approach was later described as a turning point in the fields of art and curatorship (O'Neil and Wilson, 2010), as these institutions are recognizing their civic and educational role while reviewing their curatorial, pedagogical and political practices, inviting visitors to a "reflection on the representational and mediated quality of histories and geographies, and on memory as a complex aesthetic and rhetorical artifice" (Andermann and Arnold-de Simine, 2012, p. 1).

Mediation can be human or technological in nature, it can take place in physical or virtual environments, and it can serve educational or entertainment purposes. For instance, a visit to an exhibition can be mediated by an artistic educator (someone who has received specific training to present the content to visitors) and it can be supported by a physical map or an audio guide with information about the artworks or suggested itineraries and supported by a real-time location map (in the case of virtual environments).

An increasingly important activity in exhibitions, mediation also occurs in the Bienal de São Paulo, for example, through the additional publications that accompany the exhibition catalogues or guided tours and activities with specific groups that represent a significant portion of the visitors of the event[8] (Figure 5). In this context, mediation constitutes a powerful tool to overcome social, economic, and cultural inequalities regarding the access to cultural events and institutions, which are places strongly frequented by privileged groups of society with high degrees of cultural and social capital (Bourdieu et al., 1991).



Figure 5. Educational mediation in BSP 18 (1981) (AHWS/FBSP).

[8] It also recognized that the mediation have a growing importance in the Bienal de São Paulo, where a large number of its visitors are attracted by guided visits and other types of mediation actions, as the BSP 29, which introduced "a permanent educational project and a wide parallel program" (http://www.bienal.org.br/exposicoes/29bienal).

Exhibitions can, and often use, use mediators, in the form of art educators and technological devices, to bring together people and displayed content, facilitating the transmission of intended messages to their visitors. However, these are forms of mediation that do not necessarily need to exist for the encounter between visitors, works, and other visitors to occur. Although all these forms of mediation establish approximations between people and things, they take place over a spatial configuration previously defined.

What this thesis suggests, in turn, is that the logics underlying the spatial configuration (Hillier, 1996b; Hillier and Hanson, 1984), by structuring the movement and occupation of the system[9], thus structuring the arrangement of things and the encounter of people with them and with other people, act as a primary form of mediation.

Transposing Deleuze's ideas about mediators, as devices that allow focusing on relationships and not necessarily on their origins, two schemes were designed to illustrate the different ways in which mediation can occur in the context of exhibition spaces, understood as primary and secondary mediation (Figure 6). In practice, each visitor has accumulated knowledge, also understood as cultural capital (Bourdieu, 1986; Bourdieu et al., 1991), which interferes in this encounter, just as the existence of a secondary mediation does not imply the absence of a primary mediation. Therefore, they are not mutually exclusive, but, except in virtual spaces, the second cannot exist without the first.

As described in Figure 6, secondary mediation occurs when visitors encounter things or other visitors indirectly, through an additional resource, i.e., an educator, a map, or an audio guide[10] (left graph of the figure). Primary mediation, on the other hand, is one in which the encounter between visitors and things or other visitors takes place directly, using only or mainly space as a mediation resource (right graph).

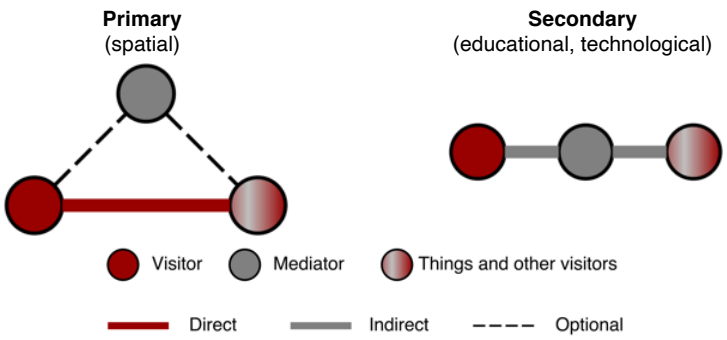


Figure 6. Primary and secondary forms of mediation.

[9] Generic functions of space (Hillier, 1996b) that are further discussed in section 2.2.

[10] Even if the visitor navigates alone, that is, without the company of another person to guide him/her, this is considered a form of indirect mediation since the visitor's navigation between spaces is being aided by an extra resource.

On the contrary, secondary mediation takes place over an already existing mediation system provided by the spatial configuration, which in turn embeds ideas and values of the society that shaped it. This argument is based on the The Social Logic of Space (SLS) theory (Hillier and Hanson, 1984), whose paradigm guides the development of this work. SLS consists of an analytical theory, in opposition to prescriptive or descriptive ones, which, by means of a set of methodological procedures, widely known as space syntax, discusses how rules, patterns, or social behaviors shape and in turn are shaped by the spatial configuration of urban settlements and buildings. In other words, it is understood that space and society have an interdependent relationship and that the study of space, particularly its spatial configuration, can provide evidence for understanding aspects of a broader social nature (Hillier, 1996; Hillier and Hanson, 1984).

Related to these ideas, Amorim (1999) proposes a mediator space in the development of its sectors' paradigm: a space unit (or units) that mediate the different activities and functions of a building. Throughout the analysis of hundreds of dwellings, he highlights "the importance of the mediator in binding the household together" (p. 71), when, for example, the space complex is represented from the point of view of the inhabitants. This mediator space is of fundamental importance as it shows how different social rules for classifying people, activities, and functions (such as the control of inhabitants over visitors or distinctions regarding privacy or exposure) converge or diverge, are continued, or discontinued, at the mediator space, turning point of the spatial system.

The object of this research, however, presents a significant distinction, as the exhibitions are characterized precisely by the formulation of unique discourses, therefore suggesting the existence of a very distinct set of social rules from one exhibition to another. They also take place in spaces not necessarily designed to house specific collections and contents, therefore, if their discourses can be very specific, their buildings, in the sense of being regular enough to support different occupations. In addition, exhibition spaces relate people to people, as in Amorim's case, but also and especially people to things, which may constitute different forms of spatial mediation to be observed throughout this study.

Such particularities motivated the investigation of how these different discourses are reflected in the spatial configuration of these exhibitions, as well as the role that the underlying building plays in this regard, which together constitute the scope of the notion of spatial mediation, not as a set of educational practices but as an architectural attractor.

2.1.2 From museum buildings to exhibition spaces

The discussion developed in the previous section showed that, although well-founded, the notion of mediation in the context of exhibitions often considers museums in a diffuse way, without making a distinction between the institution museum and the building museum. Although such an overlap makes sense, since the principles of the institution are also observed in the space of its buildings (Markus, 1993), two observations must be made.

The first is that, in the case of the museum building, the spaces that operate to promote the encounter between visitors and things are those that are accessible to the public. That is, the program of museum buildings is composed of many other areas that do not necessarily interfere in this process. And the second is that by focusing only on the exhibition spaces of such buildings, it is observed that they can be found in many other buildings, not just in museums – as further argued at the conclusion of this thesis.

Therefore, it is proposed here to observe how mediation occurs in exhibition spaces, which is a movement that both restricts the study areas of certain buildings, but at the same time expands the identification of such spaces in buildings of other uses and typologies, therefore suggesting that this idea of mediation can be used to understand exhibition spaces not only of a cultural and artistic nature, but of other natures and functions.

This proposition is based on the definition of exhibition as "the set of things of varied natures and different forms exposed to the public, as well as the things on display and the place where this manifestation takes place" (Desvallées and Mairesse, 2010, p. 42). Therefore, the idea of exhibition comprises things, the arrangement between them, and the space where it takes place.

Therefore, the argument of shifting the debate from the study of specific museum buildings towards a broader understanding of exhibition spaces has two objectives. One is to deepen the understanding of the interaction between curatorial discourses, building layout, and exhibition layout and the other is to broaden the range of references for understanding exhibition spaces, connecting apparently unrelated studies but seem to share similar concerns. This argument started from the observation that exhibition spaces can be identified in different building types and with different purposes. If, on the one hand, this set of spaces does not necessarily constitute an autonomous building, on the other hand, it does not depend entirely on the spatial configuration underlying its buildings that house the exhibitions, therefore characterizing an interdependent relationship.

Regarding the first aspect, the fact that exhibition spaces are not necessarily autonomous buildings, it considers the fact that these buildings are composed of spaces for different activities that, although they serve as an important support for exhibitions, are not accessible to the public (such as archives, technical reserve, and offices), as they are not intended to exhibit a collection, for example, but to house, to restore, or to study it.

About the second aspect, that exhibition spaces are part of a complex spatial system proper conceived to fully support the social intents of its patrons, it refers to the idea that the spatial configuration of the underlying building interferes, but does not determine, the spatial configuration of the exhibition. This is due to the fact that these buildings, in general, are not designed to house a specific collection or a single exhibition, allowing them to house different occupations.

This shift in focus, from the idea of autonomous buildings to a set of interdependent spaces, is both empirical and theoretical. From an empirical point of view, this shift results in a focus on spaces where things are arranged for public consumption[11] and people of all categories[12], can move relatively freely among them. From a theoretical perspective, such an approach, by deliberately excluding important areas of these buildings (in the case of museums), makes them easily identifiable in buildings of other types and functions, allowing the identification of such areas in other objects and studies. So this shift proposes an empirical narrowing, while at the same time it is based on a theoretical broadening.

On the empirical aspect, narrowing the approach of entire buildings to only their exhibition spaces, results from the observation that few configurational studies delve into the study of non-exhibition spaces, as well as making no distinction between the building layout and the exhibition layout, often considering the limits of the building and the display as a single structure (studies that are discussed in Chapter 3). If, on the one hand, in some objects such limits are in fact inseparable or their dissociation is not necessary or relevant, on the other hand considering such elements (building and exhibition layout) as autonomous may shed new light on the approach of such objects and issues.

On the theoretical aspect, it assumes that exhibition spaces can be identified not only in museums or galleries, but in every building that operates through exhibition of things, but which to a certain extent also includes the interaction between people, since in the process

[11] Simultaneously considering that the artifacts on display are often also for sale and that the appreciation of art can also be understood as a form of consumption (Bourgeon-Renault et al., 2006; Carnegie, 2010; Jafari et al., 2013).
[12] That is, those who work in these spaces (inhabitants) and those who just visit it (visitors) (Hillier, 1996b).

of accessing these things, people see other people and are also seen. Such spaces, in turn, can be identified not only in buildings that relate people to knowledge (such as museums, galleries, and exhibition pavilions), but also in buildings that relate people to things (particularly those intended to exchange things, such as markets, malls, and department stores), and, ultimately, may also present some characteristics of buildings that relate people to people (as formation and re-formation buildings). These categories constitute the building classification system proposed by Markus (1993), mentioned at the beginning of this chapter, and discussed in section 2.2 (in the characterization of exhibition spaces).

The case of exhibition spaces can be characterized by an inverse logic to that identified in the study of housing by Amorim (1999), for example, as in this case the wide range of social rules derive from curatorial discourses, and not from ways of living and relating. In other words, in exhibition spaces this set of social rules seems to derive less from the need to classify people and activities and more from the intention to spatially order and communicate knowledge, through the arrangement of artworks in space.

This argument supports most of the morphological studies of museum buildings developed so far (Choi, 1999; Peponis et al., 2004; Peponis and Hedin, 1982; Psarra et al., 2007; Psarra and Grajewski, 2000; Stavroulaki and Peponis, 2003; Wineman and Peponis, 2010; Zamani, 2009; Zamani and Peponis, 2010), which often deal with singular cases of museums and, in general, do not distinguish between the building layout and the exhibition layout. These studies are discussed in detail in the next chapter.

The empirical object of this thesis, however, seems to require a different approach, since the Bienal de São Paulo is an object of two distinct dimensions, comprised by both a significant number of exhibitions (34, from 1951 to 2021) and a very characteristic building (known as Pavilhão Bienal), also object of specific discussion of Chapter 3 (Figure 7).

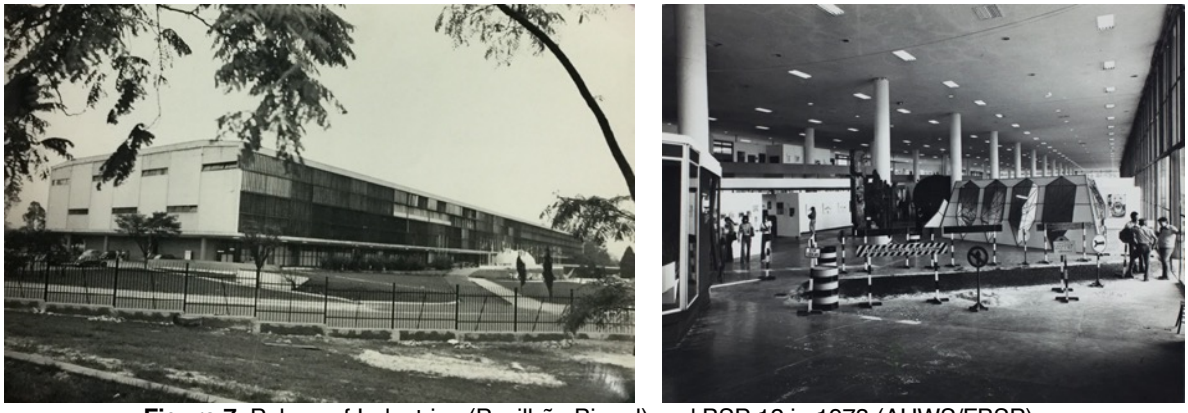


Figure 7. Palace of Industries (Pavilhão Bienal) and BSP 12 in 1973 (AHWS/FBSP).

This particular overlap between building and exhibitions, raises questions, for example, about in what terms those curatorial discourses are different from each other and if or how they configure different exhibition layouts, and whether the building would also have its own spatial discourse, therefore also influencing the configuration of the exhibitions. Therefore, the theoretical expansion that the focus on exhibition spaces makes possible seems to be necessary so that the two dimensions in which the notion of spatial mediation can be observed in this object, that of the curatorial discourse and that of the influence of the building, can be addressed.

The idea of curatorial discourse implies that such exhibitions are constituted by a prescriptive text, which, articulated in the form of a discourse, is spatially read through the navigation of people through space (Koch, 2015; Markus, 1993; Peponis et al., 2003; Psarra, 2009; Psarra et al., 2007; Psarra and Grajewski, 2000). The influence of the building in this process, in turn, was associated with the idea of commodity, both in its common sense (as a primary good with homogeneous characteristics), which also includes the notion of commodification (that is, something that has been turned into a commodity), where the exchange-value tends to dominate the use-value (Appadurai, 1994, 1988; Shepherd, 2002). Both dimensions are further discussed in section 2.3 (a bisociative approach to exhibition spaces).

However, the consideration of these two possible dimensions of spatial mediation is what expands the horizons of references of this research, which, on the one hand, includes specific studies on exhibitions, in addition to museological studies, and on the other hand, brings studies on other buildings and urban spaces with different approaches.

Although related, since museum studies[13] also deal with exhibitions (where the main references were cited in the discussion on mediation developed in the previous section), there is a growing body of literature specifically dedicated to the study of exhibitions, from a philosophical and historical perspectives. This literature refers to publications that mapped the history of the exhibitions, such as the seminal pair of books Exhibitions That Made Art History, Salon to Biennial (1863-1959) and Biennials and Beyond (1962-2002) (Altshuler, 2013, 2008), and the Exhibition Histories series, from Afterall, initiated in 2010, as well as other publications on the topic (Cypriano and Oliveira, 2017). It also comprises

[13] Disciplinary field that exists since at least 19th century, a period in which museums are consolidated as institutional domains, thus partially leaving the domain of the private sphere of their collectors, with robust development, especially since the 1990s, "a period when museum studies has grown enormously" (Macdonald, 2006, p. 1).

literature especially dedicated to understanding biennial, triennial and related exhibitions (Filipovic et al., 2010; Gardner and Green, 2016; Jones, 2016; Spricigo, 2011), for example, as a global phenomenon of production and diffusion of contemporary art.

The understanding of the building as a resource to be used by the exhibitions, in turn, led to the identification of studies that, to a certain extent, understands the space from a simultaneously configurational and economic perspective, motivated by the idea of understanding the building as spatial resource. Such studies refer to the notions of economy of movement, natural movement, spatial capital, spatial capacity and natural occupation (Bobkova, 2019; Bobkova et al., 2017; Hillier, 1996a; Hillier et al., 1993; Marcus, 2010), as well as studies on buildings intended for the exchange of things (Chen and Shi, 2011; Kalff et al., 2010; Koch, 2007).

Therefore, this approach of exhibition spaces also helps to connects different bodies of literature that seem to be necessary to approach the empirical object, the Bienal de São Paulo (BSP), since it involves other issues beyond those contained in debates and studies on museums. Although the interaction between these two facets is introduced in sections 2.2 and 2.3 of this chapter, as well as discussed and analyzed throughout this thesis, an f example extracted from the 1st Bienal de São Paulo exhibition (BSP 1)[14], held in 1951, is presented as a way of quickly describing how these concepts and dimensions, the curatorial discourses and the spatial resources offered by the building, interfere and result in the spatial configuration of the exhibition.

[14] Which is included in this thesis for the purposes of general characterization and documentation, but which is not an object of configurational analysis, since the interest lies in understanding the exhibitions held in the same building – something that only happens from 1957, at BSP 4 .

2.1.3 Spatial mediation in BSP 1 (1951)

The case of the 1st Bienal de São Paulo (BSP 1), held in 1951, is introduced as an interesting example of how space can mediate the relationship between the layout of the exhibition and the layout of the building, thus mediating the interaction between different disciplines – art, architecture, and curatorship.

In addition to the fact that this edition was not held at the Pavilhão Ciccillo Matarazzo (known as Pavilhão Bienal), and therefore is not part of the time frame of this research, the few data available on this biennial do not allow the development of a more accurate spatial analysis[15]. Therefore, this case is discussed in a predominantly discursive way, with the support of some images, just to shed light on concepts that will be further formulated and questions that will be developed throughout the next chapters.

Various aspects of this example address the main questions of this investigation[16]. This exhibition was held in a temporary pavilion built specifically for this purpose and located in an area that later was configured as the Belvedere Trianon, a privileged green spot in an expansion area of the city São Paulo. The pavilion was designed by the Brazilian architects Eduardo Kneese de Mello and Luís Saia, and became known as the Pavilhão Trianon, which preceded in many levels the foundation of one of the most iconic and relevant museums in the country, the Museu de Arte de São Paulo (MASP), designed by Italian-Brazilian architect Lina Bo Bardi, in 1958 (Sombra, 2016).

It is worth noting that the origins of the Bienal de São Paulo, organized by members of the Matarazzo family (of Italian origin), also exalts values of affirmation of national identities as the Venice Biennale, the only existing biennial until the foundation of BSP, and a great reference for the Brazilian case (Mulazzani, 2014; Sombra, 2016).

The main purpose of the event was to disseminate high-quality artworks from different parts of the world to wider audiences[17]. This spirit of national affirmation was also reflected in space through the artists and countries participating in the event and the classification of these artworks and themes in the building.

---

[15] Such as the absence of the floor plan from one of its two floors and the detachment of the building plan from the exhibition plan, in addition to the poor readability of some drawings.

[16] Whose building is documented in this example and also discussed along with the other buildings that hold BSP exhibitions in Chapter 3 (section 3.2).

[17] Since admission to the event was paid and the culture of visiting exhibitions was still not widespread, as discussed in chapters 3 and 4 (Alambert and Canhête, 2004).

With regard to the organization of the event, international commissioners, appointed by the Museu de Arte de São Paulo (MAM-SP) – the first institution responsible for organizing the event, made the selection of the artists and artworks from the country to which they were assigned (Farias, 2001). This organization system, in turn, was reflected in the classification system under the idea of national representations (countries).

The pavilion that hosted this first edition was a prismatic, modular building, with large spans and a temporary character (Sombra, 2016). It had two storeys, but only the street level plan was found in publications and in the Arquivo Histórico Wanda Svevo of the Fundação Bienal de São Paulo[18]. The plan of this first floor was also found, and, although it is detached from the building, it is possible to identify its relationship with it (since the limits of the exhibition spaces are clearly identifiable in the two plans) (Figure 8).

On the right side of the figure, is possible to identify the national representation system that the Bienal de São Paulo adopted through decades. Its labels show the presence of the following countries: Belgium, France, Switzerland, Germany, Italy, Netherlands, England, Uruguay, Chile, and U.S.A. Even if the national representation system was the model that guided the selection and classification of artworks for decades, since this first edition it is also possible to identify the presence of special rooms, that is, spaces designated to exhibit a specific artist, artwork, or theme, which in this case were dedicated to the exhibition of invited Brazilian artists[19]: Di Cavalcanti, Lasar Segall, Cândido Portinari, Maria Martins, Victor Brecheret, Bruno Giorgi, Oswaldo Goeldi, and Lívio Abramo.

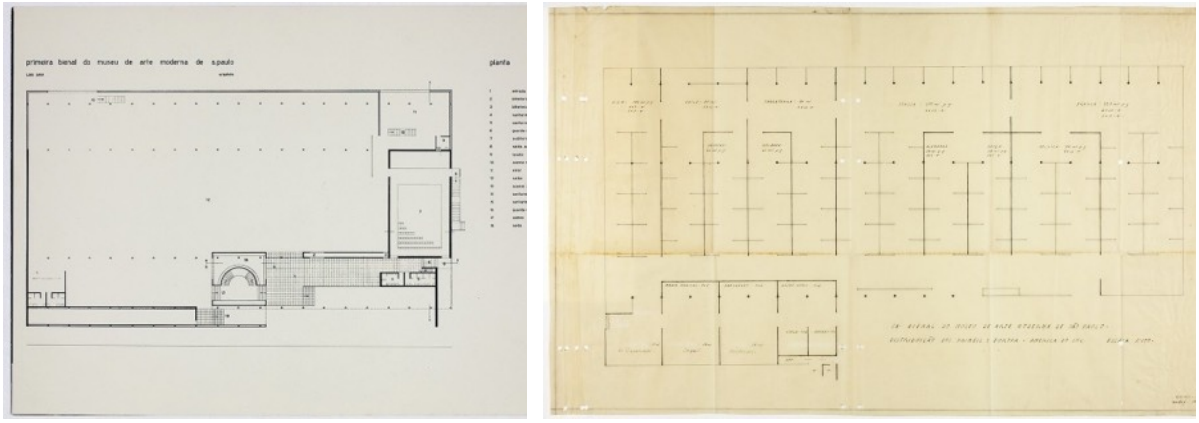


Figure 8. BSP 1 (1951) building and exhibition plans (floor 0) (AHWS/FBSP).

[18] Created in 1963, headquarted at the Pavilhão Bienal, which houses a large collection of documents the Bienal de São Paulo exhibitions and other artistic events and Latin American artistic production (as discussed in Chapter 4 in the context of data gathering and processing of this investigation).

[19] In contrast to artists who have either been selected by international commissioners (in the case of international artists), or through an application system (in the case of Brazilian artists).

The presentation of each artist and discussion of their artwork is not the object of study of this thesis, both because it is not key to the investigation of the spatial mediation, and because the time frame is very broad, and the volume of artworks displayed in each BSP is immense. However, it is worth highlighting the existence of a wide set of studies on modern Brazilian artistic and contemporary production (Amaral, 1970; Andrade, 1942; Gullar, 2012; Machado, 1947; Milliet, 2005; Pedrosa, 1952), and especially the "effort to establish a narrative around modernist production and its institutionalization process, which will be capitulated by the Bienais of the Museu de Arte Moderna de São Paulo (1951-1961)" (Hoffmann, 2017, p. 32).

The different institutions that organize the event, as well as the different periods of classification of these exhibitions, are discussed in the first section of Chapter 3 (through the presentation of the BSP exhibitions and the construction of the idea of exhibitions as spatial discourses). However, returning to BSP 1 example, an analysis of the catalog of this exhibition (MAM-SP, 1951), together with the first-floor plan (level 0), allowed to identify in which floor each country was located.

The Brazilian section, together with the architecture biennial[20] and other countries (Japan, Cuba, Canada, Portugal, Argentina, Dominican Republic, Panamá, Equator, Haiti, and Austria), occupied the lower floor (level -1). Whereas the other countries were placed at level 0 (European countries, Chile, United States of America, Uruguay), as well as special rooms for the invited Brazilian artists. These sections and their spatial distribution is summarized in Table 1.

Section	**Subsection / description**	**Floor**	
		0	**-1**
1 National Representations	**1A** European countries	x	
	1B Chile, U.S.A., and Uruguay	x	
	1C Asia / Central America countries (+ Canada and Portugal)		x
2 Brazilian Representation	Selected Brazilian artists (from a registration system)		x
3 Architecture Biennial			x
4 Special Rooms	Invited Brazilian artists (directly by the organizers)	x	

Table 1. BSP 1 (1951) classification system.

[20] Despite the name, the architecture biennial was a section that was part of the Bienal Internacional de Arte de São Paulo (São Paulo International Art Biennial) (França, 2017; Herbst, 2011). However, in 1973, the architecture biennial, known as Bienal de Arquitetura (BIA), becomes an autonomous event, and over time the art biennial is simply called Bienal de São Paulo, terminology adopted throughout this thesis.

These sections, that may also constitute specific sectors of the exhibition layout, are an important part of its curatorial discourse. Although officially the first exhibition to be organized by a curator was BSP 16, in 1981, it is understood that notion of curatorship, to some extent, permeates the event since its first edition, if one agrees that "curating can be seen as a form of social practice linked to specific kinds of relationships between people and objects as well as to wider social structures and contexts" (Kreps, 2003, p.1).

This argument gained strength for the contemporary understanding of the function of curatorship, but it can also shed light on the activities that were developed before the period when curatorship was not yet structured as an autonomous discipline, a process that takes place in the 1980s (Lagnado, 2015). In the first 15 editions of the BSP, the international commissioners or artistic directors were solely responsible and had autonomy for the selection of artworks. From 1981 (BSP 16) onwards this function is shared with the curators and only in 2006 (BSP 27) the curators become solely responsible for the selection. Therefore "even without the title, they played the role of the current 'curator' (although their roles were different and more similar to the classic roles of art critics)" (Alambert and Canhête, 2004, p. 107).

That said, the sections of this exhibition are articulated with each other in order to build a discourse, while adapting to the underlying configuration of the building, in its geometric and topological properties. In order to support the discussion of such relationship, the floor plan of its exhibition was redrawn, as well as two diagrams were elaborated. One of them simulates the distribution of these sections at levels 0 and -1, since it is not known exactly how this distribution at level -1 occurred. And the other describes a possible route through these sections, considering that the main spaces that structure this route are known from the floor plan of level 0, namely: entrance, vertical transition (stairs between floors 0 and -1) and horizontal transition (space located between the area destined for countries and the area of the special rooms).

These three schemes, gathered in Figure 9, allow observing the arrangement of contents in space, imagining some possible navigation routes between them, and reflecting on the role of the building in the structuring of these two aspects. Regarding this last aspect, it seems evident how the positioning of the special rooms, which received works by recognized Brazilian artists, seems to have benefited from a spatial distinction of the building, constituted by the variation in its geometry (the lower left protruding area), added to the position adjacent to the exit (i.e., mandatory passage space on the route).

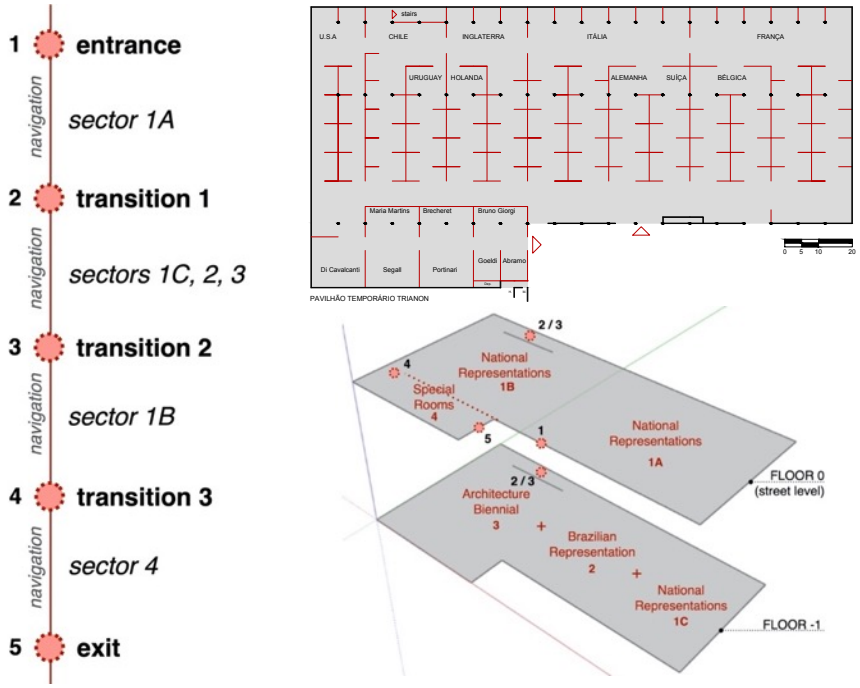


Figure 9. BSP 1 main circulation path, plan (floor 0) and contents.

On the suggested route, although it has not been defined precisely where the visitor would pass (since this information cannot be reproduced on the lower floor), the key spaces of this route, represented as nodes, were defined: entrance (1); vertical transition, stairs (2 and 3); horizontal transition, between countries and special rooms (4); and exit (5).

Between these key points, navigation regions (represented as edges) were located that pass through the sections of the exhibition, possibly in this order: 1-2) European countries (section 1A, level 0); 2-3) Asia and Central America countries, Canada, Portugal, Brazilian section (selected artists), and architecture biennial) (section 1C, 2 and 3, level -1); 3-4) Chile, United States, and Uruguay (1B, level 0); 4-5) Special rooms Di Cavalcanti, Lasar Segall, Cândido Portinari, Maria Martins, Victor Brecheret, Bruno Giorgi, Oswaldo Goeldi, and Lívio Abramo (level 0).

Although several other routes can be taken, it is practically impossible to visit the exhibition without going through the spaces adjacent to its entrance and exit (if we consider the shortest possible route to be developed). In this case the first space to be visited is a long circulation corridor (that joins sectors 1A, European countries, and 1B, Chile, Uruguay, and U.S.A.), followed by the special rooms (dedicated to Brazilian guest artists). Both must be visited since there is no other choice to enter and leave the building.

If one decides to visit the lower floor, the spaces adjacent to the vertical circulation, both on the upper and lower floors, are also visited, even if unintentionally, which makes these

spaces especially attractive in relation to several others in the building. The spaces that constitute the access route between the entrance and the stairs, both those naturally contained in the building and those defined by the exhibition, can also be understood as more attractive than others in the system due to this possible movement of people. As well as spaces to the right of the entrance may be less attractive because they do not benefit from such movement.

Following the same line of reasoning, the spaces on the lower floor could be understood as generally less attractive, since the visitor could choose not to or be prevented from access them. And finally, the most attractive spaces in the system, from this configurational point of view, would be those located in the minimum and obligatory route, which is the circulation ring comprised between the entrance and exit on level 0.

In summary, the depth from the main access and the configuration of the lower floor would tend to reduce the movement of the visitors, unless curatorial and architectural strategies were used to increase visitors' interest in navigating withing the given layout. Although little of the architectural dimension of the exhibition can be discussed[21], it is possible to highlight some curatorial strategies that seem to try to subvert this condition, by bringing attractiveness to initially unattractive areas, as well as others that seem to operate in the same direction as the movement possibilities embedded in the building's layout, reinforcing with contents the already attractive condition of such spaces.

> In this first competition, the Selection Jury was not yet fully open to the novelties of modern art, and they ended up rejecting, in a first instance, the works of Abraham Palatnik, as they did not fit into any of the regulatory categories: painting, sculpture, and engraving. The selection committee managed to correct the error in time to include it in the exhibition, but not in time to allow the artist to appear in the exhibition catalogue (Pereira, 2014, p. 500).

Regarding the first strategy, the positioning of the Brazilian room (selected artists)[22], as well as the architectural biennial at level -1, seem to constitute an important gesture in this sense, since this selection of artists used to be a process of much expectation, clashes, and controversies (Pereira, 2014), and the "early and prominent presence of architecture in the Bienal de Arte de São Paulo, since its creation in 1951, reveals that the cultural significance that architecture enjoyed at that time and the close relationship that existed between our architects and artists" (Camargo, 2017, as cited in França, 2017).

---

[21] Since we do not have the exact information about the layout of the level -1, as well as few images of this exhibition (presented in Chapter 3). Furthermore, at that time, exhibition design did not seem to be understood as a form of architecture, which seems evident in the homogeneity that characterizes its displays, and as discussed in Chapter 3.

[22] Which represents almost 40% of the exhibition catalogue (MAM-SP, 1951).

The second strategy, in turn, is clearly illustrated in the positioning of the special rooms on the path adjacent to the entrance and exit (which is also the shortest possible path through the exhibition). These curatorial strategies may seem difficult to address if taken as an initial reading key for understanding these exhibitions, since they require a careful examination of the artists and works present in each exhibition. However, an inverse approach, which takes space as a starting point for understanding the interaction between layouts (building and exhibition) and how such curatorial strategies relate to these layouts, can launch a new perspective on the interaction between these objects and disciplines.

Indeed, there are highly relevant contents of the exhibition, as well as there are spaces in the building that have a greater prominence when considered in function of the entire spatial network. Therefore, the diffuse interaction between the discourse that precedes the exhibitions, the spatial classification designed for it and the role of the building in its structuring (or how it is modified to accommodate them) seems to require a specific approach capable of addressing these relationships.

This simple example, however, brings questions worthy to be explored. How the selection and classification of the artworks was made? What were the main formats of works exhibited? What were the main classification criteria? How this classification was distributed throughout the building? What is the interference of the preexisting building in this spatialization? How does its configuration change based on the different classification criterion? Which are the building's spatial elements most susceptible to modification and which are those that strongly structure the design of your exhibitions?

Finally, this example illustrates, how the idea of spatial mediation seems to be embedded in both dimensions of this problem, that of transforming discourses into space, and that of modifying spaces to receive such discourses, that seem to be especially evident in the Bienal de São Paulo. Such a spatial approach of the problem, in turn, finds great support in the existing literature, on which this study is based, which, although not directly cited, as it is be addressed throughout the next sections and chapters, is implicit in the discussion of this example and the construction of this argument. It also seems to require both a better definition of what exhibition spaces mean in the context of the socio-spatial paradigm that guides this thesis (discussed in the following section, 2.3), as well as the development of a theoretical framework that articulates these distinct but complementary dimensions (as discussed in section 2.3).

2.2 A socio-spatial characterization of exhibition space

2.2.1 Cultural and economic interplay at the origin of exhibition space

The interaction between cultural and economic aspects that it is argued to characterize the exhibition space is inferred from the observation that this kind of space occurs both in buildings that relate people and knowledge (often aimed at cultural uses, such as museums, galleries, and libraries) and in buildings that relate people and things (for production, but especially for exchange, that is, those aimed at commercial purposes, such as markets, malls, and department stores). This observation was based on a building classification system proposed by Thomas Markus (1993), as remarked in the Introduction of this thesis, which consists of three major groups: buildings that relate people to people, people to knowledge and people to things.

These classes are discussed in detail in the next section (2.2.2. Spaces for the exchange between people and things). However, it is important to briefly introduce Markus' classification system as it guided the formulation of a framework of exhibition spaces as one that focuses less on the idea of a building type (if it is a museum, gallery, mall, or market) and more on the way in which the function of these spaces are performed, that is, through the display of artifacts (be it books, works of art or manufactured products, either for appreciation or for purchase) and the relatively free movement of people.

This approach may seem to blur the boundaries between economy and culture, but in fact this interplay is present since the very origin of exhibitions, both as an event and a social phenomenon (such as the World Fairs) and as a spatial object (in the form of exhibition pavilions, like the Crystal Palace) (Bennett, 1988; Birnbaum and Wallenstein, 2019), aspects that have a great interface with the empirical object of this thesis.

The period between mid-nineteenth century and the 1960s, which saw both the consolidation of museums as a center for modern display culture and the emergence of the world's fairs, created "an immersive space that blurs the line between art and commodity" (Birnbaum and Wallenstein, 2019, p. 28). In those exhibitions, such as The Great Exhibition of London, held in the Crystal Palace, in 1851, artworks and commercial artifacts, were juxtaposed in the same space, blurring the distinction between aesthetic and utilitarian objects, that now "could be endowed with the same magic and dignity as paintings and sculptures" (Birnbaum and Wallenstein, 2019, p. 30).

This period also marks a shift regarding social accessibility to culture and entertainment, in function of the construction modern democratic state and industrial capitalism, where exhibitions started to reach larger audiences than that when museums began to occupy specific institutional buildings. This leaves behind the notions of privacy, exclusivity, and intimacy that permeate the small private cabinet of curiosities, a mix between museum and library typical from the 17th and 18th centuries, that preceded the institutional creation of museums (Markus, 1993) – places characterized by the accumulation of artifacts that reflected the accumulation of culture and knowledge of their holders.

In other words, this is a period when art became intensively commodified, and, on the other hand, industrial artifacts were exhibited according to increasing sophisticated discourses of cultural affirmation (Birnbaum and Wallenstein, 2019) (Figure 10).

> First, the stress was shifted from the *processes* to the *products* of production, divested of the marks of their making and ushered forth as signs of the productive and co-ordinating power of capital and the state. After 1851, world fairs were to function less as vehicles for the technical education of the working classes than as instruments for their stupefaction before the reified products of their own labour, 'places of pilgrimage', as Benjamin put it, 'to the fetish Commodity'. Second, while not entirely abandoned, the earlier progressivist taxonomy based on stages of production was subordinated to the dominating influence of principles of classification based on nations and the supra-national constructs of empires and races. Embodied, at the Crystal Palace, in the form of national courts or display areas, this principle was subsequently developed into that of separate pavilions for each participating country (Bennett, 1988, p. 94).

The development of an exhibition culture, or an Exhibitionary complex, as discussed by Bennett (1988), involves a fetishization of commodities and a popularization of art, embedded in the creation of the Venice Biennale, in 1895, and especially, the Bienal de São Paulo, decades later, whose interplay is precisely what characterizes the exhibition space.



Figure 10. Nickelio's museum and library (1727) and The Crystal Palace (1851) (Markus, 1993).

> Culture is a paradoxical commodity. So completely is it subject to the law of exchange that it is no longer exchanged; it is so blindly consumed in use that it can no longer be used. Therefore it amalgamates with advertising. The more meaningless the latter seems to be under a monopoly, the more omnipotent it becomes. The motives are markedly economic (Adorno and Horkheimer, 1944, p. 131).

One of these formulations is the idea of cultural industry proposed by Adorno and Horkheimer (1944). In the essay, the authors discuss how "culture now impresses the same stamp on everything" (p. 32), suggesting that this massification of culture is a result of the introduction of the Fordist capitalism in cultural sphere (films, radio, and magazines), as if every element of popular culture followed a similar formula. Revisited years later (Adorno, 1975), its central ideas remained, such as the homogenizing effect of the cultural industry, producing a collective conformity, and the consequent obstruction of the development of an autonomous and independent thinking of individuals, constituting a mass culture.

Although widespread, this concept was also criticized by several authors, who argue that Adorno made sweeping generalizations about different cultures, media, and modes of production. The author is also accused of not having discussed the processes of the cultural production and of not examining the interdependence between culture and other business sectors which makes his ideas useful to understand societies between 1920 and 1950 but historically limited to discuss the production developed in the 1960s and 1970s (Cook, 1996). However, more recently, ideas about the 'culture industry' have been taken up under the term 'global culture industry' by authors who argue that Adorno's main concerns about an over-massification of culture have become reality (Lash and Lury, 2007).

A previous notion related to the cultural industry debate is the idea of cultural hegemony as formulated by Gramsci in his *Prison Notebooks* (2007), written between 1929 to 1935. In his discussions, he provided several insights about cultural subordination and dominance in modern capitalist societies. In his writings, Gramsci addresses the relation between culture and power under capitalism, using the idea of hegemony as a key for thinking about the configuration of the new social relations of the time (Alves, 2010).

Even authors who are critical of his ideas, recognize in it a potential to provide "a theoretical framework and a vocabulary for understanding historiographical problems that have asserted themselves with special force" (Lears, 1985, p. 568) as it clarifies the political functions of cultural symbols and may aid intellectual historians interested in how ideas can reinforce or undermine existing social structures.

Therefore, what can be extracted from both concepts, cultural industry and cultural hegemony, and their criticisms refers less to the validity or practical implications of these ideas today and more to the potential of the association between these two lenses in establishing a clear framework for the debate.

Still in the context of cultural studies, also known as material culture or cultural sociology, Pierre Bourdieu's ideas also operate in the direction of converging and confronting culture and society with the notions of power, economy and capital (Bourdieu, 1986, 1979, 1977; Bourdieu et al., 1991). This is evident, for example, in his concept of social and cultural capital and in the discussions about the economy of symbolic goods or symbolic exchanges. In the essay *The Forms of Capital* (1986), the author formulates the concepts of cultural and social capital that share with the original concept of capital the idea of accumulation. In the case of cultural capital, the author argues that occurs in three states – embodied, objectified, and institutionalized – that is, in the form of long-lasting dispositions of the mind and body, in the form of cultural goods, and in the form of educational qualifications, respectively.

Regarding social capital, it is defined as a "durable network of more or less institutionalized relationships of mutual acquaintance and recognition – or in other words, to membership in a group – which provides each of its members with the backing of the collectivity-owned capital", existing in practice (in the form of material or symbolic exchanges) or also in an instituted way (in the name of a family, a tribe, a class, etc.).

> Capital is accumulated labor (in its materialized form or its 'incorporated', embodied form) which, when appropriated on a private, i.e., exclusive basis, by agents or groups of agents, enables them to appropriate social energy in the form of reified or living labor. It is a *vis insita*, a force inscribed in objective or subjective structures, but it is also a *lex insita*, the principle underlying the immanent regularities of the social world. (Bourdieu, 1986, p. 241).

In this regard, capital, as proposed by Bourdieu (1986), refers not only to the institutionalized accumulation of property rights (economic capital), but also of inherited habits, educational qualifications and titles of nobility, in the cases of cultural and social capital, which required labor for their accumulation. These ideas are in fact an unfolding of the idea of "symbolic capital, in the form of the prestige and renown attached to a family and a name is readily convertible back into economic capital, is perhaps the most valuable form of accumulation in a society" (Bourdieu, 1977, p. 179), developed shortly before the other forms of capital as a first attempt to expand a merely monetary view of economy.

These forms of capital play an important role in the exhibition spaces in general, and in the Bienal de São Paulo specifically, as the conception and the perception of an exhibition to some extent reflect this accumulation of cultural knowledge and of social ties, both from the perspective of those who organize (commissioners, curators), participate (national representations, artists, or collectives) or visit them (Bourdieu et al., 1991). In other words, the existence and awareness of this cultural and social capital has an impact on the way exhibitions are conceived by their curators and perceived by their visitors.

This is discussed by Bourdieu et al. (1991) in the book *The Love of Art: European Art Museums and Their Public*, where the authors question this supposed openness and accessibility of museums and exhibitions to wider audiences by empirically verifying that only a small segment of the population visits those spaces, characterized by a high correlation between social origin, cultural capital, and taste. For these authors, taste (in the form of the appreciation of a particular work of art, artist, or discussion) is a socially inculcated disposition unevenly distributed through society, where some are distinguished by their love of art while the vast majority are deprived of this privilege. However, it is recognized that there also seem to be increasing efforts to bring museums and exhibitions closer to their audiences and communities (Falk et al., 1998; Karp, 1992).

> If an economy is the means and rationale through which a given society commodifies and exchanges scarce resources, then the 'attention economy', following Marazzi (2008), defines human attention as a scarce but quantifiable commodity (Crogan and Kinsley, 2012, p. 1).

This expanded approach of economy, as discussed by Bourdieu, considers not only its monetary or financial dimension, but its manifestation as a system of social relations and exchanges. This aspect can be related with the notions of attention (Davenport and Beck, 2001, 2002), experience economy (Pine and Gilmore, 1999, 2013) and knowledge (Powell and Snellman, 2004) – briefly defined as a set of practices aimed at the use and capitalization of these resources (attention, experience, and knowledge). Some authors also acknowledge that an economic shift is underway but that the creation of so many alternative terms to describe the social forms of economy is no longer productive (Pine, Gilmore, 2013). However, some of these notions may play a role in the exhibition design, such as the notions of attention economy and knowledge economy, defined as follows:

> "…production and service based on knowledge-intensive activities that contribute to an accelerated pace of technological and scientific advance as well as equally rapid obsolescence. The key components of a knowledge economy include a greater reliance on intellectual capabilities than on physical inputs or natural resources…" (Powell, Snellman, 2004, p. 201).

This greater reliance on intellectual capabilities can be related to the emphasis given to sophisticated curatorial discourses as a way of structuring these exhibitions to the detriment of other simpler organizational modes, such as organization through different types of artistic expression (i.e. paintings, sculptures, videos etc.) or through national representations (characteristic of the Venice Biennale) as will be discussed further on in the case of the Bienal de São Paulo.

Regarding the attention economy, it can be briefly characterized as a form of economy that understands attention as a scarce but quantifiable commodity (Davenport and Beck, 2002). Some authors also criticize this approach for arguing that it is a form of commodification of human capacities, where "Understanding processes of commodification, regulation and subjectivation of and through capacities for attention requires that we explicitly conceptualize the relation between bodies, cognition, economy and culture" (Crogan and Kinsley, 2012, p. 2).

If, on the one hand, this thesis does not specifically investigate issues of bodies and cognitions (although, when investigating the possibilities of spatial navigation, it can provide the basis for future investigations in this direction), on the other hand, the conceptualization of the relationship between economy and culture is fundamental to understand the characterization of the exhibition spaces. In fact, the topic of attention was explored by educational actions at BSP 33 (2018), through initiatives called *Convite à Atenção* (Invitation to Attention), which also reserved spaces for rest and reflection on the artworks along its path (FBSP, 2018a, 2018b).

Thinking spatially about the topic of attention in the context of exhibitions means reflecting whether how certain points in an exhibition's route can capture greater attention from its visitors, and which ones are more conductive to rest or development of other activities, and how curators take advantage of it in their design.

In the field of museum studies the theme of experience has gained significant importance (Dal Falco and Vassos, 2017; Ferris et al., 2004; Harada et al., 2018; Sabiescu, 2018; Vermeeren et al., 2018, 2016). Although, in this context, this mention of experience often refers to the notion of experience design, as a set of practices focused on human outcomes (Falk and Dierking, 2016, 1992), it can be argued that this design approach is also related to the notion of experience economy (Pine and Gilmore, 1999), since, in both cases, the experience can be understood as an asset to be explored.

The book ***The Museum Experience*** (Falk and Dierking, 1992) was one of the first studies to address issues of experience from the point of view of their visitors. In its revisited version (Falk and Dierking, 2016), the authors frame the understanding of experience according to three main axes, before, during, and after the visit (reflecting on the role of personal and sociocultural context, physical context, and how visitors remember the visit and what they learns from it).

Although more recent publications emphasize issues related to new technologies and the consideration of their diverse audiences (Vermeeren et al., 2018), it can be argued that the questions launched still in the 1990s remain valid, since a central aspect to experience design is to promote the engagement of its visitors. Whatever the design paradigm adopted, user-centered experience design, participatory experience design or agile experience design, "each of these paradigms represents a systematic way of delivering value to the public, through meaningfully designed experiences" (Sabiescu, 2018, p. 259).

The book ***The Experience Economy:*** *Work is Theatre and Every Business is a Stage* (Pine and Gilmore, 1999), likewise the referred *The Museum Experience*, was updated after more than a decade (Pine and Gilmore, 2011), since these themes, while on the one hand, remain relevant, on the other, are subject to rapid changes. For the authors, "experiences represent an existing but previously unarticulated genre of economic output. Decoupling experiences from services in accounting for what business create opens up possibilities for extraordinary economic expansion (Pine and Gilmore, 1999, p. ix).

For the authors, experience constitute the foundation of a new economy, which remains valid after twenty years of the formulation of the first ideas, as "the word 'experience' exploded in its usage with product names, marketing taglines, destination venues and digital media" (Pine and Gilmore, 2013), as the notions of experiential marketing, customer experience and user experience. It is interest to note that, while the idea of experience design is frequently discussed in the context of museum studies, as concerns around the design of the visitor experience, the notion of experience economy, in contrast, is, "resonated in the market place of ideas and the world of commerce" (Pine and Gilmore, 2013), often calling its target audience customers (rather than visitors).

> A work of art no matter how old and classic is actually, not just potentially, a work of art only when it lives in some individualized experience. As a piece of parchment, of marble, of canvas, it remains (subject to the ravages of time) self-identical throughout the ages. But as a work of art, it is recreated every time it is esthetically experienced" (Dewey, 1934, p. 212-213).

In the field of art, however, the question of experience had already been problematized since at least the 1930s, when Dewey developed a new approach of art from the perspective of those who experience it, emphasizing both the final work and its production process, thus moving away from questions regarding its material or monetary value (a similar approach to that proposed by the theories previously mentioned).

In the face of several debates that interrelate culture and economy, the notions of knowledge and exchange seem central to connect these different ideas. If, from an architectural perspective, these ideas are better explored in the following section, at this point, some reflections from other fields of study deserve to be highlighted.

As stated earlier, the knowledge economy can be characterized by this reliance on intellectual capabilities, that is, by the "focus on the production of novel ideas that subsequently lead to new or improved goods and services and organizational practices" (Powell and Snellman, 2004, p. 201). From this point of view, the idea of the knowledge economy seems to be an interesting approach to reflect on exhibition space, particularly the global events of art, as it was in these context that contemporary art was created (Gardner and Green, 2016), curatorship established as a disciplinary field and exhibition design gained traction (Cypriano and Oliveira, 2017; Gardner and Green, 2016; Lagnado, 2015).

From the point of view of art, the debate between art and knowledge occurs not only in the sense of understanding its production, but "concerns art's potential as a source of knowledge" (John, 2001, p. 329), what and how can we learn from art (even though these are difficult questions to answer). In fact, this has been discussed issue since ancient philosophy, a debate that extends to the present day and unfolds on two main questions, one epistemic – if art can give its audience knowledge, and the other aesthetic – if knowledge can enhance art's aesthetic value (Gaut, 2003).

> I believe that every item properly classified as a work of art can contribute to human knowledge. In other words, I maintain that all artworks possess cognitive value. One might dispute this thesis in two ways. Some people will hold that no works of art have cognitive value. On their view, an artwork, unlike a work of history or science, is not the sort of thing from which one can learn. Alternatively, one might hold that, although some artworks have cognitive value, not all of them do (Young, 2003, p. 1).

These authors raise a common question, which is the role of cognition in the relationship between knowledge and art. Eisner (2008) summarizes it in three points, all of them also linked to the question of cognition, which are addressing the qualitative nuances of situations, enhancing empathic feelings and providing fresh perspectives to old reactions

and habits. Gaut (2003) highlights the notion of aesthetic cognition as the best thought of as a conjunction of two claims, art as a source of knowledge and knowledge as a determinant of its value. John (2001) reflects on the stimulating effects of art and considers that "cognitive stimulation as an important step in understanding how art provides knowledge" (p. 331). Whereas Young (2003) is categorical in stating that it is through its cognitive value that art can provide knowledge to its audiences.

Both the notions of knowledge economy, the idea of intellectualization of processes and the question of cognition, are of interest in this work. The former because it seems to be an aspect increasingly explored by contemporary exhibitions, in general (Filipovic et al., 2010; Jones, 2016) and in the Bienal de São Paulo, in particular. And the latter because it is related to the paradigm that guides this research, where "spatial configuration alone explains a substantial proportion of the variance between aggregate human movement rates in different locations in both urban and building interior space" (Penn, 2003, p. 30). The predictive power of this analytical model, suggests that some aspects of cognition are implicit in space syntax analysis, since cognition implies a relational component and the notion of spatial configuration addresses spaces not in a metric or geometric way, but rather topologically (Dalton et al., 2005; Hillier, 2012; Long et al., 2007; Penn, 2003).

Finally, the discussion of this cultural and economic interplay embedded in the origin of exhibition spaces, of museums, world fairs, and universal exhibitions, allows such an object to be defined as spaces for the exchange of knowledge (in the case of artistic spaces) between people and things, a notion that is further developed in the next section.

2.2.2 Spaces for the exchange between people and things

As discussed in the previous section, exhibition spaces can be provisionally defined as spaces for the exchange between people and things. This definition was elaborated from the critical analysis of the building classification system proposed by Markus (1993). In the book *Buildings and Power: Freedom and Control in the Origin of Modern Building Types*, the author understood buildings as social objects that, through their spatial configuration, classify people, knowledge, and things, therefore ordering a system of freedom and control.

The book unfolds ideas previously discussed in *Order in space and society: architectural form and its context in the Scottish Enlightenment* (Markus, 1982), and in the paper *Buildings as classifying devices*, which discusses how buildings act as devices for the classification of people and activities (Markus, 1987). As Nascimento (2010) summarized, Markus composes an entire work on the typological problem in non-residential buildings produced in the context of the Industrial Revolution for the shelter of emerging programs, using the same descriptive and analytical instruments as Hillier and Hanson (1984).

> If meaning in buildings is about relations one should expect to find it in three kinds – between people, between people and knowledge, and between people and things. Ultimately all are social for all are about people, but the focus shifts. Of course knowledge and things are also involved – for instance the curriculum in a school or the products made in a work-house. Conversely, in the types which work indirectly through knowledge or things – for instance museums or markets – there are always actors present to make direct relations such as those between curators and the public, or between stallholders and customers (Markus, 1993, p. 39).

From the identification of socio-spatial patterns among the cases studied, the author classifies them in building types that relate: 1) people to people – for the purpose of formation (schools, convents, monasteries, orphanages, etc.), re-formation (asylums, hospitals, prisons, etc.), cleaning (public baths and saunas) or recreation (clubs, dioramas, and panoramas, etc.); 2) people to knowledge – visible (galleries, libraries and museums), ephemeral (fair pavilions) or invisible (lectures, theaters, etc.); 3) people to things – either for production (factories and manufactures) or exchange (shops, stores, markets, etc.).

In other words, these three groups of buildings represent those who: 1) directly control relationships between people; 2) those which reproduce knowledge; 3) and those used for production and exchange. The book title "implies the centrality of power to this social process" (Markus, 1993, p. xix) of typological explosion that characterized this period. Therefore, the aspects related to power, freedom and control, central to the understanding of the first group of buildings, to some extent, permeate all these building types.

This classification was developed based on the analysis of modern building types, their shape, function, and spatial aspects, and how they produce, reproduce, and subvert modern notions of power relations. It considers both the spatial attributes that configure these buildings, and the social expectations that preceded and structured them (Giddens, 1984; Hillier and Hanson, 1984). Therefore, the rules of social functioning, impregnated both in the user and in the designer, govern the dynamics of the human events that need space as a means to happen, which, in turn, embody a set of conventions to be followed (Hillier and Penn, 1991; Nascimento, 2010).

If, on the one hand, Markus (1993) classification refers to buildings of a very particular social structure and period (a result of the fragmentation of fields of knowledge and the formation of modern state, especially from the nineteenth century), on the other hand it is insightful in terms of how these three categories are observed in the empirical object.

When thinking about this classification in the context of the empirical object, both general (exhibition spaces) and specific (the building and exhibitions Bienais de São Paulo), a few main observations can be made: 1) the empirical object of this research is difficult to classify according to this system, as it deals with buildings from a previous periods; 2) this classification mixes components from different categories; 3) a new approach to this classification may shed light on the understanding of the empirical object.

Regarding the first point, as the proposed definition of exhibition spaces is deliberately broad, these spaces can be identified both in the group of buildings that relate people to knowledge (such as museums, galleries, and pavilions), and in the group of buildings that relate people to things (particularly in buildings for exchange of things, such as markets).

When thinking about this classification in the context of the specific empirical object, the Bienal de São Paulo pavilion, this overlapping of categories persists. The Bienal de São Paulo, as a building, can be associated with the group of buildings that relate people to knowledge, particularly those intended for an ephemeral use, such as exhibition pavilions. However, when considering the social expectations that preceded the building (initially intended to host industrial exhibitions), as well as the main use it has harbored for over 60 years (the Bienal de São Paulo artistic exhibitions), the other uses belonging to that same category, that of harboring visible and invisible knowledge (such as museums and theaters), since those exhibitions are composed not only of paintings or sculptures, but also of increasingly complex installations that often involve performances with people.

This expansion of the approach to the Bienal de São Paulo and the exhibition spaces in general also makes it possible to associate the uses of the other two categories with this object. That is, the Bienal de São Paulo (the Pavilhão Bienal, as well as the one resulting from the modification of its layout by the 30 exhibitions it housed), can also be associated to the group of buildings that relate people to things, particularly those intended for exchange, as well as to the group of buildings that relate people to people (such as markets), particularly those intended for formation (such as schools).

With respect to the first, this is due to the fact that both the Pavilhão Bienal and its exhibitions are designed to promote this exchange of things (for example, through the sale of artworks or artifacts during or after the exhibition). Such use of exchange is actually embedded in the conception of the building, initially called Palace of Industries, designed by Oscar Niemeyer and built together with other pavilions that form the Parque Iburapuera on the occasion of the 400th anniversary of the city of São Paulo to house the commemorative exhibition, which had the principle of publicizing the industrial production of the state of São Paulo and promoting business (Curi, 2018; Cury, 2016; Fraga, 2006) – aspects discussed in Chapter 3 (section 3.2), but necessary to introduce at this point.

Regarding the latter, for contributing to the formation of people, both visitors and specialized professionals. In fact, such an association is suggested by Crimp (1985), which argues that the museum is a distinct type of institution of confinement, and further discussed by Bennett (1988), that reinforces this association:

> For the emergence of the art museum was closely 'related to that of a wider range of institutions - history and natural science museums, dioramas and panoramas, national and, later, international exhibitions, arcades and department stores - which served as linked sites for the development and circulation of new disciplines (history, biology, art history, anthropology) and their discursive formations (the past, evolution, aesthetics, man) as well as for the development of new technologies of vision (Bennett, 1988, p. 73).

Bennett also cites the ideas of Davison (1982/3), which argues that the Crystal Palace reversed the panoptical principle "by fixing the eyes of the multitude upon an assemblage of glamorous commodities. The Panopticon was designed so that everyone could be seen; the Crystal Palace was designed so that everyone could see" (Davison, 1982/3, as cited in Bennett, 1988, p. 78) and questions them by stating that:

> This opposition is a little overstated in that one of the architectural innovations of the Crystal Palace consisted in the arrangement of relations between the public and exhibits so that, while everyone could see, there were also vantage points from which everyone could be seen, thus combining the functions of spectacle and surveillance (Bennett, 1988, p. 78).

However, these associations between exhibition spaces with examples of formation and re-formation buildings, although very thought-provoking from a conceptual point of view, seem to find little correspondence with the case of the Bienal de São Paulo from a spatial perspective, since this building seems closer to the reverse panopticon, as suggested by Davison (1982/3). Therefore, such an association is observed to a lesser extent than the previous association (with an exchange building, which relates people and things) and in a predominantly social dimension. That is, it is not manifested in the form of a building with the spatial properties of a school or a prison, but in the way in which such exhibitions contribute for the training of educators and specialized professionals who work in them

Such overlap supported the formulation of the second observation regarding Markus' classification system, which is the fact that it mixes entities that can be socially and objectively determinable, namely people and things, with knowledge, a fuzzy field of distinct epistemes and ontologies of difficult delimitation (Foucault, 1970). Although Markus (1993) points out that a given building, even if it has been associated with one of these three categories, can also contain elements from the other two, a better distinction between these components may shed light on the research object of this thesis and on the proposed notion of spatial mediation.

Figure 11 illustrates the building classification system (Markus, 1993) and highlights the categories with which the empirical object of this thesis, Bienal de São Paulo, has direct correspondence, namely: people-knowledge (invisible, ephemeral, and visible) and people things (exchange).

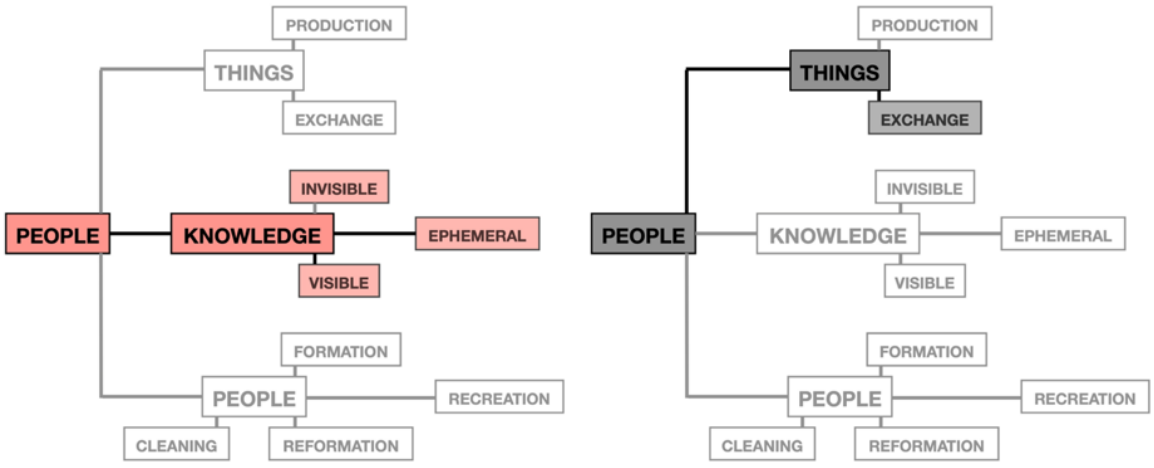


Figure 11. Markus' building classification system (1993) and associations with the empirical object.

Taking these categories as a reference (people, things, and knowledge), in the context of the object of this thesis the notion of spatial mediation seems to operate in three ways: 1) in the relationship between things – that is, in the proposed arrangement for the exhibition of the artworks (things-things); 2) between things and people – in the possibilities of contact between people and things that the arrangement of these artifacts produced (things-people; 3) and between people – in the system of encounters and avoidances between people that such an arrangement also makes possible (people-people).

The main change of this tripod in relation to Markus' (1993) system is that it considers knowledge as something that is not in the origin, but in the relationship, between objects and people. Although there is knowledge embedded in the works of art to be experienced or in commodities available for sale, in the case of this research, it is interesting to understand the knowledge embedded in the arrangement between them, that is, in the relationships established between things, since it is important to understand such objects in terms of their context, not as isolated artifacts.

This perspective, in turn, seems to open new possibilities for the characterization of exhibition space, since, by understanding knowledge as something embedded in the exchange, other elements can also be exchanged in these relationships, which can be characterized as different forms of capital (Bourdieu, 1986).

In other words, in exhibition spaces for cultural use, such as art exhibitions, these exchanges seem to be primarily based on knowledge, the main asset accumulated in cultural capital (by those who propose the classification of works in the space, as well as by those who experience them). On the other hand, in exhibition spaces for commercial use, such as fairs, stores and markets, although such exchanges involve knowledge (in the arrangement and choice of products), these exchanges are regulated by the value defined for such products, which in turn require economic capital.

Such ideas were represented in the graphs of Figure 12, which represents, on the left side, the elements and exchange relations of the exhibition spaces of predominantly commercial use, and on the right side those involved in exhibition spaces of cultural use, where: in the commercial exhibition space the main element involved in these exchanges is the economic capital and there are often mediators overlying these relationship (such as employees and salespeople); and in the cultural exhibition space the main element involved in these exchange relations is the cultural capital and mediators are often not necessary.

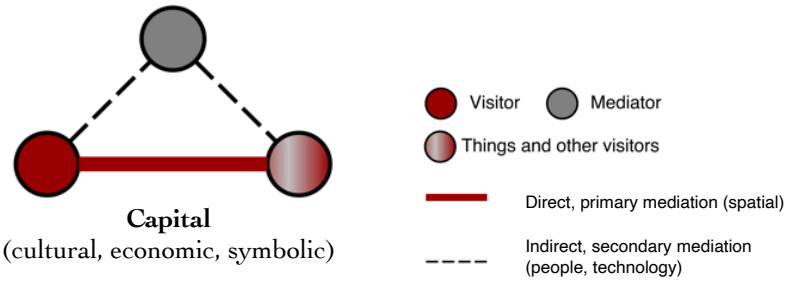


Figure 12. Elements and exchange relations in exhibition spaces of commercial and cultural use.

In some spaces this distinction is quite evident and that in others this difference seems difficult to characterize, which seems to be the case of the Bienal de São Paulo. In this event, the relationship between cultural and economic capital seems to be quite diffuse, as in universal expositions and world fairs, since for a long time these events charged admission[23], sold the artworks at the end of the event[24], and gave cash prizes to award-winning artists. And such a diffuse character seems to constitute the very architecture of its building, the Pavilhão Bienal, questions that are investigated throughout Chapters 3 to 5.

For instance, if in cultural exhibition spaces the exchange of knowledge requires an accumulation of cultural, social, and symbolic capital (Bourdieu, 1986), these exhibitions may also involve the exchange of economic capital, for example, through the sale of artworks at the event or the valuation (or devaluation) of these, interfering in their future commercialization (Braden and Teekens, 2019). Whereas in commercial spaces, even though the focus is on the exchange of capital through material and financial transactions (Appadurai, 1988), cultural, social, and symbolic capital may also play a role in this exchange – since the attribution of value and the relationship between exposition and availability of products (Koch, 2007) also take these aspects into account.

In this context, observing the arrangement of things in different types of exhibition spaces can clarify such similarities and differences. Spatial thinking about the ways in which things are displayed dates back to the 19th century, when the Universal Exhibitions, diffusers of a modern lifestyle, improved the model for classifying objects and controlling the movement of people in space, modulated to transmit messages (Bennett, 1998).

[23] The first free-entry BSP took place in 2004 (BSP 26).
[24] Something that can be identified in the event regulations present in the exhibition catalogues, as well as in the plants themselves, which presented spaces for the commercialization of the works.

This is evident, for example, when comparing two contemporary building types, a market (St. John's Marked, Liverpool, 1822) and an exhibition pavilion (the Commissioners' design for London's 1851 exhibition building), both analyzed by Markus (1993). While the latter was designed "for an international exhibition of the 'industry of all nations'" (Markus, 1993, p. 222), the former is an example of a specialized market that, under a large rectangular grid, concentrated most of the activities aimed at food supply (Figure 13).

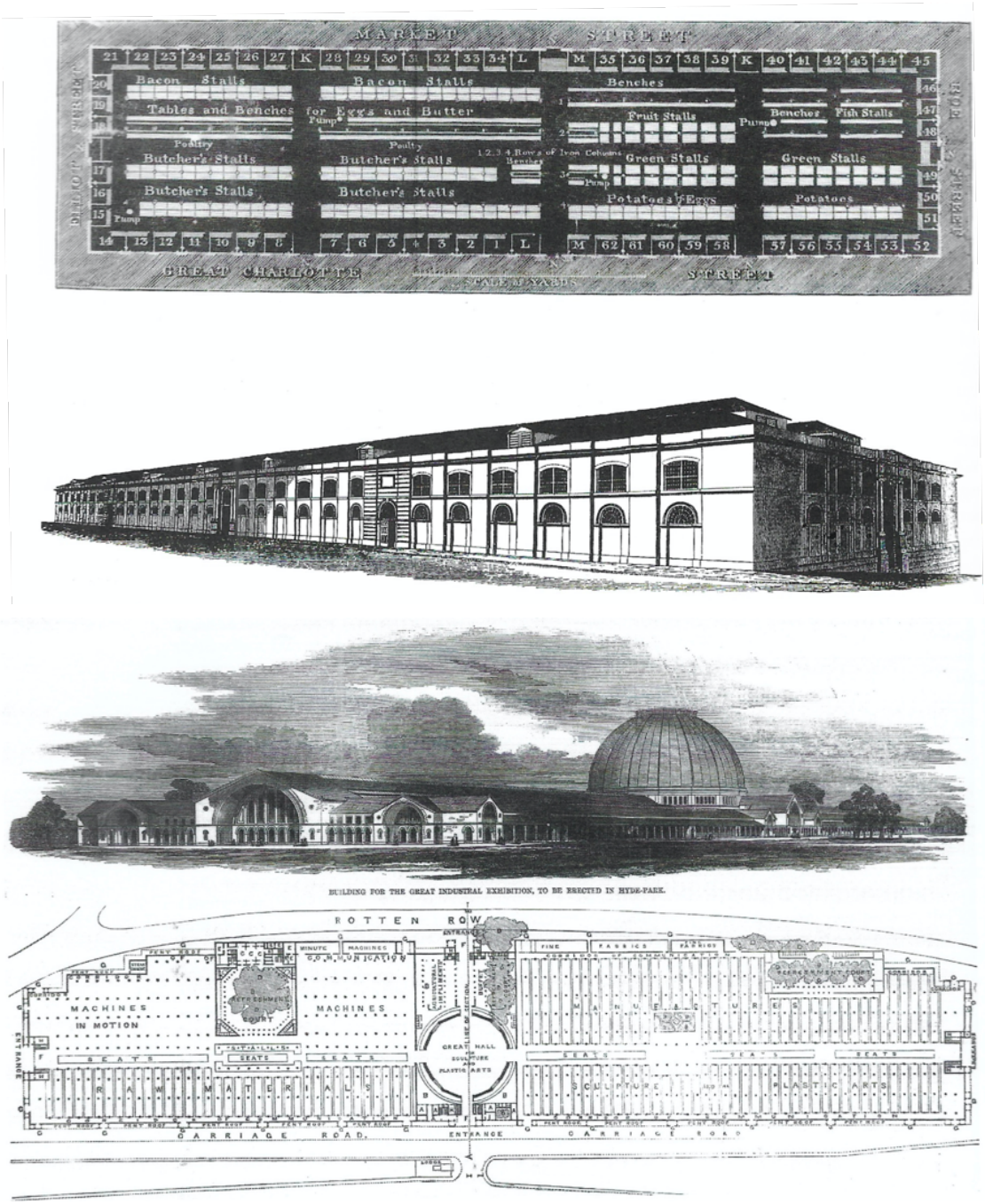


Figure 13. St. John's Market (1822) and The Commissioners' design for the London's 1851 exhibition building (1850) (Markus, 1993).

In addition to the pavilion character, the buildings are similar precisely because that their internal structure is mainly composed of the spatial arrangement of things, which in the case of the first it is mainly food, and in the case of the second, artistic and industrial artifacts. In the case of the exhibition pavilion, it is curious to note that, although artistic and industrial artifacts are displayed in the same exhibition, there is a clear spatial division between the wings of the building, which is the Great Hall – a spherical volume that marks the entrances to the building and which houses sculptures and fine arts, as well as building facilities (such as buffet, bathrooms and 'refreshment court'). Therefore, the spatial configuration of the building also seems to be closely related to the arrangement of artifacts (as suggested in the BSP 1 example).

Although the focus of this investigation is not on material forms of exchange, it is also recognized that they have close relationships with cultural exhibition spaces. Such aspect is discussed by Braden and Teekens (2019), who examine the role of associative status network on an artist's prestige or reputation (for example, the effects of associations between artists of similar status vs. associations between artists of different status) and the impact of this on the price their artworks (art market). In this study, the authors conclude that "status connections may have a point of diminishing returns by which comparison to high status prestige peers increases one's own prestige to a point, after which a high-status comparison network becomes a liability" (p. 1). That is, the association between artists in an exhibition may have a significant effect on their performance in the art market.

If, on the one hand, this relationship may seem evident, on the other hand, its structured discussion requires a complex and careful framework since such notions of value, experience, reputation and judgment of art, as discussed by Aloïs Riegl in the context of artworks and monuments as "the problem for the evaluation of individual works" (Zerner, 1976, p. 177), are a territory of great debate and controversy.

The same authors also draw attention to the relationship between symbolic or artistic networks in exhibitions and historical recognition and commemoration (Braden, 2018; Braden and Teekens, 2020). With respect to historical recognition, the role of museum curators and art historians is highlighted as, to a certain extent, responsible for the definition of historical cohorts, as they create symbolic associations between artists who, in turn, are picked up by historians in their exemplification of such a cohort (Braden, 2018).

These findings are further investigated in the study of "how contextualization of artists within historical cohort networks affects art historical commemoration" (Braden and Teekens, 2020, p. 1), suggesting that museum exhibitions creates historic cohort networks that position artists within history, an issue that is considered to be of high relevance to the theory and practice of the disciplines involved in the field of exhibitions. It is important to highlight that those studies do not address the spatial configuration of these exhibition and that they were developed in the context of museological institutions. However, they are particularly compelling for this research as they deal with the exhibition spaces of the three largest Dutch museums (Bojimans, Stedelijk, and Van Abbemuseum) and the Museum of Modern Art of New York (MoMA) and make an evidence-based analysis and discussion.

These studies also present several similarities with this thesis, especially with regard to the design of the methodologies of this research (as discussed in Chapter 4), such as: the examination of extensive historical periods, the consideration of exhibition catalogues as a source of information and the crossing of this type of information source with other existing sources (textbooks, internet databases, etc.). Although the spatial dimension of the exhibition is not their focus, they constitute an interesting introduction on the subject, as they approach exhibitions as a device for the dissemination of art in a cultural and economic perspective and point out ways in which exhibition networks can be addressed.

This interplay between cultural and economic logics in the spatial arrangement of exhibitions is observed since the emergence of display strategies in the institutional and physical context of museums, that is, long before the widely known museological debate on the concepts of white cube or black box. The first, a supposedly neutral environment that would favor the display of artworks, developed by Alfred Barr for the Museum of Modern Art of New York (MoMA) in the 1930s, which, although relevant and revolutionary, was bluntly criticized for being full of ideologies in the form of social, financial, and intellectual snobbery (O'doherty, 1976, 1999). And the latter, a reference to the idea of photography's black box, spatially and visually closer to a theater, cinema and television scenario – a response to the former in the face of the technological demands of new artistic formats, such as video art, that would encourage visitor engagement (Flusser, 1983).

Prior to these white cube and black box notions, however, one of the first formulations around what should be the display strategies for art exhibitions comes from a department store window dresser, which, in 1917, in the annual American Association of Museums conference, suggested that "commercial display methods could be incorporated into the art

museum setting" (Birkett, 2012, p. 13). The same author also points other historical facts, in the context of the United States of America of the 1910s and 1920s, that suggest close collaboration between museum institutions and commercial brands; a hygienist though in the sense of eliminating the accumulation that characterized the cabinet of curiosities (predecessors of museums) in order to direct the attention of visitors; and the incorporation of theatrical and commercial design practices in the design of displays (Birkett, 2012).

Nowadays, the strategies that govern the design of the displays in commercial environments are systematized under the notion of visual merchandising or retail design – a set of strategies that seeks to create discernible units of products or brands in order to affect consumer recognition and purchase patterns (Kerfoot et al., 2003; Pegler, 2012). However, as previously discussed, although the idea of exchange and consumption are common to exhibition spaces of a commercial and cultural use, spatial strategies are potentially distinct since in one this exchange is a monetary exchange and in the other it is the exchange of knowledge.

The spatial differences between these strategies are discussed in Chapter 3, sections 3.1.3, on space and knowledge, and 3.2.3, on space and things, which review morphological studies on exhibition spaces of both types (cultural and commercial), which in general concern the different spatial mechanisms of freedom, power, and control that govern the configuration of such spaces, that appear to be less rigid and restrictive in cultural exhibition spaces than in commercial spaces (ideas that are further explored in Chapter 3).

Returning to a social understanding of exhibition spaces, recent initiatives seem to point to the formulation of a specific field of studies, dedicated to the documentation and discussion of artistic exhibitions, differentiating them both from museums and world fairs. Two paradigmatic publications in this sense are the books *Exhibitions that Made Art History*, composed of two volumes, *Salon to Biennial* (1863-1959) and *Biennials and Beyond* (1962-2002) (Altshuler, 2013, 2008). The former discusses the development of modern art through a series of group exhibitions, from the Salon des Refusés (1863)[25] to The New American Painting exhibition at MoMA, New York (1958-59). The later traces post-war art developments (i.e., the role of commercial galleries, the influence of museums and corporate groups, artist-run spaces, and the impact of globalization) through 25 innovative exhibitions, of local or global impact, that boosted artistic trends.

[25] A parallel exhibition to the Salon de Paris that exhibited the artworks refused by the academy in the official salon as a form of protest by refused artists.

Another seminal publication in this regard is the collection Exhibition histories[26], which also dedicated one of its volumes for the documentation and reflection on BSP 24, *Cultural Anthropophagy: The 24th Bienal de São Paulo 1998* (Lagnado et al., 2015). There are also important texts on biennials and related events that also address the Bienal de São Paulo, such as: *Biennials, triennials, and documenta: the exhibitions that created contemporary art* (Gardner and Green, 2016), which presents a parallel between the Sydney Biennial of the late 1970s and the Southern Hemisphere biennials, by discussing the Bienais de São Paulo of the same period (characterized by the interference of the dictatorial regime in the country); *The Biennial Reader* (Filipovic et al., 2010), which includes the text *Changes in Strategies of (Re)presentation at the São Paulo Biennial*, from Vinícius Spricigo[27]; *The Global Work of Art: World's fairs, biennials and the aesthetic experience* (Jones, 2016), which examines from the earliest world's fairs in the nineteenth century to recent contemporary art exhibitions and argues that this "modern appetite" for experience was cultivated since the earlier expositions and nowadays constitute the contemporary art itself that can transform local audiences by making them reflect critically on global conditions.

In general, these texts reflect on the interplay between local and global debates, central and peripheral locations, and ruptures and continuities in curatorial approaches. In a similar perspective, Cypriano and Oliveira (2017) recently published *História das Exposições: Casos Exemplares* which, through the discussion of paradigmatic Brazilian cases, proposes a reflection that "in addition to a fetishist analysis that privileges artworks and artists, turn attention to the role that institutions have in the dissemination and consecration of these objects/actions and their producers" (Cypriano and Oliveira, 2017)[28].

A pioneering initiative from the 1990s (but also including texts from the 1970s and 1980s) to critically reflect on exhibitions and their role in the direction of art history is the book *Thinking about exhibitions* (Greenberg et al., 1996), which introduces several of the issues that are later explored in specific biennial studies about the rhetoric of exhibitions, the discourse of the museum, the notion of exhibition auteur, the spectacle culture in museums, politics of the cultural representation and the gallery as a gesture.

Although Greenberg et al., (1996) does not specifically address biennials, "the most significant phenomena in contemporary global culture" (Gardner and Green, 2016, p. 3),

---

[26] From the publisher Afterall, available at https://www.afterall.org/books/exhibition.histories

[27] Also author of the book Modes of Representation of the São Paulo Biennial (Spricigo, 2011).

[28] Quote extracted from the e-book preface, page not defined.

they present an anthology of writings that provide an expanded perspective in relation to issues already addressed by museum studies such as: the origins of the space and the institution, the relation between politics and power, the role of museums in shaping knowledge and the visitor's experience and its educational role (Bennett, 1995; Falk and Dierking, 1992; Hooper-Greenhill, 1992; Karp, 1992)[29].

Finally, this topic sought to formulate a concept of exhibition space specific enough to guide the investigation of the empirical object of this research and broad enough to bring to this debate other objects and references that initially could be considered as not related to this investigation. This concept, in turn, seeks to shed light on spatial mechanisms, rather than visual solutions, that govern the conception and perception of exhibition spaces.

In general, these spatial mechanisms seem to point to a recent change of direction in the conception of these exhibitions, distancing them both from world fairs and museums. Such changes seem to be observed in the Bienal de São Paulo, since its wide existence covers a good part of these transitions. If the first Biennials seem to have much of the influence of universal exhibitions, with ample spatiality, light partitions and fluid layouts, the more recent ones present a great diversity of spatial arrangements, which makes them similar both to museum structures (with well-defined rooms, sequenced and structured along corridors), as well as with structures that mix these two repertoires (from fairs and museums), and also seem to point to important innovations in this field of design.

These aspects are addressed in an exploratory way in Part II of this thesis, and specifically, through the study of selected cases, in Part III. However, the theoretical and methodological apparatus used to discuss and analyze such aspects is presented in the following section, as it will be used throughout all subsequent discussions.

[29] Publications relevant to the current state of the art, but which re not the focus of this study, for: 1) a biennial has particular characteristics in relation to a museum; 2) the focus of the work does not lie on the institutional debate (since this has already been relatively well explored by previous studies on the Bienal de São Paulo) but on its physical manifestations (space of buildings and exhibitions).

2.2.3 Describing and analyzing exhibition spaces

Given the conceptual framework discussed so far, this section presents the analytical apparatus to be used throughout the following exploratory (Part II) and analytical (Part III) studies, understood as the most appropriate for its approach. This apparatus, broadly conceptually formulated from The Social Logic of Space (SLS) theory (Hillier and Hanson, 1984), allows the structured discussion of social aspects embedded in the architectural form, through a set of representations and descriptions of space, or, more specifically, of the spatial configuration of buildings and urban spaces.

This configurational apparatus understands space as a system of "relations that take into account other relations" (Hillier, 1996, p. 1), where the existing relationships between two spaces changes when related to a third space (Hanson, 1998). The SLS theory claims to be not a prescriptive theory, which informs how architecture should be (as, for example, the classic architectural treatises, that does not have space as its primary condition), but rather an analytical theory, which describes how the space is (by representing and measuring its spatial properties). At the core of the theory is the assumption that the characteristics of architectural space, when defining permeability relations between its spatial units, do not constitute a phenomenon independent of social prerogatives, but are associated with them.

This interdependent relationship between space and society, in turn, does not take place in a direct and deterministic way, but rather in a systemic and dualistic way (Giddens, 1984). Such duality is present in the idea that the spatial configuration – by defining patterns of encounters and avoidances (Hillier, 1996), as well as embeds a set of aspects of a social nature, also influences the way relationships between people are structured.

An element of fundamental importance for understanding and describing these socio-spatial interaction are the plans. The most common form of representation of architecture, plans allow us to understand the intrinsic relationship between social and spatial attributes expressed in the built environment (Hanson, 1998; Hillier, 1996; Hillier and Hanson, 1984). Even though plans are geometric representations of space, space is conceived and perceived in a configurational way (Hillier and Hanson, 1984). Therefore, the relative positions between spaces and the relationships established between them precede dimensional definitions. Simply put, when designing or navigating a house, we may not know if the room is rectangular, nor how many meters each of its sides measure, but we do know how its rooms are positioned in relation to the other rooms or the street, for example.

In this context, the descriptions of space as proposed by space syntax seek to capture the way we conceive, use, and perceive the built environment. These forms of description can be summarized in some basic principles: that we move in straight lines, guided by visual fields and that we occupy and develop our activities in convex spaces (Benedikt, 1979; Hanson, 1998; Hillier and Hanson, 1984; Steadman, 1983).

As the focus is on understanding the relationships between spaces, the configuration is described as a set of barriers and permeabilities to movement and vision where between two spaces there are only two possible conditions, accessible to each other or not accessible. These barriers and their connections are represented in order to emphasize the topological properties of the system, therefore abstracting their metric dimensions. This emphasis allows, for example, to verify if exhibitions of different geometries may have similar structures or the other way around, how a building with a constant geometry can have different spatial configurations.

These spatial units allow the description and identification of patterns of spatial organization, by reducing the morphology of an urban or architectural settlement to its elementary structure. Such permeability can be both physical and visual, that is, two spaces can be physically connected to each other (through an opening between them), just as this connection can be of a visual order (i.e., there is a physical barrier which prevents circulation between spaces, like a glass surface, but makes them visually permeable). Therefore, the term permeability seems more comprehensive to describe this relationship.

While representing the way we move and apprehend space through lines and fields of vision seems intuitive, the argument that we use and occupy convex spaces deserves further attention. The convex shape embeds two fundamental values for the meaning of occupying, which are the ideas of co-presence and co-awareness. That is, if in a convex space two or more people can be simultaneously present, only in a convex space is possible to state that they can be aware of each other's presence in such space (since in a concave space, because of its geometry, people can be situated in areas not visible to each other). In addition, these notions of co-presence also occur not only in the scale of the spatial unit, but on the permeability relationship between units. In other words, depending on the permeability between spaces, it is possible to have co-presence and/or co-awareness, depending on the existence of barriers to movement or opacities to vision.

Together, these principles underlie the main spatial units of this morphic language (Hillier et al., 1976) – axial line, isovists, and convex spaces, which, in turn, constitute different representation systems, namely: axial maps, convex maps, justified permeability graphs, and isovists. The spatial attributes that these spatial units describe are of a topological nature, rather than just geometric[30]. Therefore, when thinking about the distance between spaces from the point of view of space syntax, we are talking about the topological distance between them, that is, how many spatial units separate them (not how many meters)[31].

In the built environment it is often interesting to understand the precise structure of these relationships as, through the attributes of their morphology (such as symmetry/asymmetry, shallowness/depth, concentration/dispersion), it is possible to discuss aspects of social order (i.e., freedom, control, hierarchy, and power) (Markus, 1993; Steadman, 1983).

In the case of representation by means of axial lines, one can think about how many changes of direction it is necessary to make to get from one point to another (which also includes changes in the field of vision), or, in the case of convex spaces, how many rooms of a building it is necessary to cross to get from one point to another. An axial map, therefore, presents "the minimal set of axial lines such that the set taken together fully surveils the stem, and that every axial line that may connect two otherwise-unconnected line is included" (Turner et al., 2005, p. 428). Although this is not a fixed rule, axial maps are often used to describe urban environments, while convex maps are quite informative for the description of the interior of buildings (since the representations in axial lines and convex spaces allude, respectively, to most common forms of streets and rooms).

The convex map, therefore, is an interesting way of representing spatial networks as it reduces the interior of a building to a set of convex spaces and the connection between them making it possible to focus on the system of relationships rather than the form itself. A set of convex spaces[32] constitute a convex map, which should comprise "the least set of the fattest spaces that covers the system" (Hillier and Hanson, 1984, p. 92), where fatness is an area/perimeter ratio (Peponis et al., 1997), connected to each other according to the condition of permeability between spaces (that is, the existence of an opening or door between them).

---

[30] Indeed, topology, the branch of mathematics on which space syntax studies are based, is an extension of geometry.

[31] For an overview of the space syntax logic, its methodological strategies and analytical techniques see Bafna (2003). For a broader comprehension of the evolution of ideas in space syntax field (though the analysis of its conference articles) see Krenz et al., (2019).

[32] That is, those in which any line segment taken between any two points in the region delimited by it will necessarily have all its points also contained in this region.

This map is obtained by representing on the plan this set of convex spaces delimited between the physical barriers of the building whether fixed or mobile. Initiatives for automatically generating convex spaces in the context of buildings (Carranza, 2013; Carranza and Koch, 2013), or 3D-informed convex spaces, also known as solid-voids, in the context of urban environment (Beirão et al., 2015; Beirão and Chaszar, 2014; Cavic et al., 2017; Sileryte et al., 2017), were studied and considered.

However, the preparation of convex maps of this investigation were done manually for having requested the definition of specific rules. These specific rules refer above all to the particular condition of the empirical object[33], an open plan building that is transformed into a specific spatial structure every two years (which are discussed in Chapter 5).

The convex map, in addition to highlighting the geometric patterns that govern the spatial arrangement, also serves as a basis for the elaboration of another representation widely used in morphological studies, which are the graphs. Graphs (or justified graphs) are an auxiliary representation where a convex space is represented by a node and the connection between them by an edge, appropriating the mathematical understanding of graph theory (Steadman, 1983).

In graphs, the convex spaces (the spatial unit in question), are represented by a vertex (a node) and the permeability between them (or any relationship that is intended to express) by an edge (a link). Such networks can take different shapes and sizes, depending on the number of nodes and edges and the configuration defined between them. Although they can be elaborated directly on top of the architectural plans, in this case the graphs use the convex maps as a basis for their making, precisely because the decisions about the limits that define the convex spaces have already been made in the elaboration of these maps (since spaces not always have clear definitions, as mentioned previously).

A graph can be directed, when the edges have a specific direction, or undirected, that is, when each edge can be traversed in both directions (which is the case in this study). It can also be unjustified or justified, where the second is made from the choice of any node (representing a space) of the system. This reference node becomes the root of the graph and all the other nodes are organized in depth levels according to the topological distance from it (Hanson, 1998; Hillier, 1996; Hillier and Hanson, 1984).

[33] The Pavilhão Bienal and its exhibitions, as discussed in the following chapter.

A justified permeability graph[34]**,** in turn, describes the system of spatial relations from a reference space (node), which, in the case of buildings, can be the external space or any space chosen in the system. This root of the graph is the starting point for the organization of the graph in topological depth levels. Through the justification procedure, which can be done manually for small networks or with the help of software in the case of larger networks[35], it is possible to generate the graphs to represent in topological levels its organizational structure. The justified permeability graphs are possibly the representation in which this notion of topological distance and relationship becomes even more evident.

Isovists, in turn, are "the set of all points visible from a given advantage point in space and with respect to an environment where the shape and the size of the isovist is liable to change with position" (Benedikt, 1979, p. 47). These fields of view can be generated for different angles (i.e., 90, 180, 270, 360) depending on what you want to represent, whether it is a person's view from a point to a certain direction (by using closer fields of view, 90 or 180 degrees), or if it is the view of the whole space from that point (360).

Finally, another form of representation are the visibility graphs, whose analysis is known as VGA (visual graph analysis), that is "a graph of mutual visibility between locations, which is based on, but can be constructed without, reference to isovists (Turner et al., 2001, p. 103). These graphs are generated from the subdivision of the space in a grid whose color variation signals the regions with greater and lesser visibility of the system.

Most of these representations are summarized in Figure 14, which, based on three similar spatial systems, illustrates the main spatial units and representation systems described so far that fall within the complexity and extension of the empirical object of this thesis (especially isovists, convex maps and justified graphs). The first line of the figure shows three similar spatial systems with slight variations from each other. In case A, both internal spaces are connected to the outside (but not connected to each other). In case B, the internal spaces are connected to each other (bot only space a connects to the outside). And in case C all spaces are connected to each other. Lines 2, 3 and 4 illustrate the main spatial units[36] from which spatial systems can be represented – axial representation, visual

[34] That is, it can express both physical and visual permeability relationships.

[35] As through Justified Analysis of Spatial Systems, Jass, software (Koch,2004), as is the case in this study.

[36] More recent developments also include representations of space in three-dimensional units, such as 3D isovists, 3D visibility graphs and 3D convex and solid voids (Beirão and Chaszar, 2014; Morello and Ratti, 2009; Varoudis and Psarra, 2014) which, due to the theoretical framework and the dimension of the empirical object, are not used in this study.

field (isovist) and convex fragmentation[37]. Lines 5 and 6 illustrate the process of drawing the graph (where a node was assigned to each convex space and an edge for each connection between them) and the justified permeability graph.

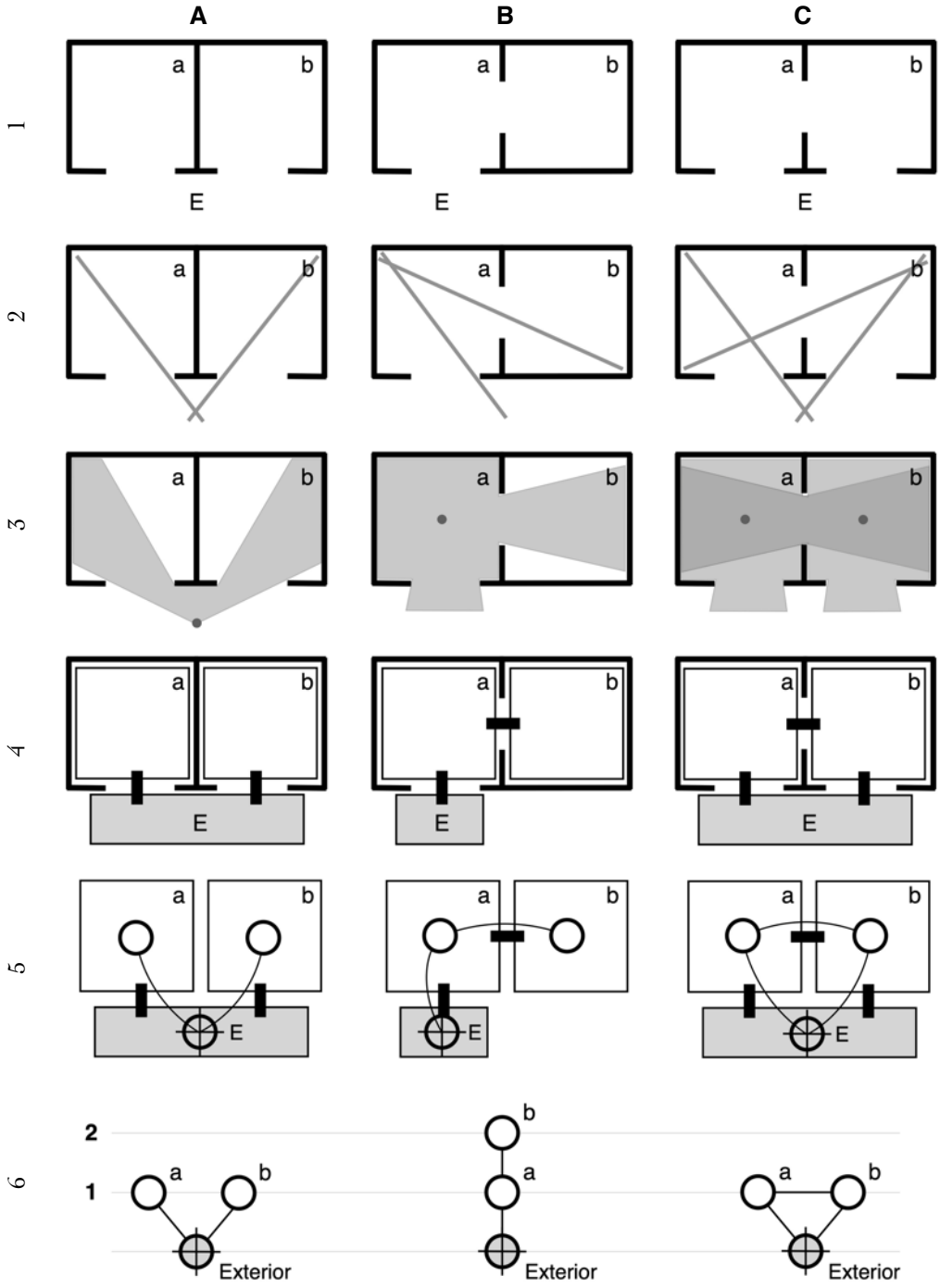


Figure 14. Space dimensions and plan representation: axial, visual field, convex, and justified graphs.

[37] Although the outer space is not delimited by barriers (such as spaces a and b), it was assigned a convex polygon of generic dimensions just for the purpose of representation.

Although simple, these examples present characteristics that allow discussing the main attributes of spatial systems and representations[38]. The variations in permeability between systems provide distinct symmetry and depth characteristics for each of them. Although this can be observed both in the axial and isovist representations, in the justified permeability graph this variation becomes more evident.

System B has a greater topological depth than systems A and C if justified from the outside space. That is, the topological distance between exterior and space b is two steps, while in the other two systems (A and C) is one step. In addition to depth, the most elementary syntactic measure, these systems also differ in terms of terms of symmetry. That is, while system C is fully symmetric (from all spaces it is possible to access all spaces), system A presents an asymmetry (since the exterior relates to spaces a and b, but a and b are not connected with each other).

> The justified graph is a very useful device for showing configurational properties in visual form, and also for illustrating in a visual way what is meant by the integration value of a space: the justified graph from a space will be shallow to the degree that it is integrating, and deep to the extent that it is segregated (Hillier and Penn, 1991, p. 30).

This visual dimension of the graphs also allows us to draw conclusions about the spatial configuration of buildings. According to Markus (1993), in addition to symmetry and asymmetry properties, graphs can look like a tree, a bush, or a diamond. These associations are based on aspects such as the depth of the system, the presence of terminal spaces, the existence of rings, and the access possibilities. In addition, distributivity properties of the spatial arrangement can also be observed from the graphs.

That is, one space is symmetrical to another if directly connected to it, and asymmetrical if there is at least one space between them. Therefore, symmetry is characterized when there are equivalent relations between three or more elements. The distributivity of a system is related to the paths. A highly distributive system is one with multiple path possibilities, which in the graph is observed from the existence of many rings, which generally describe systems with low control. A poorly distributive system is one that has few rings and many branches, which makes it more easily controllable (Hillier, 1996b; Hillier and Hanson, 1984).

[38] There is yet another type of spatial representation, the visibility graphs, which is the graph of mutually visible locations in a spatial layout, whose analysis (VGA) can be applied at two levels – eye level (for what people see) and knee level (for how people can move) (Turner et al., 2001), a derivation of the systems previously described.

That is, graphs that resemble trees tend to be deeper, with more topological levels and more terminal and non-distributive spaces and with only one access possibility. Diamond-like graphs tend to be shallower, as they have fewer terminal spaces, a greater distributivity, and therefore more rings and access possibilities. Graphs that resemble bushes, on the other hand, are intermediate situations, with few or no rings. This conformation is indicative of more complex systems, as some sectors value isolation and others require distributiveness (Markus, 1993; Steadman, 1983). The three cases allow us to reflect on whether a set of spatial units are associated with the system in a more local or global way and the relationship of this association with aspects of social order.

About this last aspect, of sets of spatial units, permeability graphs of complex spatial systems can be simplified from a description of sectors, which can be functional or strictly spatial (Amorim, 1999; Steadman, 1983). In the latter, the representation of several spatial units in the form of a single node takes as a criterion the fact that they present the same measure of depth, integration and belong to the same branch of the graph (Steadman, 1983). In the case of the former, the functional sector graph, a set of spatial units is represented as a single node when they, in addition to belonging to the same branch of the graph[39], fulfill the same programmatic function (i.e., a wing of hospital rooms that is separated from other sectors of the building by a reception) (Amorim, 1999).

These abstract representations of urban spaces and buildings, in turn, make it possible to measure certain spatial attributes that make it possible to objectively compare spatial systems in terms of integration, connectivity, control, control, among other measures. These measurements are obtained through analysis carried out with the aid of specific software[40] from the translation of these systems in the aforementioned spatial units.

It is not the purpose of this section to list and discuss all measures developed over more than 45 years of studies in the field (Hillier et al., 1976), but to explain, in the context of what is being discussed, its main logics and are how they may be useful to the investigation. In this regard, a good example is to contrast the measures contained in an initial space syntax glossary (Klarqvist, 1993) with the concepts developed so far (Krenz et al., 2019). The former listed 3 forms of representation (convex, axial and isovist maps, where all three can be translated into graphs) and 4 measures (integration, control, choice, and

[39] When they are isolated from other functional sectors of a system by a mediator space (or transitional unit) (Amorim, 1999).
[40] Such as Depthmap (turner, 2004, 2001), Isovists.org (Benedikt and McElhinney, 2019), Gephi (Bastian et al., 2009) and Jass (Koch, 2004).

intelligibility, which is a measure that correlates connectivity and integration), whereas the latter listed 287 terms among theoretical, methodological, and technical concepts. For this reason, only some basic concepts and measures, from which many others may derive, are discussed. For example, from the convex maps it is possible to count the syntactic steps (the direct connection between a space and its neighbors[41]) and depth (the least number of syntactic steps needed to reach one from the other).

However, an overview of the SLS theory and its major developments over time, particularly about justified plan graphs (JPG), can be found in the paper *The Mathematics of Spatial Configuration: Revisiting, Revising and Critiquing Justified Plan Graph Theory* (Ostwald, 2011). The author argues that "in recent years relatively little research using this method has been published, perhaps because the JPG method is rarely explained in its totality and when it is, the descriptions are often inconsistent or unclear" (p. 445) and suggests that a consistent application of this method to sets of related buildings can produce a valuable and statistically viable basis for future work. This method (JPG) is central to this research, and it is further explored in the development of building and exhibition network description model, as discussed in Chapter 5.

Some measurements that can be inferred from these networks are easily obtained from simple operations, such as convex fragmentation, which is the ratio between the number of convex spaces and enclosed spaces (Hillier and Hanson, 1984; Peponis et al., 1997). That is, even if a building has 20 rooms, its total number of convex spaces can be much largen than that (depending on the geometry of these rooms). Therefore, the number of convex spaces, indicates not only the syntactic size of the system, but also its geometric regularity. In plans of simple geometry, the partition of space largely coincides with its convex fragmentation, where each room corresponds to a convex polygon. In contrast, plans with complex geometries generally have a high convex fragmentation (i.e., when a single room is defined by two or more convex spaces, which often happens in the case of the exhibitions).

On the other hand, most of the main syntactic measures require complex calculations to measure local or global properties of the spatial system (Klarqvist, 1993), namely: 1) *integration* – a static global measure that describes the average depth of a space to all other spaces in the system, ranking the spaces from the most integrated to the most segregated, which is a good predictor of pedestrian flow, for example; *connectivity* – measures the

[41] Or between overlapping isovists (in the case of the isovists map) or the change of direction from one line to another (in the case of the axial maps).

number of immediate neighbors that are directly connected to a space, therefore being a static local measure; *choice* – a dynamic global measure of the "flow" through a space, where a space has strong choice value when many of the shortest paths (connecting all spaces to all spaces of a system) passes through it; *control* – a dynamic local measure that establishes the degree to which a space controls access to its immediate neighbors (taking into account the number of alternative connections that each of these neighbors has); *mean depth* – the average topological depth from each space to all others.

These measures were highlighted taking into account their potential for the description of the empirical object of this thesis, which comprises the configurational study of the layout of the Bienal de São Paulo exhibitions and its pavilion, for example: what are the most and least connected areas of the pavilion; if the most integrated/segregated spaces of the building are the most integrated/segregated spaces of the exhibitions; how the control relationship takes place in the building and how it is modified when the exhibitions are introduced; and how the measure of choice can help to understand the relationship between exhibition morphology, curatorial classifications and navigation possibilities.

Another measure that can be highlighted is *intelligibility*, a second order measure that is "the correlation between the immediately available relationships to neighboring spaces, as measured by connectivity, and the relationship to the pattern as a whole, as measured by integration" (Choi, 1999, p. 247), and which seems to be of great interest for the description of exhibition spaces, since it represents how easy or difficult is for a visitor to orient herself/himself in the system. To say that a spatial system is more or less intelligible is to refer to the predictability of the system, as discussed by Choi (1999), which suggested that in museums with higher intelligibility individual spaces tend to be visited more evenly and a high intelligibility encourages greater differentiation of visitors' itineraries. Even in layouts which offer choices of what to see, intelligibility and integration may help to preserve an even use of the layout while encouraging differentiation between itineraries. In other words, "it seems that, in practice, visitors venture to take different routes when the spatial structure of the building is clearly understood" (Choi, 1999, p. 249).

More recently, a survey on syntactic knowledge from 1997 to 2017 (Krenz et al., 2019) mapped emerging concepts, which include the notions of betweenness centrality, closeness centrality, choice value, and movement potential, which are of interest to this investigation. Those concepts are also possible to be measured in software for graphs and networks

visualization and analysis, such as Gephi[42]. These networks can be analyzed according to their degree, closeness centrality and betweenness centrality, "prototypical measures that capture the most important aspects of centrality" (Brandes et al., 2016, p. 153).

Many of these concepts and measures are equivalent to those previously mentioned, such as degree, a measure equivalent to connectivity according to space syntax nomenclature. Betweenness centrality and closeness centrality, in turn, are both related to control, where: the former is generally employed to capture the potential for control of communication between actors, or, in other words, a measure of others' dependence on a given node; and the latter is usually interpreted a as measure of independence from potential control by intermediaries. Both measures are related as they refer to the notions of dependency and shortest paths (Brandes et al., 2016), relevant aspects in the context of exhibitions.

Together, these analytical models and measurements, provide non-discursive descriptions that allow us to transpose the layer of subjective appreciation to the layer of objective analysis of the underlying structures of architecture (Hillier, 1996; Hillier and Hanson, 1984). However, it is noteworthy that the precise definition of the models to be used and the attributes to be observed is made in Chapters 5 (in a diachronic study of the Pavilhão Bienal) and 7 (in the analytical study of specific cases of BSP exhibitions and their respective buildings).

These descriptive models and concepts go back to the relationship between models of social rules and spatial structures, which is the central argument of the SLS theory (Hillier and Hanson, 1984), as well as the theme investigated in this thesis. In the specific context of the object of this thesis, of exhibition spaces, its social dimension is characterized not by a stratification of people, as in the formation and re-formation buildings (Markus, 1993)), but rather through the understanding of the spatial organization that the classification of things in space and the messages contained in the arrangement between them produces.

However, since it is suggested that the notion of spatial mediation affects exhibition spaces, in general, and the Bienal de São Paulo, in particular, in two directions, in the spatialization of curatorial messages and in the role that the underlying building plays in this process, it is necessary to build a framework that articulates the arguments and concepts presented so far, as discussed in the next section.

[42] A software for exploratory data analysis and visualization of graphs and networks (e.g., biological or social networks).

2.3 A bisociative approach of exhibition space

> Knowledge is now well understood as the commodity that museums offer. […] But if museums are places in which we may come to know new things, and where our perceptions may radically change, what is the nature of this knowing, and how these changes are brought about? (Hooper-Greenhill, 1992, p. 2)

The interaction between knowledge, things, and people, highlighted by Hooper-Greenhill (1992), and which characterize exhibition spaces, has been the central subject of this chapter from different perspectives. At this point, a synthesis of reasoning is discussed to summarize how the different elements, concepts and disciplines involved in the research problem – spatial mediation in exhibitions, particularly in the Bienal de São Paulo – are articulated to support this investigation. That is, to describe how the ideas about this object, many of them intuitively elaborated, can be approached rationally (through methodological and analytical procedures) and discursively (with the support of the evidence obtained) (Hillier and Hanson, 1997).

Such a synthesis was called a bisociative approach, in a reference to the term used by Psarra et al. (2018) to define an "intellectual synthesis of relations in two domains" (p. 221), space syntax and architectural education. This concept seems suitable for framing this problem, as it also deals with relations situated in two domains, the domain of ideas and how they are transformed into space (exhibition), and the domain of matter and how it interferes in such spatialization (building). In other words, this bisociative approach also seeks to "generate ideas while maintaining intellectual synthesis and rigour" (Psarra et al., 2018, p. 221). Beyond rhetoric, this dialectical reflection is what gives rise to the idea of space as a mediator, since both manifest visual and physically through space. These domains are articulated in the following diagram (Figure 15), which describes how they relate, and to which disciplines and concepts they are associated with.

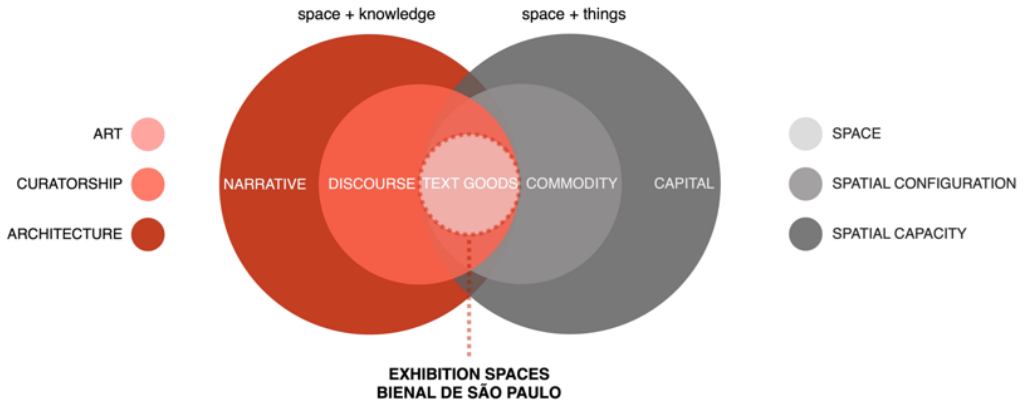


Figure 15. Bisociative approach of exhibition space.

Using bisociation as a process is precisely what has been guiding the discussion of this chapter, as well as all this investigation, since the notion of spatial mediation, as proposed, only makes sense when its two domains and many overlaps are considered. The two domains, therefore, are the two facets of this diagram, represented by the relationship between space and knowledge (in red) and by the relationship between space and things (in grey), which refers to the exhibitions, and the facet of capital, which refers to the building. Each of these domains is composed of three elements, which correspond to the concepts and disciplines to which they were associated, namely:

1) exhibition domain (space + knowledge): constituted by the elements text, discourse, and narrative, associated with the disciplines of art, curatorship and architecture;
2) building domain (space + things): constituted by the elements goods, commodities, and capital, associated with space, spatial configuration and spatial capacity.

As depicted, this diagram suggests that such concepts are not self-contained, but cumulative and overlapping. At the center of these overlaps is the Bienal de São Paulo, in a specific way, but eventually the exhibition spaces (or even spaces of other purposes, depending on the elements, concepts, and disciplines to be introduced and removed from such an approach), more broadly.

Although the ideas of narrative and capital are the broader concepts that characterize each domain, emphasis is given to the ideas of discourse and commodity since these are the ones that will be described more precisely throughout this research, through the analysis of the spatial configuration of buildings and exhibitions. Therefore, the ideas of narrative and capital are explored in the speculative field, to guide the selection of cases (as discussed in Chapter 6) and in the interpretive field, to guide the discussion of the results obtained from the analyzes (performed in Chapter 7).

The discourse and commodity ideas describe the process of transforming curatorial intentions into space and the way in which the underlying building was approached to do so. And the concepts of text and goods, associated with art and space, represent the constituent parts of these discourses and commodities, dissociated from their system of relationships. That is, the works of art in an exhibition (quantity, formats, and themes) and the elements that characterize the Bienal Pavilion (ramps, void, balconies, mezzanine, etc), aspects that are partially considered, since the emphasis is on understanding relationships. These domains and their elements are detailed in the following sections.

2.3.1 The discursive dimension of exhibitions

The discursive dimension of exhibitions is understood as the arrangement of objects in space and their display structures, which also define people navigation possibilities and enables the reading of certain intended messages. This definition, although formulated from an extensive literature review, also seems intuitive if one agrees that an exhibition is a way of writing and reading through space (Bayer, 1961).

Shortly, a discourse can be summarized as a spoken or written communication about a particular subject. A broader definition also includes: verbal interchange of ideas; formal and orderly and usually extended expression of thought on a subject; connected speech or writing; a linguistic unit (such as a conversation or a story) larger than a sentence; a mode of organizing knowledge, ideas, or experience that is rooted in language and its concrete contexts (such as history or institutions) (Merriam-Webster, n.d.).

Therefore, discourse relates to the ideas of connecting, organizing, and ordering knowledge, ideas, or experiences. From these brief definitions, the idea of discourse is also understood as a concept that intermediates the concepts of text and narrative, which in turn are understood as the main components of knowledge, the first facet of the empirical object (of buildings that connect people and knowledge – such as museums and galleries).

This idea of exhibition as a mode of reading in motion was the starting point for the selection of the concepts that structure the first facet of this bisociative approach, which are the ideas of text, discourse, and narrative. The three terms are widely used in the literature of configurational studies of buildings. If, on the one hand, text and narrative find a great support in the literature (Coates, 2012; Markus, 1993, 1987; Psarra, 2009; Psarra et al., 2007; Psarra and Grajewski, 2000), discourse, however, needs to be further discussed.

It was observed that, while text suggests a concept of simple definition, and it is used in a broader way (that is, in the understanding of several categories of buildings), the ideas of discourse and narrative, in contrast, are frequently used to guide the understanding of certain types of buildings, particularly those that relate people and knowledge, under the argument that this relationship "is most evident in buildings such as art galleries, museums and libraries which house strongly classified collections" (Markus, 1992, p. 39).

About the notion of text, when analyzed in relation to space, it is frequently used to describe the social rules, conventions or norms that precede the conception of a building (Markus, 1987, 1993). This broad understanding of prescriptive text, as formulated by

Markus (1993), as a text that prescribes the design of buildings which embeds aspects about the way of organization of a given society, is particularly interesting in the context of this research. The author also suggests that the building is a form of discourse from which these original conventions can be read (Cameron and Markus, 2002).

Based on these arguments, the text can be understood as a concept that brings together the parts that make up a building, and the discourse as a representation of the building as a whole. However, when thinking about this idea of buildings as social objects that can be read, it seems pertinent to introduce the concept of narrative, since it introduces an important component that extrapolates the two previous concepts, which is the question of interpretation (if we consider that the fact that buildings can be read as a discourse does not imply that they will be read in the same way).

This idea is discussed in the book *Architecture and Narrative: The Formation of Space and Cultural Meaning* (Psarra, 2009). The question of meaning is also a concern of the authors who have studied architecture through the ideas of text and discourse, Markus, (1993) even describes his book as a book "about the meaning of buildings" (p. xix). Psarra (2009), in turn, understands narrative as a form of representation where spatial and cultural meanings are constructed in buildings and communicated to the visitors. She discusses how "the social meaning passes through the morphological properties of buildings themselves" (Psarra, 2009, p. 14), through the analysis of the Barcelona Pavilion, by Mies van der Rohe, and literary works, such as the work of Jorge Luis Borges, to define the spatial mechanisms of construction and communication of narratives.

In other words, the ideas of text, discourse and narrative can be summarized as: 1) texts as a linguistic unit that prescribe and create "classifications of objects, people and activities such that the space of the building ultimately becomes an embodiment of these classification systems" (Markus, 1987, p. 467); 2) discourse as a set of linguistic units which connects "the content and sequencing of exhibitions and exhibition elements" (Wineman and Peponis, 2010, p. 88); 3) and narrative comprises "not only the content of the story that is narrated, or the way in which is interpreted by readers, but also the way in which it is structured and presented to an audience" (Psarra, 2009, p. 2) (Figure 16).

These definitions were based on the review of an extensive literature on the subject, discussed together with the presentation of the Bienal de São Paulo, its exhibitions and buildings, throughout Chapter 3. However, it is worth noting that all definitions seem to

have in common the fact that they allow us to discuss aspects of a semantic order, that is, meanings, based on the description of the syntactic structures of these spaces.

It is understood that such a distinction, between syntax and semantic, is fundamental to describe the way in which exhibitions can be understood as spatial discourses. This distinction is in the core of the SLS theory, in which the semantic elements play an important role in the ordering system of a building, but they overlap the underlying spatial system, which constitutes the first ordering system of cities and buildings (Holanda, 2013). Simply put, the semantic elements depend on the syntactic system to which they are associated to, or the spatial configuration that supports them.

In fact, although studied under many time frames and interpretative lenses (Alambert and Canhête, 2004; Amarante, 1989; Farias, 2001; Herbst, 2011; Lagnado et al., 2015; Matos, 2009; Spricigo, 2011; Villela, 2019), as also discussed in Chapter 3, the Bienais de São Paulo seem to lack studies that take into account their spatial dimension. Such absence of spatial thinking was even denounced by Lagnado (2015) in the context of discussions about the critical reception of these exhibitions, which often did not consider the spatial innovations that many of these exhibitions introduced, which "gained visibility through the adopted expography, that is, through a spatial statement" (Lagnado, 2015, p. 84) (aspect addressed in chapter 4). The same author, Lagnado (2015), as well as Matos (2009) also tries to understand these exhibitions not as a territory of dispute, but based on the existing collaboration between artists, architects and curators, an approach that also, a thought that is similar to the bisociative approach proposed here.

This approach to the spatial and discursive dimension of these exhibitions finds great support in the literature in the area, whose main studies and concepts are also discussed in Chapter 3. At this point, only some of these main concepts are highlighted, in order to illustrate how this discursive dimension can be spatially described and discussed.

The first and possibly most fundamental of these concepts is the notion of the generic function of space, which describes the fact that space is designed for the fact of occupation and the fact of movement (Hillier, 1996b). In other words, buildings are designed in order to organize the way people *move to* and *move through* space, key definitions for understanding how an exhibition can spatialize a discourse, through the ordering of things, which in turn orders the way people stay and move through space.

Such a structuring also involves defining the degree of freedom and control that these buildings perform, therefore producing or reproducing cultural habits and power relations (Bourdieu, 1977; Foucault, 1982; Hillier, 1996; Hillier and Hanson, 1984; Markus, 1993, 1987). This degree of freedom of movement and occupation that is offered to visitors within a building, in turn, relates to a wide range of configurational concepts of buildings.

These concepts briefly refer to: the degree of programming of the buildings – weak or strong (Hillier, 1996b); the possibilities of movement and encounters they offer – fully open/fully close (Hillier, 1996b); the types of movement that deterministic or probabilistic spatial models generate – spatially dictated, guided, and random movement (Choi, 1999; Wineman and Peponis, 2010); how these aspects together can constitute works that are more open or more closed to new interpretations (Psarra, 2009); and, finally, how spatial configuration can interfere on knowledge creation, by defining spatial structures that are more conservative or more generative of existing relations (Hillier and Penn, 1991).

Although these concepts, as well as other studies dealing with different objects, are discussed in detail in Chapter 3, their mention at this point is intended only to illustrate how the way in which such contents are classified and articulated through space can have great interference. in the way these are apprehended by visitors.

As pointed out by Appadurai (1986), "Contemporary Western common sense, building on various historical traditions in philosophy, law, and natural science, has a strong tendency to oppose 'words' and 'things'" (p. 4), where the world of things is frequently seen as inert and mute. Therefore, the notion of discourse that represents the spatial role of exhibitions, as well as the notion of commodity to describe their buildings, seeks to approach their apparent dichotomous but actually overlapping interaction, where neither exhibitions and buildings are totally inert or dynamic, but have constancies and variations that can be systematically addressed, as discussed in the next section.

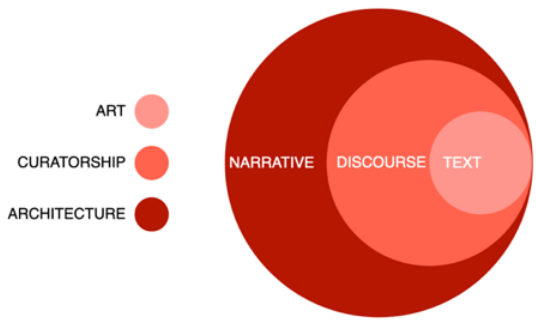


Figure 16. First facet of the bisociative approach.

2.3.2 Buildings as commodified objects

> ...all commodities (defined by Marx as anything that satisfies a human want) function as both 'objects of utility' and 'depositories of value' (p. 57). He argued that the use-values of commodities have different qualities, while their exchange-values (in relation to other commodities) have different quantities. This is because a commodity only has exchange-value in relation to other commodities; to use Marx's example, 'every other commodity now becomes a mirror of the linen's value' (p. 73). However, in order to transform this barter system into a viable exchange system, a universal equivalent is required, a commodity which will give life to exchange-value, allowing this to be expressed. As Marx noted, commodities, repositories of labor, speak; they 'express their value' through gold, and hence money (p. 77). Only in exchange do commodities thus acquire 'uniform social status', distinct from their individual utility (p. 84) (Shepherd, 2002, p. 187-188)[43].

Second facet of this bisociative approach, the notion of commodity is a key concept to describe the dimension of the building in the context of the study of exhibition spaces, particularly the role it plays in the spatialization of curatorial discourses. The proposition of such a concept takes as its starting point the empirical object of this thesis, particularly the Pavilhão Bienal, since this was conceived for the exhibition of industrial products, from the most crude to the most sophisticated (as discussed in Chapter 3) (Cury, 2016; Fraga, 2006; Herbst, 2011).

This function of the building seems to be largely responsible for the resulting architecture of its building, characterized by wide spans, columns, and robust slabs and a configuration apparently quite homogeneous, which allows the constitution of several new spatial arrangements. In addition, the use of this building for more than six decades to house the artistic exhibitions of the Bienal de São Paulo also seems to be a testament to the building's adaptative capacity to display different artifacts arranged under different discourses. This long existence of the event in the same space, in turn, suggests that the building is its permanent and immutable element, while its exhibitions are its ephemeral and variable elements (aspects that are investigated in Chapters 4, 5 and 7).

This suggestion, in turn, gives rise to another association of the building with the idea of commodity, which is the fact that, in addition to its configuration being quite homogeneous across space, that is, of the system that characterizes the entire building, it also seems to be homogeneous over time, since the same building performed the same event for so many years and considering that one of the most common definitions of commodities are "goods of homogeneous quality" (Cuadras-Morató, 1994, p. 580).

---

[43] Whose cited pages refer to excerpts from Capital: A Critique of Political Economy (Marx, 1996), originally published in German in 1867.

Although such reflections emerged from the observation of the Pavilhão Bienal, they seem to be adequate the discussion other exhibition spaces, such as those mentioned throughout sections 2.1 and 2.2 of this chapter, namely: the exhibition pavilions (and the World Fairs and Universal Exhibitions), markets, and eventually museum buildings, considering that many of the contemporary museums also have somewhat homogeneous spatial structures.

Such adequacy is due to the relationship between use-value and exchange-value, which, in addition to being central to the definition of commodity, also seems to be central to the definition of exhibition spaces. In fact, in exhibition spaces, exchange-value seems to be largely regulated by their use-value, as such spaces are conceived with no other specific functions than to exhibit (and therefore promote exchanges).

This seems to be evident at fairs and events, where certain spaces are rented at higher prices than others, depending on their size, the infrastructures offered, the time during which they will be used, their location within the building, its proximity to facilities and its relationship with other spaces[44]. This is precisely the means by which the Pavilhão Bienal is maintained, through "fairs and events with which the institution guarantees part of its livelihood" (Farias, 2001, p. 30).

Although the scope of this work does not include the analysis of evidence of that nature[45] (such as the price of the artworks or the rental value of the pavilion spaces), it was this line of thinking that guided the definition of the concepts of goods, commodity, and capital. Similar to the first facet of this bisociative approach, the concept of commodity was identified from the literature review as an intermediate idea between narrower and broader concepts, such as goods and capital.

Therefore, the interest lies in understanding the relationship between spatial attributes and curatorial discourses, since the main value to be exchanged in these spaces is knowledge, considering that: 1) the access to knowledge occurs precisely through the spatial possibilities of exchange between people and things; 2) and the logic that guides this spatialization of knowledge through things goes beyond the strictly financial.

---

[44] An aspect of which we have empirical knowledge, as practitioners of architecture, but which is difficult to address, as these prices are not always clearly disclosed.

[45] Even though the possibility of developing studies of this nature is recognized, both due to the fact that the most recent editions of the Bienal provide more data in this regard (such as management reports), which could feed the debate, and the identification of studies that correlates networks created within exhibitions with reputation and the art market (Braden, 2018; Braden and Teekens, 2019).

About the first argument, the idea of exchange is used in place of the of the idea of transmission, frequently used in studies of schools, campuses, and museums (Bernstein, 1975; da Silva and Heitor, 2014; Loureiro, 1999; Peponis and Hedin, 1982), to address the relationship between knowledge, people, and things since this relationship takes place in several directions – in the arrangement between objects, in people's access to these objects and in the communication between people in these spaces.

> Depending on the field in which it functions, and at the cost of the more or less expensive transformations which are the precondition for its efficacy in the field in question, capital can present itself in three fundamental guises: as economic capital, which is immediately and directly convertible into money (…); as cultural capital, which is convertible, on certain conditions, into economic capital (…); and as social capital, made up of social obligations ('connections'), which is convertible, in certain conditions, into economic capital (…) (Bourdieu, 1986).

On the second argument, the embedded logics that guides these exchanges, these are not only of an economic nature, in its strictest sense, but related to a broader idea of capital, whether in its embodied, objectified or institutionalized state (Bourdieu, 1986; Inkpen and Tsang, 2005; Marcus, 2010; Reagans and McEvily, 2003). Therefore, similarly to what Adorno and Rabinbach (1975) argued, that the expression 'culture industry' should not be taken literally, but rather as a reference to the ideas of standardization and rationalization that permeates the production of culture, the idea of capital should be taken as a broad reference to the cultural, social and spatial values embedded in the spatial configuration.

Reflecting on the idea of commodity from a cultural perspective, that is, as part of a social and political system of attributing values, Appadurai defines commodities as "as objects of economic value" (Appadurai, 1988, p. 3). Although this definition may refer to a financial or monetary approach of economy, it is discussed in terms of its social manifestations, that is, according to an expanded notion of economy (Crogan and Kinsley, 2012).

Therefore, just as the focus of this study is an expanded notion of exchange, whose emphasis is not given on monetary exchanges, but social, cultural and symbolic exchanges (Bourdieu, 1986), it is also considered an expanded notion of commodity, which does not only include goods of homogeneous quality, but any object that can be commodified, in a process that can be succinctly defined as the domain of exchange-value over use-value (Marx, 1996; Shepherd, 2002). Some examples of a commodity in its most common and strict sense and of something that has been commodified can be gold and forms of labor analogous to slavery (where the exchange-value dominates use-value), respectively (Gold et al., 2015).

> As exchange-value, commodities have nothing in common as regards their substance: anything can be exchanged for anything else, via money. Simmel is wrong, however, to regard money as the prime exemplar of the commodification of social relations (Giddens, 1981, p. 16).

This passage elucidates two important points, the questioning of money as the prime exemplar of the commodification of social relations (also valid for understanding spatial relations), and the very notion of exchange-value. About the former, it illustrates how space can be this prime exemplar of commodification of social relations. About the latter, it elucidates the main point that distinguishes a good from a commodity, considering that "all commodities have a 'double existence', as both substance and form. A good or product has qualities of its own; but these are complemented, in a capitalist economy, by the 'pure form' of exchange-value" (Giddens, 1981, p. 16).

Through commodification any good or service can be commodified – academic research, attention, experience, knowledge, languages, cities, buildings, and even people (Barbosa et al., 2020; Davenport and Beck, 2001; El-Husseiny, 2012; Forrest and Williams, 1984; Heller, 2010; Pine and Gilmore, 2011; Ponzini, 2014; Powell and Snellman, 2004; Radder, 2010; Shepherd, 2002; Williams, 2002). Specifically in the field of the built environment, some studies have addressed the topic by associating it with buildings and urban spaces designed by "starchitects" as a strategy to promote cities (Ponzini, 2014), the tourist impact in the conservation of residential vernacular architecture of historic sites (such as Venice) (Good, 2005), and in the dissemination of sustainable architecture (El-Husseiny, 2012). In short, from a commodification process these elements come to be understood from an economic perspective, as part of a system of production, distribution, and consumption (Shepherd, 2002). It is precisely this economic perspective that is of interest to this thesis. From this perspective, space can also be understood as a resource to be used rationally.

Therefore, just as the Pavilhão Bienal can be understood as a commodity in its most common sense (a primary good with homogeneous qualities), it can also be understood as an object that is commodified, especially after the introduction of its exhibitions, as they change its use-value and exchange-value. Such aspects are addressed in the analyzes developed in Chapters 5 and 7. However, in summary, these ideas of commodity and commodification can be associated with the way in which the spatial attributes of the exhibitions interact with those of the underlying building, maintaining or modifying the relationships between these attributes (e.g., reinforcing or subverting their patterns of integration, depth and control) to obtain specific results in the structuring of discourses and in the movement of people.

In the search for references with this economic approach to space, not in the sense of its monetary value, but of how space can be understood as a resource that supports the development of the main activities of an economic system – production, distribution and consumption – some references, which are discussed in Chapter 3, can be highlighted here. In other words, it is not the scope of this investigation to understand if or how the relations fostered by these buildings and exhibitions are converted into money, but how these relationships are culturally, socially, and spatially constructed.

The main studies in this field seem revolve around the generic functions of space (Hillier, 1996b), movement and occupation, since: 1) one of the main studies in this regard proposes a theory of natural movement (Hillier et al., 1993), which derives from a study on the notion of cities as movement economies (Hillier, 1996a); 2) and one of the most recent proposes a theory of natural occupation (Bobkova, 2019), which in turn is the unfolding of the notions of spatial capital (Marcus, 2010, 2007; Marcus et al., 2019) and spatial capacity (Bobkova et al., 2019, 2018, 2017; Marcus and Bobkova, 2019).

On the first group of studies, the notion of cities as movement economies and the theory of natural movement, these discuss the relationship between the configuration of the urban fabric, the presence of attractors, and the movement of people. This theory suggests that the configuration of urban space influences the other two elements, by distributing the movement of people and making some places more attractive than others, which in turn influences the arrangement of activities in the space, such as commercial uses, which benefit from a high flow of people, and residential uses, which may be situated in less busy places (Hillier, 1996b, 1996a; Hillier et al., 1993).

These differences in movement between spaces are generated both by the fact that some streets are more important than others in the system as a whole (main avenues that connect smaller streets), which constitutes the notion of system of multiple routes, and because some spaces urban areas have focal points (such as squares, courtyards, or other distinct points of the mesh), which constitutes the notion of system of origins and destinations (Hillier et al., 1993) – ideas that are best discussed in Chapter 3. In the case of exhibition spaces, the idea of attractors (that can be both works of art and uses to support exhibitions) is particularly interesting to observe in relation to the spatial configuration, precisely because the reasons for their positioning may have the to do with both the proposed curatorial discourse and the configuration of the underlying building.

On the second group of studies that relate spatial configuration to economic processes, the concepts of spatial capital, spatial capacity and natural occupation are highlighted (Bobkova, 2019; Marcus, 2007). The notion of spatial capital, another form of capital such as those proposed by Bourdieu (1986), is suggested as a general property of space that can be captured through accessibility (typical of space syntax), but also through density and diversity (from other disciplinary fields such as geography) (Marcus, 2010).

It was developed in the context of urban diversity discussions (based on Jane Jacob's ideas) as a variable that could contribute to describe and achieve urban diversity and consequently to enhance the socio-economic performativity of the cities. In other words, it is an attempt to measure urbanity, defined as the relationship between urban form and urban life or processes (Aguiar et al., 2012), "one of the most asked for qualities in cities, but one at the same time most difficult to plan (Marcus, 2007, p. 2). This relationship between accessibility and diversity was illustrated, for example, through the sub-categories of urbanity proposed by Marcus (2007), where highly accessible areas are examples of super urban and pseudo urban spaces (when more or less diverse), and low acessible areas characterize sub-urban and anti-urban (high/low diversity) environments.

This notion seems to be the basis for subsequent developments, particularly towards the formulation of a theory of natural occupation (Bobkova, 2019), which is complementary to the natural movement theory (Hillier et al., 1993). The former describes "the proportion of occupation that is determined by the division of space itself, rather than by the presence of specific briefs or regulations" (Marcus, 2001, p. 1) and the latter describes "the proportion of movement that is determined by the configuration of space itself, rather than by the presence of specific attractors or magnets" (Hillier et al., 1993, p. 29).

> More generally, the central principle behind the concept is that in order to provide the potential for artefacts or uses to remain different, we need to introduce some sort of spatial division or differentiation between them. This might be drawers in a chest of drawers, which allow us to categorise clothes, or containers in a sweet shop, or divisions of agricultural land allowing the growing of different crops. In cities, plots allow us to designate different owners, uses or buildings to particular sites. The more urban land is divided into separate plots, the greater the opportunity to sort people, things or functions into a greater number of categories (Bobkova, 2019, p. 29).

The theory of natural occupation, in turn, suggests that, just as the urban fabric (street system) tends to foster natural patterns of movement (Hillier et al., 1993), the system of plots tends to foster a natural occupation (Bobkova, 2019). Therefore, if for the former the main spatial unit is the streets, for the latter this unit is the plots. The theory seeks to infer

the performance of urban processes (mostly economic) from plot patterns in space, time, and interfaces, the three variables that characterize natural occupation.

From this theory, however, the notion of spatial capacity seems especially interesting, as it captures differentiation of space, by addressing the role of plots ('plots in space') in the construction of urban diversity (Marcus and Bobkova, 2019). This notion refers to the ability of spatial artifacts to carry categorical difference, where "the more such artifacts are divided into separate spaces, the more they create opportunity to sort people, things, or functions into a greater number of categories" (Bobkova et al., 2017, p. 3).

This idea is mostly built on the diversity variable, as it deals with the urban form (plots) and its relationship with different urban processes. Basically, the concept suggests that if a given area of the city has more divisions (density) and divisions more different from each other (diversity) it becomes more attractive as it allows the development of more activities and shelter more people – a notion that seems enlightening to read the spaces of the building and its exhibitions, whose differences are exemplified by the author through the example of three different drawers (Figure 2.13).

The notion of spatial capacity seems to capture of a fundamental issue in the context of exhibition spaces, which are the "divide to sort" mechanisms. This idea can be useful, for example, to delimit and compare sectors of the pavilion or its exhibitions with different spatial capacities (that is, with more and different divisions), which can support interpretations on the relationship between artistic formats, curatorial premises, and architectural solutions, for instance.

The case of exhibition space, however, is particularly interesting when viewed in contrast to urban spaces, where it seems easy to categorically differentiate the plot system (central aspect in the theory of natural occupation) from the street network (basis of the theory of natural movement). If designing an exhibition is to define a system of occupation and a system of circulation, on the other hand, in these spaces these systems often overlap, since, in general, the works are the ones who occupy the spaces and the people circulate between them, which suggests that both theories can be interesting to approach the object.

> A wheelwright may make a wheel for his own cart. But once it is exchanged as a commodity a relation with the buyer is created. The wheel crosses a threshold between the boundaries of two separate social and economic worlds. And the space for this transaction becomes highly charged (Markus, 1993, p. 300).

Resuming the initial discussion about the elements that constitute this domain of the building, goods, commodities, and capital, Markus' (1993) quote is illuminating on what

differentiates goods from commodities, or, in other words, about how a good can be converted into a commodity. Their main difference lies in the idea of exchange, where commodities are goods that have been assigned an exchange-value. These aspects are discussed by Markus (1993) in the characterization of buildings that relate people to things, particularly those intended for exchange (suck as markets). Therefore, goods become commodities at the moment they are exchanged, a process that in turn is mediated by some type of capital, be it cultural, monetary, social or symbolic (Bourdieu, 1986).

The notion of goods suggests an autonomous object, that is, devoid of a relational component, therefore associated with space as an independent unit (i.e., a room, or even a set of rooms, which are approached independently). This relational aspect, comprised in the notion of commodities, gave rise to a classification system similar to that of the first domain of spatial mediation (exhibitions as spatial discourses) where the three elements were associated with three architectural dimensions that characterize this second domain of the spatial mediation (buildings as spatial commodities).

Having clarified all these concepts, their relationships and possible applications, just as the exhibition domain was associated with the concepts of text, discourse and narrative, the building domain was associated with the concepts of goods, commodities and capital, since: 1) goods describe things in isolation, that is, without being inscribed in a system of relations (and therefore it was associated with space, as independent elements, units dissociated from its system – such as floors, ceilings, circulation elements, wrapping surfaces, and structures); 2) commodities only become commodities when they are inscribed in a system of relationships (which refers to the idea of spatial configuration - as it considers not only the direct relationship between two spaces but also the indirect effects on it when considered in relation to a third space) (Hanson, 1998); 3) and capital is the major logic that regulates these systems of relationships and exchange (associated with the notion of spatial capacity and derived from the idea of spatial capital) (Figure 17).

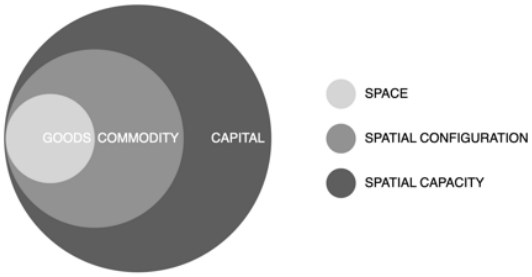


Figure 17. Second facet of the bisociative approach.

* * *

This chapter proposed and discussed the notion of spatial mediation in the context of exhibition spaces, their socio-spatial characterization and the bisociative approach that theoretically frames the study of the empirical object of this research.

On the notion of spatial mediation, the idea of mediation as defined in the context of museum studies, as resources (educational, technological) that mediate the encounters between people and displayed objects, was taken as a starting point for the proposition of a notion of spatial mediation that is primary, that contained in the very configuration of the exhibition space. It is also argued that this spatial mediation occurs in two domains, in the domain of the exhibition (whose space reflects the arrangements between things proposed by the curatorial discourses) and in the domain of the building (whose underlying configuration structures these discourses, as well as the encounter between people)

This argument, in turn, was exemplified through the discussion of the 1st Bienal de São Paulo (BSP 1), which, although held in another building (and therefore outside the studied time frame), is a very enlightening case due to its simplicity, making it possible to disentangle the syntactic and semantic aspects that are spatially mediated in this case.

The characterization of exhibition spaces, in turn, discussed the interdependent relationship between cultural and economic aspects that characterize these spaces, both from a social and a spatial perspective, which do not necessarily constitute autonomous buildings (such as a museum or a market), but are present to a greater or lesser extent in different building types. These exhibition spaces, therefore, are indented both for the exchange of knowledge and for commercial exchanges, as both operate through the exhibition of things (artifacts or artworks). Still in this context, the principles of the Social Logic of Space theory and of the space syntax were introduced, since it is in the light of this analytical theory that the cases are described and discussed.

Finally, the bisociative approach to exhibition spaces developed an intellectual synthesis that interrelates the two domains that characterize the notion of spatial mediation, relating: 1) the concepts of text, space, and narrative to the disciplines of art, curatorship, and architecture – to characterize how spatial mediation occurs in the domain of exhibitions (understood as spatial discourses); 2) and the notions of goods, commodities and capital to the concepts of space, spatial configuration and spatial capacity – to characterize how spatial mediation occurs in the realm of buildings (understood as commodified objects).

3 EMPIRICAL OBJECTS OF SPATIAL MEDIATION

The objective of this chapter is to continue the formulation of the notion of spatial mediation, through the discussion of empirical objects associated to it, namely: 1) the two dimensions that constitute the specific empirical object of this thesis (Bienal de São Paulo exhibitions and buildings); 2) and the exhibition spaces contained both in buildings that relate people to knowledge (i.e., galleries, museums, and libraries) and in buildings that relate people to things (department stores, markets, etc.) – concepts extracted from the building classification system proposed by Markus (1993) that guide the characterization of exhibition spaces, as discussed in the previous chapter.

The chapter is divided into exhibitions as spatial discourses (3.1) and buildings as spatial commodities (3.2), which, when investigating the notion of spatial mediation in the two dimensions of the BSP, also review studies of related objects that together can provide concepts and methods for approaching the research problem: to formulate a definition of spatial mediation characterized both by the role played by curatorial discourses and by the configuration of the underlying building in defining the layouts of the exhibition spaces, in general, and of the Bienal de São Paulo, in particular.

In each part, the following topics are discussed: 1) studies on the BSP exhibitions, describing their systems of organization (3.1.1) and classification (3.1.2), and on exhibition spaces contained on buildings that relate people to knowledge (3.1.3) – which together help to shed light on how knowledge can be spatially structured and analyzed; 2) and studies on buildings that housed BSP exhibitions, from BSP 1 to 3 (3.2.1) and from BSP 4 to 33 (3.2.2), as well as on exhibition spaces contained on buildings that relate people to knowledge (3.2.1) – that point out possible mechanisms under which building can interfere in the exchange of things.

3.1 Exhibitions as spatial discourses

To start this discussion, the BSP 18 (1985) is brought, since this episode illustrates several aspects to be addressed in this topic. Third BSP to be organized by a curator, Sheila Leirner, this edition, O Homem e a Vida (The Man and the Life), this edition is known for the name of one its sections, A Grande Tela (The Big Canvas) (FBSP, 1985a).

This section was located on the third floor of the Pavilhão Bienal (discussed in section 3.2), more specifically in its most regular portion, whose morphology resembles a hypostyle, that is, a broad ceiling supported by columns, but whose long extension induces the perception of long corridors. In this space, the curator proposed three parallel corridors, each 100 meters long, where paintings very different in terms of artists and origins, but very similar aesthetically, were placed in close proximity, which together formed 600 continuous meters of paintings (Figure 18).

This display solution, whose aspect also resembles the idea of accumulation characteristic of cabinets of curiosities or palatial museums, became "a memorable scandal" (Farias, 2001, p. 36), where artists threatened to withdraw their works (some actually did), claiming not to have enough space for the appreciation of the artworks, also suggesting that they did not want to have their works exhibited near to unexpected artists. This spatial gesture also resulted in criticism, which accused the curatorship of, with this controversy, drawing more attention than the art itself (Polo, 2005).



Figure 18. BSP 18 – A Grande Tela (1985) (AHWS/FBSP).

This section sought to denounce a similarity between a large volume of paintings, which were called neo-expressionists (after a long period of predominance of conceptual art and performances in the 1960s and 1970s), by mixing artworks from recognized and emerging artists of different parts of the world (Polo, 2005). In this gesture, the curator also disregarded the geopolitical classification that still prevailed in the biennials of that decade (Alambert and Canhête, 2004).

The reflections provoked by the curator, through the selection and arrangement of artworks in this specific spatial configuration, evidenced a phenomenon that is "neither subjective nor quite objective, in which value emerges and functions" (Simmel, 1907 apud Appadurai, 1988, p. 3). That is, by proposing an unexpected association between artists and artworks, considering that "in this period the modern expography[46] had already been assimilated to the point that the artists, when producing their works, already previewed for such display conditions" (Polo, 2005, p. 1), a message has been communicated, whose art criticism seems not to be enough to discuss it, and for which an architectural understanding (more specifically spatial), also seems to be fruitful (Lagnado, 2015).

Although many other aspects of this episode can be highlighted, it is not the interest of this investigation to approach exhibition spaces as territories of dispute, but as a common ground where art, architecture and curatorship can coexist and expand their perspectives of understanding and their fields of activity. This perspective echoes the argument raised by Lagnado (2015) when questioning a lack of spatial thinking in the critique or art exhibitions, something that is particularly evident in the case of BSP.

Thus, what is sought to be highlighted with this example is its spatial dimension, through the intertwined relationship with: 1) the building layout – through the choice of floor and sector to house it (in view of other options that its configuration offers); 2) the exhibition layout – which transformed this hypostyle into three long parallel corridors with no communication between them (which, by not offering much choice to the visitor, reinforces its intentionality); 3) and its relationship with the prescriptive text of the exhibition, comprised by art (in the characteristics and formats of the works on display), curatorship (in the gesture of selecting and exhibiting these paintings) and architecture (embedded in the building's location and in the way in which it was modified to convey a message).

[46] Modern expography in this context refers precisely to the notion of white cube, in which the artworks are appreciated with minimal interference of the space and at a great distance from each other (O'Doherty, 1999, 1976) .

3.1.1 The four eras of the organization system

The introduction that the *Grande Tela* example provides awakens to the need to better understand how the curatorial discourses[47] of such exhibitions were constituted. This aspect, in turn, is addressed in two steps. The first from the event's organization system (3.1.1), extracted from existing literature (Alambert and Canhête, 2004; Di Carlo, 2016); and the second from its classification system (3.1.2), which, although also mentioned in the literature, corresponds to the description of the event as made by the Fundação Bienal de São Paulo (FBSP)[48]. In other words, it discusses the institutions and actors that organized each edition, which are also responsible for the selection of artwork, and the criteria for classifying the works in the space.

Understanding the organization of BSP exhibitions, specific subject of this section, involves understanding its own emergence as an event. The Bienal de São Paulo is an event dedicated to the exhibition of modern and contemporary art created in 1951 by the Museu de Arte Moderna de São Paulo (MAM-SP) (Alambert and Canhête, 2004; Farias, 2001). Its 34 editions[49], although held in four different buildings, have taken place since 1957 in the same building, the Palace of Industries, nowadays named as Pavilhão Ciccillo Matarazzo, and known as Pavilhão Bienal (discussed in section 3.2).

The biannual holding of the event, in turn, was interrupted in three different moments, BSP 22 (1991-1994), 25 (1998-2002) and 33 (2018-2021), which took three or four years to happen, due to institutional crises (Alambert and Canhête, 2004) and the health crisis caused by the covid-19 pandemic (in the case of BSP 34) (Figure 19).



Figure 19. BSP edition (top) and year (bottom) distribution.

[47] The notion of curatorship was only introduced in the Bienal de São Paulo from 1981 onwards, at the BSP 16 (the first to have a curator as its general organizer and to classify its artworks based on themes, not countries). However, the term curatorial discourse is used throughout this chapter to describe the conceptual dimension of all the exhibitions, since it is argued that, to a certain extent, all of them embed principles of a curatorial nature (an aspect that is better discussed in the chapter 4).

[48] Especially on its website: http://bienal.org.br/exposicoes

[49] Whose BSP 34, Faz escuro, mas eu canto (Though it's dark, still I sing) is not included in this study, as highlighted in the introduction of this thesis.

These exhibitions have been extensively documented and studied from different frameworks and perspectives. In general, the main studies identified can be classified into two broad groups: those that focus on the artistic, curatorial, political, and historical dimensions of the event (Alambert and Canhête, 2004; Amarante, 1989; Farias, 2001; Herbst, 2011; Lagnado et al., 2015; Queiroz, 2011; REVISTA USP, 2002; Spricigo, 2011); and those that deal with its architectural dimension from case studies of specific biennials (Matos, 2009; Villela, 2019).

Most of these studies are of great relevance for the development of this research and will be cited throughout the work. However, studies dealing with the dimension of this event are a minority among the publications identified, especially that approach it in a diachronic way, a gap with which this research intends to contribute.

Some publications, however, need to be highlighted, such as those developed on the occasion of the 50th anniversary of the event, in 2001, the first studies to make diachronic reflections on the event (Alambert and Canhête, 2004; Farias, 2001; REVISTA USP, 2002). The catalogue *Bienal 50 Anos* (1951-2001) (Farias, 2001), edited by FBSP, in addition to seminal texts, records every biennial, with the main artists, artworks, and historical facts that marked each exhibition. The dossier *50 years of the Bienal Internacional de São Paulo*[50] brings together a series of texts by researchers, as well as past (and future) curators of the event, such as Sheila Leirner (BSP 18 and 19), Ivo Mesquita (BSP 28) and Paulo Herkenhoff (BSP 24) (REVISTA USP, 2002).

Especially important for this study is the book *As Bienais de São Paulo: Da era do Museu à era dos curadores* (Alambert and Canhête, 2004), which comprises the study of the event from 1951 to 2001 (BSP 1 to 24), classifying them into three eras, museum, Matarazzo and curators', and discussing its artistic, historical, and political dimensions, which were associated in this work to the different periods of organization of the event.

A fourth era, international professional curators', is also proposed by Alambert (apud Di Carlo, 2016) in an interview on arts policy, which is also considered in the understanding of the organization system of BSP. This notion of organization is based precisely on the book's interpretative emphasis, which understands the event from its institutions and main actors. The description of these eras is compiled in Table 2 and Figure 20.

[50] The analysis of all exhibition catalogs allowed us to identify that initially the event had the word international in its title, which over time fell into disuse, becoming known only as the Bienal de São Paulo.

Era	Organizing institution + actors
1 The Museum Era BSP 1-6 (1951-1961)	Museu de Arte de São Paulo (MAM-SP) + International commissioners
2 The Matarazzo Era BSP 7-15 (1963-1979)	Fundação Bienal de São Paulo + International commissioners
3 The Curators' Era BSP 16-24 (1981-1998)	Fundação Bienal de São Paulo + International commissioners + General curators
4 The International Professional Curators' Era BSP 25-31 (2002-2014)	Fundação Bienal de São Paulo + General curators

Table 2. BSP organization system – General description.



Figure 20. BSP organization system – Timeline.

These eras are: 1) the Museum era (BSP 1-6), organized by MAM-SP; 2) the Matarazzo era (BSP 7-15), organized by FBSP; 3) the curators' era (BSP 16-24); 4) the international professional curators' era (BSP 25-31)[51]. This classification of the event into four different eras allows a structured discussion of this extensive set of exhibitions, through the description of the cases that delimit the beginning and end of each era, which in turn highlights the possible spatial implications of its different curatorial discourses embedded in the organizational vision that characterizes each era. These eras are briefly characterized and illustrated in the following sections.

[51] Although the fourth era suggested by Alambert only covers up to the BSP 31, it is understood that this can also be extended to the study of BSP 32 and 33, also organized by international curators, Jochen Volz and Gabriel Pérez-Barreiro (FBSP, 2016a; 2018a).

3.1.1.1 The Museum Era (1951-1961)

The Museum Era refers to the institution responsible for organizing the event, the Museu de Arte Moderna de São Paulo (MAM-SP[52]), but also to the general aspect of these exhibitions, which include BSP 1 to 6 (1951-1961), respectively known as the "improvisation biennial" (Alambert and Canhête, 2004, p. 43) and the biennial with a strong "museological character" (Alambert and Canhête, 2004, p. 84), respectively.

Such contrast between editions seems to show how the event grew in its early years, going from a modest exhibition in a temporary pavilion to a biennial with an excessive number of works in the building that would become its headquarters for the next decades. The notion of improvisation in BSP 1 is explicit in the uncritical adoption of the model of the Venice Biennale (which sought to reinforce national identities), whereas the Brazilian case could have provided a different framework other than that of national representations (Alambert and Canhête, 2004), as well as in the transitional and precarious character of its first building (Sombra, 2016), addressed in section 3.2.

As for the museological character of the BSP 6, its organization does not seem to have met the expectations of boldness and articulation that characterized Mario Pedrosa (its main responsible and a renowned Brazilian art critic) (Alambert and Canhête, 2004, p. 84). This can be attributed, to some extent, to the fact that this exhibition devoted great importance to artworks of past historical periods (with works ranging from II BC and VII AD centuries) and related to traditional themes of the culture of each country (like the Australia aboriginal art exhibition), seeming not to give the deserved attention to the themes of modernity. On the other hand, this biennial is known for being the first to bring artworks from the Soviet Union and by the expressiveness of artworks from other socialist countries (such as Bulgaria, Cuba, Hungary, and Romania) (Farias, 2001).

The biennials of this era were also composed of different disciplines. In addition to theater, cinema, and science, the architecture sector was the one that stood out the most after the art, where the expressions of modern Brazilian architecture, for instance, were studied based on what was displayed in its first five editions (Herbst, 2007). However, these different sectors, although organized by parallel commissions and with different criteria, constitute a part of BSP. That is, the first International Architecture Biennial, as

[52] Founded in 1948, with the participation of Francisco Matarazzo Sobrinho (who, in 1963, found the FBSP) and great support from Nelson Rockefeller and the Museum of Modern Art (MoMA, NY, USA), MAM-SP is the first museum dedicated to modern art in the country and an important part of a modern project for the city of São Paulo (NASCIMENTO, 2003).

an independent event, was only held in 1973 (with 12 editions to date, also at the Pavilion Biennial) (França, 2017).

The intermediate cases, BSP 2-5, also displayed works by widely known artists such as Pablo Picasso (BSP 2), Diego Rivera (BSP 3), Jackson Pollock (BSP 4), Vincent van Gogh (BSP 5). Although held in different buildings (as discussed in the following section), they seem to continue the same principles of selection and organization defined in the first biennial. These principles can be summarized in: the selection of artists through applications or direct invitations, as stated in the detailed regulations of its catalogues (MAM-SP, 1951, 1951, 1955, 1957, 1959, 1961)[53]; paintings and sculptures as predominant artistic formats; works grouped according to their artists' countries of origin or in special rooms (dedicated to specific artists, as seen in the BSP 1 example in chapter 2); paintings arranged on light supports and largely independent of the architecture of the building and sculptures on pedestals in the center of the rooms in each country.

Therefore, these first 10 years can be summarized as a period marked by a fast and significant growth of the event (observed, for instance, in the large number of artworks). Those editions had the role of "put Brazilian artists and audiences in touch with the most current, bold and consequently produced art worldwide" (Alambert and Canhête, 2004, p. 93). Therefore, their museological character can be attributed not only to the excessive number of works, but also to the emphasis on works of a historical nature (Figure 21).



Figure 21. The Museum Era – BSP 1 (held in the temporary Pavilhão Trianon) and BSP 6 (held in the Pavilhão Bienal) (AHWS/FBSP).

[53] Where the members of the selection and award juries, who illustrate the international aspirations of the event, were: Alfred Barr (MoMA), Alfredo Volpi, Bruno Giorgi, Ciccillo Matarazzo, Ernesto Wolf, Fayga Ostrower, Ferreira Gullar, Flávio de Carvalho, Herbert Read, James Johnson Sweeney (Kunstammlung NRW, Düsseldorf), Lívio Abramo, Lourival Gomes Machado, Mário Pedrosa, Max Bill, René d'Harnoncourt (MoMA), Richard Davis, Roland Penrose, Sérgio Milliet, Tarsila do Amaral, and Wolfgang Pfeiffer.

3.1.1.2 The Matarazzo Era (1963-1979)

The biennials of this second period were framed by Alambert and Canhête (2004) as the Matarazzo Era because they were the first editions organized under the auspices of the Fundação Bienal de São Paulo (created in 1962). However, despite the creation of an autonomous foundation, Ciccillo Matarazzo (founder and director of MAM-SP and of the six previous editions) continued to have great influence in their organization. this is expressed, for example, in its selection and award juries, where some members from the previous era continued to participate[54].

The biennials that frame this period, BSP 7 and 15, are characterized by an "excessively heterogeneous exhibition, in addition to enormous" (Alambert and Canhête, 2004, p. 107) and by a retrospective exhibition that honored winners in previous editions (FBSP, 1979), respectively. In this context, Figure 22 illustrates the special room dedicated to Brazilian artist Lygia Clark (*Bichos* and *Superfícies* series of sculptures) at BSP 7, and the artwork *Intervention de Grenoble*, from Ernest Pignon-Ernest, at the BSP 15, both displayed on the first floor of the Pavilhão Bienal.

The heterogeneity of BSP 7 (1963) can be attributed to the creation of an artistic committee (along with the creation of the FBSP) composed of a group of members without the presence of Ciccillo Matarazzo in most cases[55], what, to some extent, expanded perspectives on the exhibition (although it remained marked by Ciccillo's influence) (Alambert and Canhête, 2004; FBSP, 1963). The retrospective approach of BSP 15, in turn, is due to the fact that this was the first exhibition after the death of Ciccillo, and also the first not to distribute prizes, facts that marks "the end of a very difficult decade for the Bienal (and for Brazil)" (Alambert and Canhête, 2004, p. 157).

The cases that fall between this period, BSP 8-14, are marked by the most critical period of the military dictatorship in Brazil, whose reflection in the exhibitions took place mainly through the boycott of artists, which started at the BSP 10 but which to some extent extends to the BSP 15 (Farias, 2001), and which is reflected in the decrease in the number

[54] Such as: Antonio Bento, Danilo Di Prete, Donald Baum, Doris Shadbolt, Giulio Carlo Argan, Jacques Lassaigne, James Gleeson, James Johnson Sweeney (Museum of Fine Arts, Houston), Jiří Kotalík, Lisetta Levi, Mário Pedrosa, Mário Schenberg, Martin Friedman (Walker Art Center, EUA), Olívio Tavares de Araújo, Oswald de Andrade Filho, Patrick Waldberg, Paulo Mendes de Almeida, Radha Abramo, Robert Giron, Sérgio Milliet, Toshiaki Minemura, Walmir Ayala, Walter Zanini, Werner Schmalenbach (FBSP, 1961, 1961, 1967, 1969, 1971, 1971, 1975, 1977).

[55] Such as: Geraldo Ferraz, Sérgio Milliet, Walter Zanini (Plastic Arts); Aldo Calvo, Sabato Magaldi (Theatre); Jannar Murtinho Ribeiro (Graphic Arts) (FBSP, 1963); Aracy Amaral, Edyla Mangabeira Unger, Frederico Nasser, Mário Barata, Waldemar Cordeiro, Wolfgang Pfeiffer (FBSP, 1969); Antonio Bento, Bethy Giudice, Mário Wilches, Vilém Flusser (FBSP, 1973); Aldemir Martins, Isabel Moraes Barros, José Simeão Leal, Norberto Nicola, Olívio Tavares de Araújo, Olney Krüse, Wolfgang Pfeiffer (FBSP, 1975); Carlos von Schmidt (FBSP, 1979).

of participating artists and artworks. In other words, the following biennials (BSP 16 onwards) are marked by the weakening of the dictatorial regime and a consequent opening of the event to new debates, formats of organization and expressions (Matos, 2009), which also contributes to the delimitation of these eras.

From an artistic point of view, these biennials were still closely linked to the production of the previous era in terms of format. That is, a good part of the exhibitions consisted of paintings (or similar formats, such as drawings, engravings, posters, and photos) and sculptures, even though their themes expand to a more critical, social, and political approach of their time (Figure 22).

This, in turn, resulted in similar display solutions, yet their plans seem to become more elaborate than those of the previous era in terms of route arrangements (that is, with more clearly structured paths and elaborate narratives). However, specific initiatives can be identified, such as BSP 14 (the first after Ciccillo's death), which, although its plans are not included in the Arquivo Histórico Wanda Svevo (as discussed in chapter 4), seems to have been a very progressive biennial, since its exhibition was classified predominantly based on very thought-provoking themes (and not in countries) (FBSP, 1977).

Therefore, even though the BSP was no longer organized by a museum institution, the collector's vision of the director of its current foundation continued to have a strong influence on the organization of the event. However, the end of the awards in BSP 15 also seems to mark the end of an event model, which becomes evident in the following era.



Figure 22. The Matarazzo Era – BSP 7 (Lygia Clark, *Bichos*) and BSP 15 (Ernest Pignon-Ernest, *Intervention de Grenoble*) (AHWS/FBSP).

3.1.1.3 The Curators' Era (1981-1998)

> "the 'grandiose' character, some would say - or megalomaniac, others would say-, which, especially in the 1990s, will characterize the event (but, in truth, always present or desired): the possibility of a stunning circulation through different works, schools, contexts, textures and perceptions." (Alambert and Canhête, 2004, p. 110).

The Bienais between 1981 and 1998 (BSP 16-24) are paradigmatic in the sense that they provided distinct organizational logics to this grandeur – which began to be built in the previous era, by introducing a curator as the general organizer of the exhibition. In this context, BSP 16 is characterized by the "grouping the artworks according to their languages and techniques (painting, sculpture, installations, and so on)" (Alambert and Canhête, 2004, p. 161), and BSP 24 for rescuing the 1920s modernist idea of anthropophagy[56] in its curatorial project (FBSP, 1998; Lagnado et al., 2015)).

BSP 16 was structured around three cores: one of contemporary art, the second for traditional formats (mostly paintings and sculptures from modern and earlier periods) and the third especially articulated around new formats (mail art and *art-brut*[57]), therefore being remembered for finally breaking away from the original model of the Venice Biennale and for introducing new artistic languages (Alambert and Canhête, 2004; Farias, 2001).

BSP 24, the last to be included in many publications (Alambert and Canhête, 2004; Farias, 2001; REVISTA USP, 2002), was also divided into three segments: one historical (dedicated to the anthropophagic debate[58]), another that recovers the system of national representations (whose artists and artworks were selected and classified according to their countries of origin, discussed in the next section), and a third one that brought six "regions of the world whose recent art was represented"(Alambert and Canhête, 2004, p. 204).

Figure 23 illustrates these exhibitions, through a photo of the "central void"[59] at BSP 16, and images of Laura Lima's performance, Edgard de Souza's sculpture (Two bodies), and the paintings by Albert Echkout (part of the historical nucleus), which demonstrates the great variety of these exhibitions in terms of artistic formats, themes, and periods.

---

[56] Discussed in the *Semana de Arte Moderna* held in São Paulo, in 1922 (Amaral, 1970).

[57] Or 'raw art', an invention of the French artist Jean Dubuffet "to describe art such as grafitti or naïve art which is made outside the academic tradition of fine art" (Tate, n.d.).

[58] A movement started in the 1920s by artists and critics such as Oswald de Andrade and Tarsila do Amaral, who sought to enhance national culture and question the influence of moral, religious, capitalist, and European values in the Brazilian art (Amaral, 1970).

[59] As described by the FBSP (http://bienal.org.br/exposicoes/16bienal), which suggests the importance of this space in the Pavilhão Bienal for the assembly of its exhibitions, since the void is not located in the geometric center of the building.

The presence of the curator as the general organizer of the event was repeated in all subsequent exhibitions. Walter Zanini and Sheila Leirner curated BSP 16-17 and 18-19, respectively (FBSP, 1981a, 1983a, 1985a, 1987a). Although they had the collaboration of other curators, only in BSP 20 is the curatorship officially shared, by Carlos von Schmidt, Stella Teixeira de Barros, and João Cândido Galvão (FBSP, 1989). In the following biennials, the curatorship is again signed by only one person, namely: João Cândido Galvão (BSP 21), Nelson Aguilar (BSP 22 and 23)[60], Paulo Herkenhoff (BSP 24)[61].

In fact, this appears to be an era of profound changes for the event, as its main organizers differ greatly from those who participated in its first two eras. These profound changes are expressed at all levels of the exhibitions, especially in their architecture, as will be discussed in chapters 4 and 7. However, it is a period in which some of the values that constituted the first two eras remain, such as the participation of the international commissioners in the selection of the works (in parallel with the curators), and the classification of these based on countries (in parallel with the themes proposed by the curatorship), something that is only broken in BSP 27 (2006) (Figure 23).



Figure 23. The Curators' Era – BSP 16, BSP ("central void"), and BSP 24 (Performance by Laura Lima, sculpture by Edgard de Souza and paintings by Albert Eckhout) (1981-1998) (AHWS/FBSP).

[60] BSP 23 with the adjunct curator Agnaldo Farias (FBSP, 1996).
[61] And the adjunct curator Adriano Pedrosa.

3.1.1.4 The International Professional Curators' Era (2002-2014)

> "In fact, another moment has started. It is not exactly a break with the Curators' era, of course, because from the point of view of the new logic of the great international exhibitions, which is the same logic of globalization, of contemporary capitalism, the figure of the curator is still the central figure" (Alambert apud Di Carlo, 2016, p. 252-253).

This era was not part of the main publications that studied BSP 1 to 24, but it was extracted from an interview done with one of its authors about the Bienal de São Paulo exhibitions held after that period (Di Carlo, 2016). In this interview, Alambert classifies the most recent BSP as the international curators' biennials, which in fact seems to correspond to what happened in most cases carried out after 1998. Therefore, it should be noted that although this era frames BSP 25 to 31 (since the interview was conducted in 2016), it can be extended to include the biennials of the present day (32 to 33[62]), since they were also organized by international professional curators (FBSP 2016a, 2018a).

In this context, BSP 25 and 31, the first and the last of this era, are characterized by this international look of their curators, or, in other words, by "the ultra-specialization of the curators themselves qualified to do this type of work" (Alambert apud Di Carlo, 2016, p. 253) – something that did not happen in the editions of the previous era since curatorship was being establishing as a discipline and profession in this period (Lagnado, 2015). These curators were Alfons Hug, in BSP 25, and Charles Esche, Pablo Lafuente, Nuria Enguita Mayo, Galit Eliat and Oren Sagiv, in BSP 31, the latter architect who was also responsible for the exhibition design, and a good part of its ground floor was dedicated to a square to host activities (FBSP, 2002a, 2014).

BSP 25 is remembered "for the numerous presences of artists outside the São Paulo/Rio de Janeiro axis" and for the audience record (more than 650 thousand people)[63] and by a strong media character (which can be observed in the installations carried out outside the pavilion). The artworks of BSP 31, in turn, "were conceived within the concept of 'project', many carried out in collaboration between two or more individuals: artists and professionals from other disciplines, such as pedagogues, sociologists, architects or writers"[64] (an aspect reflected in the presentation of artists and artworks of its catalogue) (Figure 24).

---

[62] As well as BSP 34, although it is not part of this study.
[63] Fundação Bienal de São Paulo (https://www.bienal.org.br/exposicoes/25bienal).
[64] Fundação Bienal de São Paulo (https://www.bienal.org.br/exposicoes/31bienal).

Although this last era sheds light on a broader phenomenon, which is the globalization of these events, such as biennials, triennials and large-scale perennial exhibitions (Filipovic et al., 2010; Jones, 2016; Spricigo, 2011), it is understood that this fourth era was not formulated with the same degree of complexity as previous ones and that, as mentioned before, the year of publication of the interview (2016) interferes in this delimitation.

That said, in the publications in which this eras is mentioned, Alambert highlights that this last era is not exactly a break with the previous one since the curator remains a central figure in these exhibitions, just like in the previous era, and that these recent biennials have a similar logic to the previous one (from a global and capitalist point of view) (Alambert apud Di Carlo, 2016). Therefore, the main difference between these two last eras is the nationality of the curators and the fact that they are part of a generation that received specialized training for the development of this activity, which began in the 1980s, but only consolidated in the 1990s, with the proliferation of training courses (Lagnado, 2015).

However, from the point of view of the nationality of these professionals, this classification has inconsistencies[65]. For instance, Brazilian curators also played an important role in building a new approach to these exhibitions such as Lisette Lagnado (BSP 27), Ivo Mesquita and Ana Paul Cohen (28), and Agnaldo Farias and Moacir dos Anjos (29). Therefore, 3 of its 7 exhibitions were also curated by Brazilian professionals.

Several particularities could be highlighted about these intermediate biennials, BSP 26 to 30, as well as the later cases, BSP 32 and 33. However, in general, it can be highlighted that their curatorial projects, as well as their layouts, become increasingly unique, which can be attributed not only to the professionalization of the curatorship, but also to the attribution of the design of the exhibitions to a specialized professional (architects), a process that began in the previous era (as can be observed through the study of their catalogues, as developed in chapter 4). These are also biennials were educational mediation and activities hosted within the pavilion seem to strengthen.

In addition, other aspects seem fragile in this era, such as the fact that the first two eras refer to the institution that organized the event (MAM-SP and FBSP), and the last two refer to the responsible person (curator or international curator) – which, to some extent, also represent the institutional vision, but they end up mixing very distinct categories.

[65] Although they also had international curators in their team.

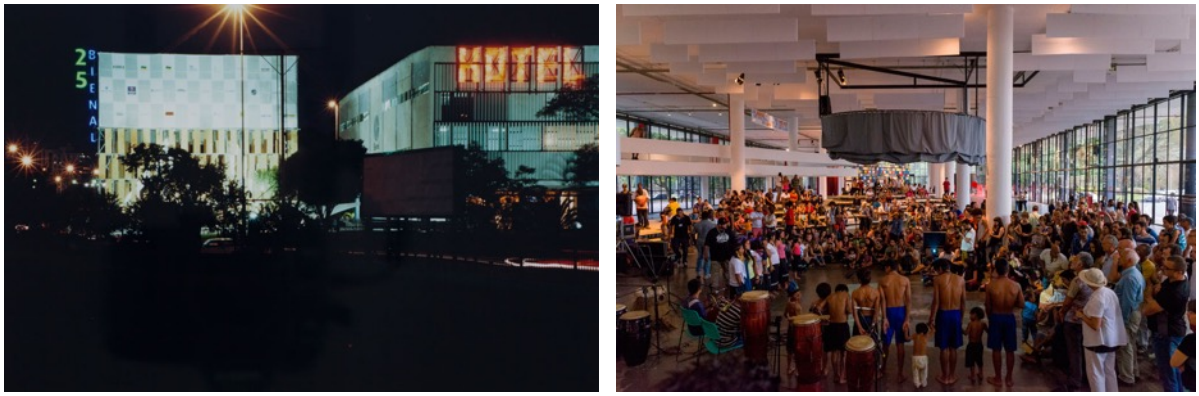


Figure 24. The International Professional Curators' Era – BSP 25 (Carmela Gross, Hotel) and BSP 31 (*O Treme Terra, Esculturas Sonoras*, opening activity) (AHWS/FBSP).

* * *

Finally, although these four eras provide a good overview of the event, by highlighting the practical differences that result from changes in the institutions or those responsible for their organization, they still seem to be little elucidative with regard to the spatial implications of such changes. That is, although the changes that occurred between each era have repercussions, to some extent, on the types of works selected and the arrangement of these works in space, they do not explicitly discuss how these works were classified throughout the exhibitions.

Taking into account that buildings, and therefore exhibition spaces, function as classifying devices (Markus, 1987), since its spatial configuration, to some extent, also compartments uses, activities and groups of people, understanding these exhibitions based on the logic of classification of their artworks seems fundamental to address the role they played in the constitution of their layouts – something that is empirically studied in Chapters 4, 6 and 7, which is discussed from the literature review done in the next section.

3.1.2 The three periods of the classification system

> Many types of buildings have as an explicit function the division of large numbers of people or objects into categories or classes and their disposition in space in a manner which represents the particular field of social practice or knowledge. Thus the division of children into classes according to age, ability, sex, or subject of study, and their location into 'classrooms', is an overt statement of educational philosophy through the curricular and managerial organisation of the school. […] The grouping of art or museum objects by 'school', period of production, material, place of origin, or by function, and the act of locating such classes of objects according to specific rules about their position in an ordered universe, is a spatial mapping of a scientific or artistic theory (Markus, 1987, p. 468).

This notion of grouping people and things and how this constitutes a particular field of knowledge and social practices, as argued by Markus (1987), awoke to the fact that, in addition to understanding the organizational system of the BSP, it is also necessary to understand the main criteria that structured these exhibitions – which refer precisely to the way in which they exhibitions classified things, and consequently people, in space.

In this context, classification of people refers to the way they tend to move and are distribute throughout the building, since in its exhibition spaces, in terms of social restrictions, everyone can move freely[66]. That is, in its interior, the distinction between visitors and inhabitants (for instance, people who work in the building) is not considered (Hillier and Hanson, 1984). Evidently that such freedom, in addition to being spatially delimited by the exhibition layout (as discussed in section 3.1.3, on space and knowledge), is also socially restricted by the different capitals (beyond economic capital) that seem to be necessary to access such exhibitions, such as cultural capital and social capital (in the form of accumulation of knowledge, formal education, titles and social connections) (Bourdieu, 1986; Bourdieu et al., 1991).

This aspect is, to some extent, considered in the interpretations of the analyses, for instance, by observing the relationship between a certain section of the layout configuration and the displayed content, which in turn can embed the assumptions and expectations of its organizers about their audiences (Bourdieu et al., 1991). But it is not a central theme of this thesis, since a diachronic and structured approach does not seem to be possible, due to the wide period studied and the absence of data to support its study[67].

---

[66] However, it should be noted that until BSP 25 (2002) admission to the event was paid, exclusive sessions for guests and professionals in the sector also take place until the present day, and that in sensitive content rooms children can only enter under the supervision of an adult.

[67] Since only the most recent exhibitions have data on the number and profile of visitors, as well as their impressions of the event.

Having clarified these aspects, a review of the descriptions of these exhibitions by FBSP[68], complemented by the literature cited on the event and the exhibition catalogues, mapped two main recurring terms that together configure three distinct periods in the history of the event, namely: 1) National representations (NR); 2) National representations associated to Curatorial project (NR+CP); 3) Curatorial project. The delimitation and description of these periods is summarized in Table 3.

Period	Classification system
1 National Representations (NR) Bienais 1-15 (1951-1979)	Artists and artworks classified according to their nationalities
2 National Representations + Curatorial Project Bienais 16-26 (1981-2004)	Artists and artworks classified according to their nationalities + premises of the curatorial project
3 Curatorial Project (CP) Bienais 26-33 (2006-2018)	Artists and artworks classified according to the premises of the curatorial project

Table 3. BSP classification system – General description.

As its description suggests, in general, these three systems are characterized by the criteria adopted for the classification of works, which are either the artists' countries of origin, or the themes contained in the curatorial project of the editions (and in the intermediate period, both).

As in the discussion of organizational systems, the classification systems are characterized through the presentation of the biennials that frame them, as well as the specificities of intermediate cases, with the aim of understanding how such periods imply spatial changes in the arrangement of these exhibitions. And although the emphasis of this work is on understanding the exhibitions held in the Pavilhão Bienal (4-33), both characterizations, of the organization and classification systems, also include BSP 1 to 3.

[68] Complied, in addition to the exhibition catalogues, on its website: http://bienal.org.br/exposicoes

3.1.2.1 The National Representations System (BSP 1-15)

The first system, National Representations (NR), directly influenced by the Venice Bienalle, as well as the Universal Exhibitions, refers to the main criteria for the selection and classification of artists and artworks, done by the commissioners of each country which, in turn, were chosen by the organizing institution[69] (Alambert and Canhête, 2004; Birnbaum and Wallenstein, 2019; Mulazzani, 2014). BSP 14 and 15 are partial exceptions, as the former as structured around themes (FBSP, 1977) and the later exhibited a retrospective of the winners of the previous biennials (FBSP, 1979). This period extends between BSP 1 and 15 (1951-1979). However, it remains until 2006, since BSP 16 to 26 still adopt countries as a criterion (although in parallel with curatorial principles).

In this period (BSP 1-15), the distribution of countries within the Pavilhão Bienal often followed arrangements that reproduced their continental classification. However, other arrangements were observed in their plans, which also included special rooms or articulations in orders other than continental. This geographic dismemberment, as well as the spatial distinction given to special rooms (as highlighted in chapter 2), can be an indicator of how certain countries had a higher artistic reputation than others, by occupying more privileged spaces in the building, for instance (Braden, 2018; Braden and Teekens, 2020, 2019; Lagnado, 2015), argument that is further explored in chapter 4.

In the catalogues of this period, the mention of architects as authors of the exhibition design was not found, in contrast to the international commissioners, who were always mentioned. This suggests that the configuration of the exhibitions of this period were defined more by such commissioners (or other foundation members) than by those who arranged or designed their displays, a speculation that deserves a more careful study.

Even if there was a spatial logic in the distribution of these contents throughout the buildings, this logic seems to be defined by those who selected the artworks, rather than by those who carried out their exhibition. This seems to make sense considering that curatorship and exhibition design did not exist as a discipline or field of practice. The same can be argued for its international commissioners, who, although to some extent acted as curators, had no professional training in this regard, as well as their selection criteria seem to differ greatly from those of curators, professional or not.

[69] Be it MAM-SP (from 1951 to 1961) or the Fundação Bienal de São Paulo (from 1962 to nowadays).

3.1.2.2 The NR + CP System (BSP 16-26)

The second period of the classification system is characterized by an overlap of criteria, that is, the maintenance of the national representations as a criterion for selection and classification, and the introduction of curatorial principles (extracted from a curatorial project) to classify and select works and artists, which took place between BSP 16 and 26.

BSP 16 was the first to have a general curator as its main organizer and to eliminate the classification of artworks by country (although the selection still followed this criterion) (FBSP, 1981a). The curator of this edition, Walter Zanini[70], in turn, grouped the artworks according to specific themes and techniques, a strategy that became known as "language analogy" (FBSP, 1981a). That is, even if the artworks were still largely selected by the international commissioners, appointed by the FBSP to mediate international relations, these works were displayed differently, grouped according to formats or common themes.

This system, which lasted until BSP 25 (2004), seems to result in a great diversity of spatial arrangements, unfolding of the excess of classification criteria and successive inversions and ruptures that characterize this period. That is, in some biennials the criteria of the curatorial project seem to prevail, as in the case of BSP 24, whereas in others the system of national representations emerges again, as in the case of BSP 20 (1989), 25 (2002) and 26 (2004), which have entire sectors dedicated to the exhibition of works by country (FBSP, 1989a, 2002a, 2004a). On the other hand, some biennials from this period, despite still presenting sectors dedicated to countries, started to be recognized for their curatorial projects, as is the case of BSP 24, mentioned in the discussion of the organization system, and its idea of anthropophagy as the " incorporation of the values of the other to build and articulate their own" (Alambert and Canhête, 2004, p. 204).

This overlapping of criteria seems to be reflected in the design of the exhibitions of that period, which, in general, have denser supports and quite complex arrangements. In addition to the relationship of their apparently complex spatial configuration with the duplicated classification criteria, such complexity can also be attributed to the demands of the new artistic formats (Jones, 2016), as well as to the very structuring of the professional fields of curatorship and exhibition design (Lagnado, 2015), for which the Bienal de São Paulo seems to have been a field of many possibilities and great experimentation.

[70] Art critic, "with a consolidated trajectory in the direction of the Museum of Contemporary Art of the University of São Paulo (MAC-USP)" (Alambert and Canhête, 2004, p. 161).

3.1.2.2 The Curatorial Project System (BSP 27-33)

Finally, the third period, Curatorial Project (CP), marks the beginning of a series of exhibitions where the criteria of National Representations, as well as the international commissioners, were completely extinguished from both the selection and the classification of artworks. BSP 27 (2006), curated by Lisette Lagnado, was the first exhibition to adopt this system, that extends to the BSP 33 (2018)[71].

In the exhibitions of this period, the selection of artists was entirely done by the curators in charge and the classification was based on the premises of the curatorial project, which in the case of BSP 26 was the idea of *Como viver junto* (How to live together, based on a set of seminars given by Roland Barthes in the 1970s) (FBSP, 2006).

The different curatorial projects that make up each of the biennials of this period can be read in their catalogs. BSP 28 project stands out, *Em vivo contato*, since the moment of conceptual crisis crossed by art and the institutions that promote them is represented in the exhibition space itself, where the third floor of the Pavilhão Bienal is left entirely empty (FBSP, 2014). These curatorial projects, however, are difficult to characterize more specifically, as each of them has a very particular construction, according to the themes problematized in each edition. Some of these projects (BSP 27, 29 and 33) are better addressed in this work throughout the diachronic study of exhibitions, developed in chapter 4, and in the analysis of specific cases, in chapter 7.

Considering the three classification systems together, BSP 1, 16 and 27 constitute milestones that inaugurate each of these systems. However, as the interest of this research is the biennials held in the same building, images from BSP 4 (1957, the first held in the Pavilhão Bienal), 16, 27 were selected to summarize some aspects of each system and their relationship with the Pavilhão Bienal (Figure 25).

These images illustrate how aspects of the different classification systems can be spatially addressed, whether in more iconic spaces, such as its void (illustrated in the images on the left), or in other areas of the building (such as the mezzanine and the double-height ceiling area that visually joins floors 1 and 2), discussed in detail in section 3.2).

[71] Despite not being part of this study, BSP 34 (2021), *Faz escuro mas eu canto*, can also be included in this category, since it also adopts a curatorial project. Conceived by Jacopo Crivelli Visconti, the project sought to expand the exhibition in time and space, extending its duration over several months, different places and many partnerships with local institutions (http://bienal.org.br/exposicoes/34bienal).

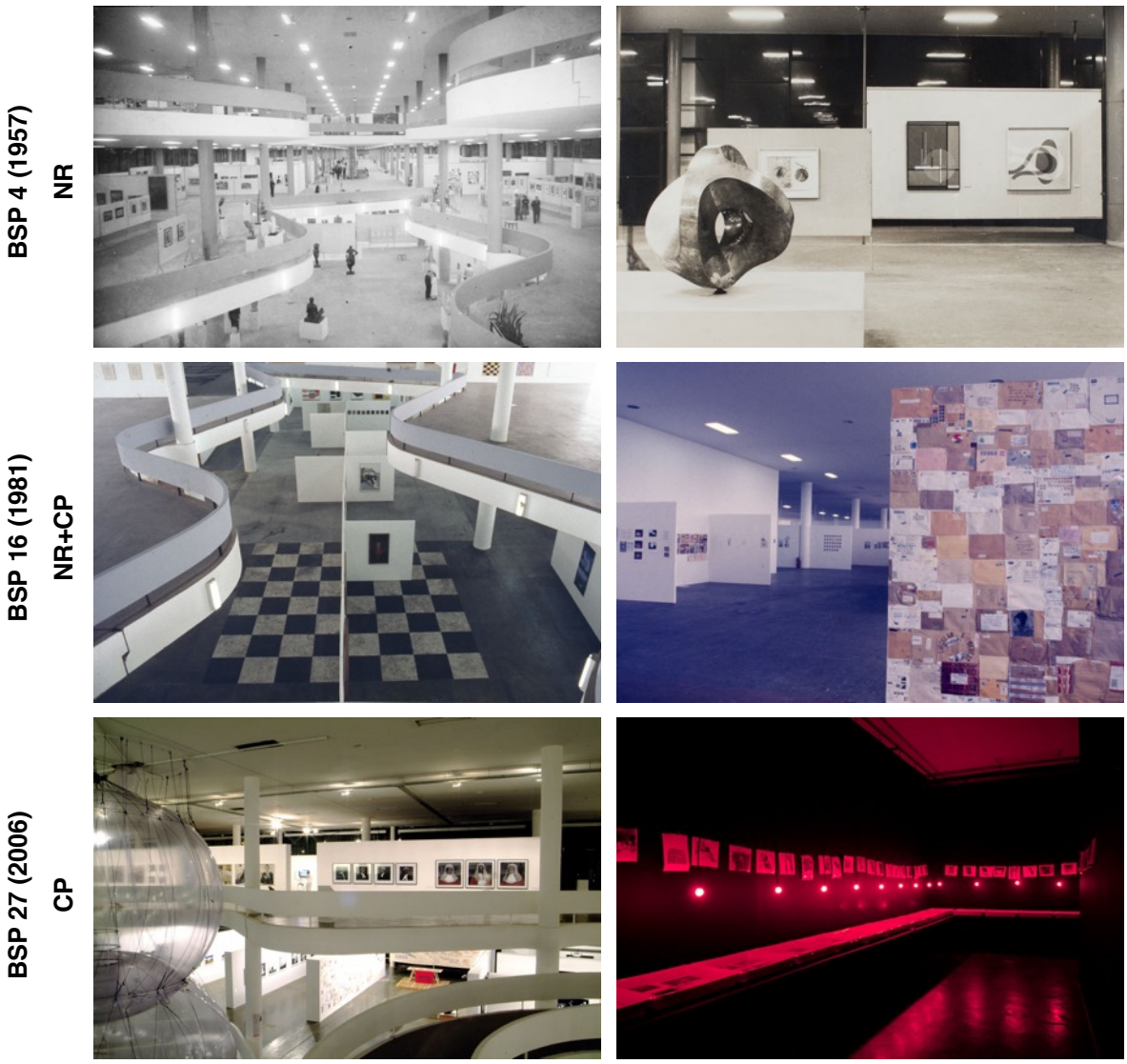


Figure 25. Examples of the three classification systems – BSP 4, 16 and 27 (AHWS/FBSP).

The examples of the system of national representations (NR), which refer to BSP 4 (1957), represent the fact that these exhibitions were mainly composed by paintings (or similar formats) and sculptures, as illustrated by the image of the void, and in the Germany room, with sculptures from Max Bill and paintings from Moholy Nagy & Josef Albers.

The images from the second period, NR + CP, show paintings by artists from different countries displayed in the central void, such as François Barbatre and Gérard Barthélémy (France), Ricardo Migliorisi (Paraguai) and Rolando Dorrego (Cuba) – which were grouped according to the curatorial proposal (which in this sector sought to welcome recent artistic investigations carried out in traditional operating modalities, i.e., historic landscape paintings) (FBSP, 1981a). In addition, other spaces in the building, modified to receive different artistic formats, such as the mail art sector (FBSP, 1981b).

The examples of the third period, CP, show the works that occupied the center and surroundings of the void, namely Tomás Saraceno's installation and Pieter Hugo's photographies (a South African photographer who makes a strong social critique of inequalities) (FBSP, 2006a). The right picture shows the work by Wang Youshen, Darkroom, which illustrates how the pavilion architecture can be altered to the point of becoming unrecognizable, especially in the exhibitions of the third period.

* * *

Although the discussion of the organization system provided a good insight into how these exhibitions were institutionally conceived, in terms of values and ideology, looking at them from this perspective of their classification systems uncovers new questions about the relationship between these curatorial discourses and spatial settings. In this context, both systems were superimposed in order to highlight some final aspects.

The most evident divergences are concentrated between BSP 24 (1998) and 27 (2006), a period of changes in both systems which reflect an institutional crisis that, after the success of the BSP 24 (known as one of the best BSP ever made), took four years to hold the next exhibition (Alambert and Canhête, 2004; Farias, 2001).

These divergences can also be understood as part of the erosion of the national representations system which, although it no longer received the prominence it received in the previous period, which began in the 1980s but only consolidated in 2006. Another aspect is the fact that the entire phase from 1981 to 2014 (BSP 16 to 31) can be understood as the era of the curators in terms of organization, as it is a period in which the activity emerges and consolidates (Figure 26).

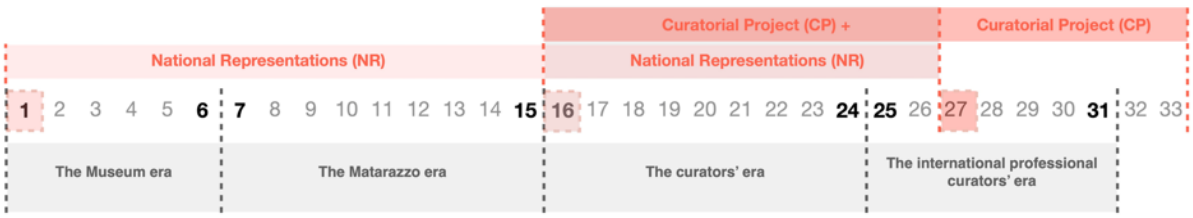


Figure 26. BSP organization (bottom) and classification (top) systems.

This overlapping of systems also shows that, until the BSP 15 (1979), both systems are quite similar, not just in terms of time (since both run from 1951 to 1979), but also ideologically, since in both, the organization and classification was very much guided by the idea of nation-states and by the affirmation value of national identities, something that is clearly observable in the plans and catalogues of these exhibitions.

The biennials of this transition period (BSP 24-26) seem to oscillate between overcoming the idea of national representations in the classification of the artworks, as is the case of BSP 24, and exalt that same system, as is the case of the BSP 26 (where all floors presented artworks classified according to their countries of origin). Therefore, while an understanding of the organization system is enlightening to understand the values embedded in these exhibitions, the classification system seems to provide more support for the proposed discussion.

Such classifications can also be observed in the images of Figure 3.8, which also illustrate the different display solutions, such as divisions loose from floor and ceiling, in contrast to enclosed rooms or artworks that do not need any kind of support, as well as the diversity of artistic formats (paintings, photos, sculptures, installations, and performance) that permeated the exhibitions, from the 1950s to the present period. For instance, if their spatial arrangement resembles the open spaces of universal exhibitions and world fairs, of if they approach the structures of traditional museum buildings (with well-constituted rooms structured around corridors or in successive rows). In practice, it is known that each of these exhibitions, present a little of each of these arrangements, as well as other configurations that are not necessarily included in this simplified description.

However, in addition to addressing how such displays are arranged to define more or less structured paths (object of study of chapters 5 and 7), thereby defining more conservative or generative layouts in terms of the social interactions they promote (Hillier and Penn, 1991), it is necessary to understand the main concepts embedded in this process of classification and spatialization of knowledge (Markus, 1993) in which the BSP is inserted – as discussed below from a review of a series of related morphological studies.

3.1.3 On space and knowledge

The morphological and configurational studies that relate space and knowledge are discussed according to themes identified in common between them that are of interest to this thesis, both to approach its empirical object (BSP exhibitions and buildings) and to support the proposed theoretical construction (the notion of spatial mediation). These themes are: from transmission to knowledge exchange (3.1.3.1); museums as narratives in space (3.1.3.2); exhibition spaces as specific networks (3.1.3.4).

These themes were extracted from morphological studies of buildings and urban spaces, which in turn can shed light on how to approach the different curatorial discourses of the Bienal de São Paulo exhibitions through space. This discussion prioritized the selection of studies that, to some extent, relate space and knowledge, in a reference to the building classification categories proposed by Markus (1993), since it is considered that such curatorial discourses, and the artistic manifestations they articulate, represent, ultimately, a form of knowledge (Eisner, 2008; Foucault, 1970; Gaut, 2003; Markus, 1993, 1987).

In other words, this selection is based on the argument that, in exhibition spaces, the main element exchanged is knowledge (as discussed in chapter 2). This knowledge, in turn, is both embedded in things (that is, in the very messages contained in the artworks), but especially in the arrangement between things (dimension that most interests this research), since it is this arrangement that guides, to a large extent, the general structuring of these exhibitions and, consequently, the system of encounters and avoidances between people (which is what indicates the way in which such discourses can be spatially read).

Therefore, the studies discussed below address these issues, either because they present similar empirical objects (such as museum buildings) or because they address the spatial configuration of buildings both as a materialization of knowledge and as a structure that enables its exchange. Limitations and distinctions between these studies and the specifics of this research are also pointed out.

3.1.3.1 From transmission to knowledge exchange

> In fact, knowledge which may be essentially abstract is rendered physical as it is translated from biology into geometry. The separation of knowledge acquisition from its transmission, allows a consequent separation of the knowledge of things from the knowledge of how to display things (Peponis, Hedin, 1982, p. 24).

A seminal study in the field of configurational studies of museums is *The Layout of Theories in the Natural History Museum*, by Peponis and Hedin (1982), which relates to this research not only because it has a relatively similar object, but mainly because of the theoretical approach that it introduces. In the study, the authors raise questions about the relationship between the spatial organization of the museum and the transmission of scientific knowledge, and how they affect the logic of exhibition layout – distinguishing the acquired knowledge (that is, the knowledge obtained from the observation of artifacts) from the transmitted knowledge (embedded in the set of relationships between them).

The discussion revolves around reconstruction plans for part of the Natural History Museum, in London, due to its centenary, which took place in 1981, whose contribution is an architectural analysis methodology which overcomes the dichotomous debate between proponents and opponents of the expansion.

This paper is paradigmatic because it argues and demonstrates that knowledge is embedded also in the arrangement of things (and not just in things) by accounting for the transformations in the exhibition morphology, explaining how these changes were accommodated in the structure of the existing building. In other words, it suggests that the layout of an exhibition is an active part in the enunciation and transmission of knowledge and an active component in the structuring of social relations. Ultimately, they also argue that museum buildings function for the reproduction of social knowledge and ideologies and that spatial data can provide tangible evidence to understand and overcoming it.

This discussion is based on the analysis of the spatial configuration of the building, through its axial lines (which allow discussing the possibilities of movement through the building) and its convex spaces (which shed light on its occupation possibilities). Together, these possibilities of movement and occupation can generate exhibitions whose layout is more favorable to the transmission of knowledge than others, in view of the ability to bring together people that these spaces present, "as if to celebrate the sharing of knowledge" (Peponis, Hedin, 1981, p. 25) or if its forms of control are more centralized in a single space or diffused across different spaces of the system (which contributes to making the systems more or less intelligible and therefore more or less open to new interpretations).

Another study that can be highlighted in this context, which spatially addressed the current situation, as well as future possibilities for a museum building, the Tate Gallery, Millbank (London), developed by Hillier et al (1996), and commissioned by the institution to evaluate proposals for a new masterplan with a different entrance.

This study is relevant in at least two directions. The first concerns the proposed methodology and the analytical techniques used to describe the original building. And the second are the aspects raised by such an analysis, especially about the distinctive "visitor style" and "spatial culture" that took place in the building. With regard to the techniques, the study was based on the "analysis of the layout in conjunction with movement and viewing rates" (Hillier et al., 1996). The analysis of the building's spatial system focused on describing its structure of movement and occupation through a composite model that combined the axial and the convex organization of the system. The characterization of Tate's functioning, however, was based on data obtained from the observation of the movement, vision and pause patterns of visitors – which is not used in this research, as it deals with a historical object, and that structured observations could only be conducted for BSP 33 (the only one that fully fits the development period of this research)[72].

> "On the whole, the Tate is working well. Visitors arrive at the main entrance and quickly diffuse into most parts of the building. the visitor style is exploratory and informal, rather than guided or controlled. […] However, the layout also works unevenly. Some parts underperform. […] The study shows that these problems are not simply to do with the attraction of what is on show. They are also strongly and negatively affected by the spatial layout (Hillier et al., 1996, p. 3)."

This set of results supports the characterization of the visitor style and the spatial culture that happens, or could happen, in the building, in which the layout is the responsible for much of the good, but also for the less good things. The good things refer to how "as in a good town, it is the structure of the space itself that guides the visitor around Tate" (Hillier et al., 1996, p. 3), i.e, the spatial properties that make the Tate work in an informal and relaxed way, such as the balance of long and short axes, the use of major axes to create an intelligible core to the layout, the fact that its structure is easily learned from the entrance, and the organization of room sequences into circuits which relate to this core of axes (Hillier et al., 1996, p. 3). The bad things refer to the complexity of some parts of the system's arrangement, the depth of some galleries (especially the lower ones), and the resulting low visitation and visibility rates in many of these spaces.

[72] However, informal observations were carried out both at this biennial (BSP 33) and at its building at other times of visitation throughout 2018 and 2019.

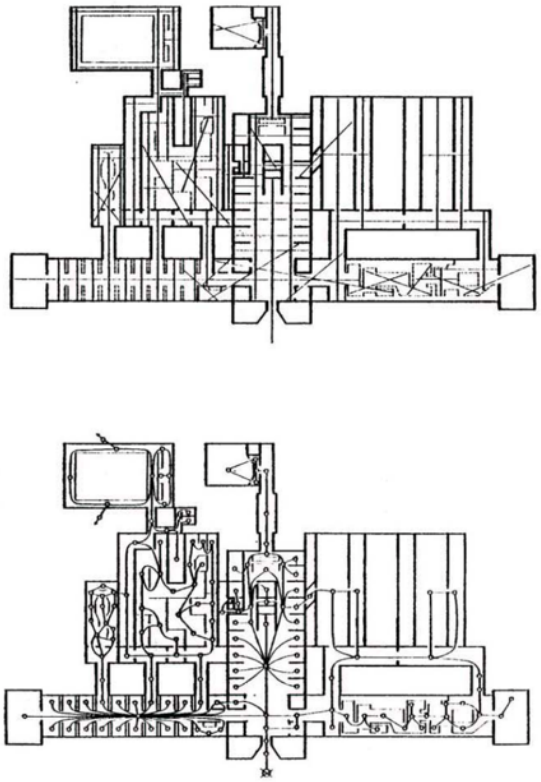


Figure 27. Natural History Museum – Axial map and convex map (Peponis, Hedin, 1982).

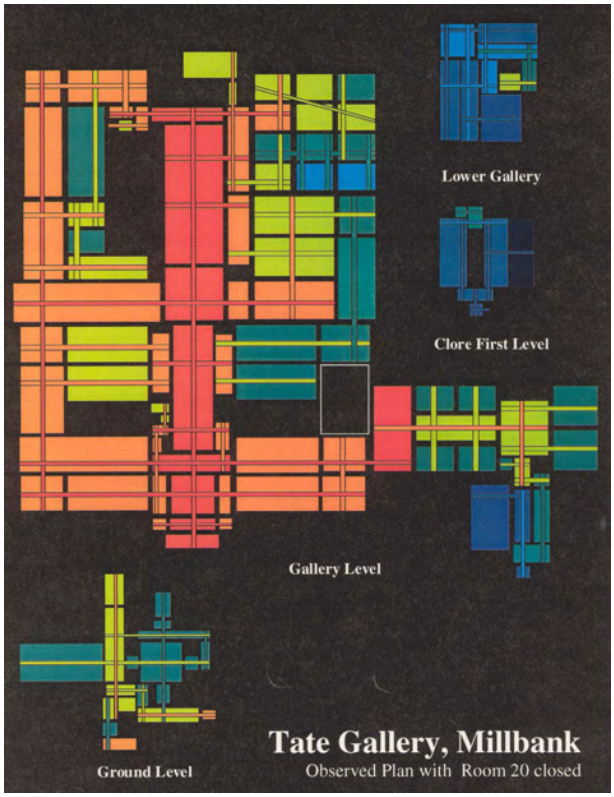


Figure 28. Tate Gallery – Composite model of the axial and convex organization with the pattern of global integration (Hillier et al., 1996).

Although the Tate's study does not mention the idea of knowledge transmission (Figure 28), unlike the study of Peponis and Hedin (1981) (Figure 27), both attribute the role of gathering or dispersing people to the spatial configuration. That is, in the study by Hillier et al., (1996), the main concerns revolve around how easy or difficult it is for the visitor to learn the general structure from the entrance space, how complex and counter-intuitive these routes are or can become, or whether the layout provide guidance on how the gallery is structured, aspects that would facilitate or hinder the transmission of knowledge.

This idea of knowledge transmission can also be discussed based on other studies of buildings that, although in very different ways, also deal with knowledge, such as schools and libraries**.** Although according to Markus' classification (1993), schools are associated to the group of buildings that relate people to people (specifically called as formation buildings – since they were intended for the formation of the character, moral principles, and intellectuality of people), they are particularly interesting for understanding how knowledge can be spatially classified and transmitted.

> Both refer to the social structure that controls the transmission of skills and moral values and the responses to this transmission, that is, one refers to the control of the transmission of facts, procedures and judgements involved in the acquisition of specific skills (instrumental order), the other, control over the transmission of beliefs and the moral system – expressive order (Loureiro, 1999, p. 71).

Loureiro 's (1999) work on public-school buildings in Recife is particularly interesting, as the author bases her arguments on the idea of knowledge transmission and how the physical space of these schools could favor or hinder such transmission, that is, in "the characteristics of spatial translation that architects provide to current statements about the role of the school building in carrying out the pedagogical action" (Loureiro, 1999, p. 10), investigating whether expectations such as "the environment educates" and "the building offers teaching and learning opportunities" are spatialized.

The study is based on the notion of transmission, both of moral values and character, and of knowledge and learning (Bernstein, 1975). In school buildings, these two orders operate simultaneously and in the case of schools studied by Markus (1993) this first order (instrumental) often overlaps with the second (expressive), which explains their classification in the group of buildings that relate people to people.

In the context of this thesis, these works on school buildings (Loureiro, 1999; Loureiro and Amorim, 2002), allowed the establishment of a fundamental difference with regard to the relationship between people and knowledge. This difference concerns the fact that, if in the school space, this relationship is represented by the idea of transmission, in the case of exhibition spaces knowledge is not transmitted but exchanged. This difference between transmission and exchange concerns the notions of asymmetry and symmetry, which can be associated with the ideas of control and freedom, that each expression embodies. In this context, the spatial sectorization of school buildings can function as a normative instrument that transmits values of power and authority (of the institution over their students), constituting a first layer of spatial regulation[73]. That is, although these buildings also provide spaces for interaction and encounter between students, their spatial configuration offers great support for their control and surveillance, something that does not necessarily happen, or happens differently, in exhibition spaces.

Such a distinction between transmission and exchange is based on the argument that in exhibition spaces, visitors can navigate more freely than students at a school, for instance.

[73] Condition that is not one is not an intrinsic property of school buildings, but rather of those associated with particular pedagogies that emphasize issues of authority and surveillance.

However, as discussed in these studies, the set of rules that guide an exhibition, as well as the spatial configuration of its layouts, can constitute more open systems, in the sense of fostering the construction of new knowledge, or more closed ones, which tend to reproduce consolidated knowledge. In other words, it is argued that this idea of transmission can be associated with the idea of formation, in the case of school buildings, and with the idea of exchange, in the case of exhibition spaces. This idea of knowledge exchange, in turn, is based both on the main function of the exhibition spaces, and on the morphological characteristics of their settings, which often resembles both exchange buildings and knowledge buildings (as discussed in Chapter 2).

Therefore, in the context of this research, it seems more appropriate to speak of exchange than of transmission, precisely because it better translates the apparent symmetry of the relationships embedded in the arrangement of things and in the possibilities of encounters and evasions between people – something that can be questioned from the results obtained in the analysis of the exhibitions (Chapter 7).

> Knowledge has grown from something material, possible to set in stone or at least print in the medium of printed books, into something far less tangible, and the role of the books in themselves as carriers and materialisations of this knowledge has lessened. As symbol of knowledge they have both grown weaker and stronger – the books in themselves have grown less important for the idea of knowledge, but in the context of the libraries they in a sense serve in an even more symbolic role. As knowledge has been transferred into something abstract and fleeting, a process, the artefacts have instead turned from being the source of knowledge to being representations thereof – they represent knowledge, but do not contain it. As such, they are exchangeable symbols, and one can wonder if, thus, libraries and museums have grown closer (Koch, 2004, p. 152-153).

Although many morphological studies use terms related to knowledge, such as language and discourse, Koch (2004) clarifies in what context these concepts are being used. By reflecting upon the ideas of Forty (2000)[74], and its modern architecture vocabulary, and Cameron and Markus (2003)[75], that also discussed the relations between architecture and language, Koch (2004) argues that "the meaning of architecture is produced through how it is discussed or communicated – something especially important if the discussion is on architecture's or spatial system's meaning in society" (Koch, 2004, p. 25).

Such reflection is developed in the context of the study of the spatial configuration and social relations of three Swedish libraries from different periods and contexts. The author

[74] Which discusses how language and terminology are tools for the development of architectural practice and thought, more linked to the understanding of architecture *as* language.

[75] Which studies how architecture is produced and interpreted through spoken or written communication (instead of the study of drawings and graphical resources), which relates with the notion of architecture *through* language.

related their spatial systems with the notions of production of meaning and material discourse, suggesting "an evolution of the idea of knowledge as represented by the three libraries as manifestations of the prevalent ideas of knowledge of their respective times" (Koch, 2004, p. 151). This view of knowledge as something that is not situated in isolated objects but as a constituent element of a system of symbolic exchanges is precisely what characterizes exhibition spaces, whether in libraries, museums, or exhibition pavilions.

In the case of the three libraries, the author structures the argument through a methodology that comprises the notions of distribution of, in and through space, that is, the configurative dimension of space, the way people and things are deliberately placed in space and the way people, things and events happen in space, respectively (Koch, 2004). This analytical tripod that describes the "way in which space exists and people and things in space interact both with each other and with space itself"(Koch, 2004, p. 159) and are traversed by aspects related to the form, function and use of space. Markus (1993) had already proposed a first approach between bookstores, museums, and galleries by stating that in these building types the idea of prescriptive text is especially evident.

To understand the configuration of the spatial systems, is also a way of understanding the social discourses embedded in space. In this regard, he makes a distinction between prescriptive and descriptive texts, where the former comprises texts that inform how buildings should be (such as manuals, laws, and guides) and the latter inform how buildings are (essays, reviews, etc.) (Markus, 1993). In libraries, as in exhibitions, this idea of prescriptive text can be visibly addressed because in both cases the arrangement of books or artworks (either by format, by chronological period or by theme) materializes the thoughts and concepts that gave rise to it. However, it is recognized that the ways of exchanging knowledge in the two spaces are quite different, as the introduction to this work suggests when comparing the reading of a book, a much more passive activity, although also socially interactive, with the visitation of an exhibition (Bayer, 1961).

This proximity between libraries and museums, is also addressed in the book *Architecture and Narrative: The Formation of Space and Cultural Meaning* (Psarra, 2009). Among the various buildings analyzed in the book, these two typologies stand out precisely because they constitute spaces that structure the various ways in which learning can happen and meaning can materialize, as discussed in the analysis of the fictional building of the Library of Babel (by Jorge Luis Borges) or in the various museum buildings covered throughout

the book (such as the Natural History Museum, the Museum of Scotland and the Museum of Modern Art of New York).

Some authors call these buildings as "public learning spaces", which include public educational buildings (such as schools, libraries, research centers and museum galleries) (Capillé and Psarra, 2014), others as "social learning spaces" (Falk and Dierking, 1992), expanding this definition to aquariums and zoos, and others as "social infrastructure", whose buildings should be treated as "palaces for the people" (Klinenberg, 2018).

Regardless of the nomenclature, these spaces share a common challenge, which is to respond to the complex and often conflicting requirements of programming and functioning. For instance, that are libraries that have a strong and formal purpose of their programmatic typology, thus tending to an academic character, in contrast to those that intensifies the weakly and informal aspects of this typology, functioning as a community center (Capillé and Psarra, 2014). That is, while they need to "provide open and equal access to knowledge to the various categories of users" (Capillé and Psarra, 2014, p. 9), their functioning needs may restrict that access by conditioning the arrangement of space.

In libraries, as in exhibition spaces, there is also the idea of learning as a form of socialization, under which space plays a key role, and, reconciling these distinct demands may lead to a hybridization of the program organization (Capillé and Psarra, 2014; Hillier, 1996; Hillier and Hanson, 1984). Program, in this context, refers not only to activities in space (conventional definition) but also to the spatial definition of the social interfaces between people of an organization (i.e., the set of spaces that define the interface between doctors and patients in a hospital) (Hillier, 1996; Hillier and Hanson, 1984).

This notion of hybridization is particularly relevant to this research not only to approach the exhibition program (which mixes the exhibition of artistic artifacts with other uses and activities – such as cafe, bookstore, bar, restaurant, meeting, and rest spaces), but also for the characterization of the Bienal Pavilion (described as an open-plan building, but which at the same time has highly specific and iconic spaces, as discussed in section 3.2).

Finally, the studies in this section share a concern in terms of program organization, which involves both the way knowledge is spatially structured and how it can be apprehended by people, in their navigation and in the potential to generate unprogrammed encounters, aspects that, although observable in various building types, are particularly evident in museums, as discussed below.

3.1.3.2 Museums as narratives in space

> The degree of freedom in such a narrative is highly dependant on spatial configuration, as it sets limits to how it is possible to experience exposures and availabilities (what is seen, what is heard, what is encountered, what is reached). Such a series of spaces, one leading to the other, from entrance to exit, is a controlled narrative, where everyone is guided to "read" space in a specific order (Koch, 2007, p. 203).

The system of freedom and control of the movement of people in a building is related to the possibilities of understanding that users have about messages and meanings embedded in its configuration. Although, to a certain extent, this aspect is observed inside any building, in museum buildings the idea of space as part of the narrative "can hardly be questioned" (Koch 2007, p. 203), because in these buildings the sequence of spaces often corresponds to a sequence of themes, events or times, just like in a story.

These arguments relate to the ideas of Cobley (2001) and Ricoeur (1981) on sequence and configuration from a cinematographic and philosophical point of view, and Johansson (2003), in the field of architecture. Similar issues are addressed by Psarra (2009) in museums, galleries, temples, and pavilions, but also in literary works with a spatially constructed narrative, cases in which "social meaning passes through the morphological properties of the buildings themselves" (Psarra, 2009, p. 14).

The author links the notions of unambiguous and unconventional works that unfold in the ideas of 'closed works' and 'open works'[76], extracted from studies of modern art, literature and music developed by Eco (1989), to define two groups of buildings whose distinct spatial configurations also represents different types of narrative possibilities. A similar association is made by Carr (2001), also based on Eco's work, in the context of cultural institutions. The author suggests that museums, as well as libraries, are mind-producing systems, "a place for the construction of meanings ant their integration into one's knowledge and experience" (p. 173).

Psarra's ideas of closed and open works are illustrated in the following examples:

1) the Natural History Museum and the Museum of Scotland, as examples of closed works, that "are concerned with unambiguous semantic expression using the spatial properties to strengthen a representational geometric order and the content of the

[76] Where an open work and a closed work are characterized, respectively, by: "The former do not have a single definitive order but a multiplicity of ordering relations. The latter constrain the formal distribution of elements into as few organizing principles as possible. 'Open works' lay emphasis on a variety of interpretations. In contrast, works of the second kind channel interpretation into a particular direction. The first are unconventional, producing interpretation into a particular direction. The second communicate stable meanings" (Psarra, 2009, p. 229).

collection" (2009, p. 230), where the geometrical and spatial strategies used by curators and architects act in the direction of organize the cultural message and control all relations in order to restrict different interpretative stances or ambiguity engaging with narrative as a strong message;

2) the Soane's Museum and the Burrell Collection building, open works that "optimize the power of space to produce many connections among artworks, and avoid strong codes of signification, resisting a single interpretation (2009, p. 230). Those buildings create spatial discontinuities that resist consistency and coherence, allow different communicative channels to co-exist, "provoking an interpretative process rather than directing interpretation" (2009, p. 230).

These two groups of buildings (Figure 3.12) may be related to: the notions of fully open/fully close possibilities of movement (Hillier, 1996); the conservative and generative modes of space (Hillier, 2005; Hillier and Penn, 1991); the discussion on spatial types of museums by Hillier and Tzortzi (2006); and the deterministic, probabilistic, and spatially guided models of exploration and encounter of visitor in museum spaces (Choi, 1999; Wineman and Peponis, 2010). To some extent, all of those concepts are related to the issue of freedom and control of movement and occupation through buildings (Markus, 1993).

One of the first of these formulations was Hillier's (1996) 'fully open' and the 'fully close' possibilities of movement where the latter relates to a fast, objective, and linear movement through the spatial system (frequently constituted by spaces of passage/transition) and the former refers to a less deterministic, slow, and sinuous pattern of movement (characterized by spaces of occupation/permanence). The same author discusses a similar duality when reflecting on the ways that space and social activity are related, which led to the definition of two spatial modes, a 'conservative' and a 'generative' mode, where: the former embodies and reproduces consolidated social aspects and cultural patterns, and the later create possibilities for new relations (Hillier, 2005; Hillier and Penn, 1991).

These modes are also discussed by Psarra (2009), when reflecting on the relationship between narrative and recurrent spatial configurations, who summarized the conservative mode as one that "describes cultural meaning embedded in space to reproduce a cultural pattern" and the generative mode as one that "captures a rich potential of meaning generated by the spatial arrangement" (p. 13).

These ideas are further developed through the formulation of two possibilities of spatial types of museums and galleries according to their movement patterns, as proposed by Tzortzi and Hillier (2016). The authors argue that "at the level of the configuration it does seem possible to make generic suggestions about the nature of the museum/gallery as a spatial type, and how architecture can serve curatorial intent at this level" (p. 296). In this sense, they propose two possibilities of museum/gallery as a spatial type.

These possibilities suggest that a "museum/gallery as a spatial type is characterized in general by deep interconnected rings of space" (Hillier, Tzortzi, 2006, p. 298): 1) the single ring of space in which every visitor has to go through the same sequence of space in the same order; 2) the maximally connected grid, which tends to form a complex hard to understand and impossible to visit in an orderly sequence. In both cases, each space was represented as a node and the connections between spaces as an edge (Figure 30).

Two paradigmatic examples of museums that have spatial configurations similar to these possibilities are the The Guggenheim Museum (New York, USA), known for its continuous and unidirectional space that constitutes the conical volume and shapes the central void[77], and the Musée du Louvre (Paris, France), located in an 18th century palace characterized by multiple rows of rooms in sequence. These spatial types of museums/galleries from Hillier and Tzortzi (2006) can be associated to the group of buildings of the closed and open works group from Psarra (2009) (Figure 29), respectively – and also, to a certain extent, with the possibilities of movement (deterministic, probabilistic, and guided), and modes of space (conservative and generative) mentioned above (Choi, 1999; Hillier and Penn, 1991; Wineman and Peponis, 2010).

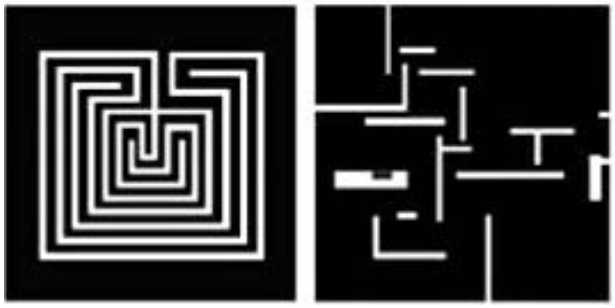


Figure 29. Closed and open works diagrams (Psarra, 2009).

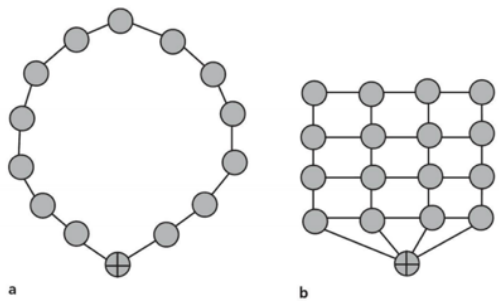


Figure 30. Spatial types of movement in museum/galleries (Hillier and Tzortzi, 2006).

[77] Although at each floor there is the possibility of taking the elevator and escaping the sequence of ramps.

These discussions can be associated with the work of Tzortzi (2007), who investigated the interaction between the building layout (layout of space) with the exhibition layout (or the layout of objects) through the study of apparently similar European museums pairs (Sainsbury Wing and Castelvecchio; Pompidou and Tate Modern; Kröller-Muller and Louisiana). The differences between the layout of space and objects and the movement of visitors describe the basic principles of spatial layout, display strategies and visiting patters variability and their combination allows distinguishing between "museums that intend to convey a pre-given meaning and reproduce information, and museums that aim at creating fields of possible meaning and producing a richer spatial structure" (Tzortzi, 2007, p. 4).

These possibilities are embedded in the morphology of exploration and encounters of visitors in museums (Choi, 1999). By analyzing eight art museums, the author proposes a deterministic and a probabilistic model for which the global effects of museum layouts operate, where the former "dictates viewing sequences and channels encounters in limited ways to control visitors' movement", spatially dictated movement, and the latter "modulates exploration and encounter statistically according to the syntactic properties of the layout", or spatially random movement (Choi, 1999, p. 249). Thus, by adjusting syntactic properties of the exhibition, "curators and designers alike can work with the layout to differentiate and yet control the possible experiences of visitors" (Choi, 1999, p. 249).

Wineman and Peponis (2010), in turn, propose the notion of 'spatially guided movement', based on studies of exhibition layouts in open-plan buildings, to describe a third structure of movement situated within the models of Choi (1999), which could also be situated in an intermediate position in relation to Psarra's (2009) open and closed works, the fully open/fully close notions (Hillier, 1996), and the single ring of the grid museum/gallery spatial types possibilities (Hillier and Tzortzi, 2006). Through the analysis of two itinerant science exhibitions in two different settings, links were established between the behavior patterns of visitors and spatial characteristics of access and visibility, whose patterns "construct a spatial discourse that flows in its own right, although not entirely separate from the curatorial message" (Wineman and Peponis, 2010, p. 86).

These notions also relate to the concepts of short and long models in the context of spatial building systems (Hillier and Penn, 1991), in which the number of rules that specify spatial relations and, consequently, allow the co-presence of randomness or restrict that randomness, constitute short or long descriptions that produces generative or conservative behaviors in terms of the social relations and knowledge they foster.

> The higher the proportion of possible spatial relations specified by the rules, and the more global those rules, the less the process has morphogenetic potential[78], and the more it will conserve the form given by the rules. Conversely, the lower the proportion of possible relations specified by rules, the greater the morphogenetic potential. More succinctly, we can say that short descriptions, or "short models" as we have to come to call them, inserted in random processes tend to morphogenesis, while long descriptions, or "long models", tend to conserve (Hillier and Penn, 1991, p. 25-26).

This relationship between the quantity and nature of the rules and the extent of the model is evident when one considers the distinction between inhabitants (i.e., who controls the spaces, who access the deeper spaces in the system) and visitors (i.e., who enters the domains controlled by the inhabitants, whose access is limited to the shallowest spaces), main difference between an elementary and a reverse building (Hillier and Hanson, 1984). This relationship tends to be reproduced even in more complex spatial systems, where "the inhabitant is in the deeper, often non-distributed parts of the building, and interfaces with the visitor through the shallower, often distributed parts of the building, that forms its principal circulation system" (Hillier and Hanson, 1984, p. 183-184). For example, in a commercial building, where staff stay inside the stores and receive customers, who arrive from outside through galleries, a situation that is frequently associated with short models.

However, when this relationship is inverted, that is, the circulation and occupation of visitors is restricted to the deepest spaces and that of inhabitants to the shallowest spaces, a reverse building situation is characterized, as in hospitals, asylums and prisons, buildings often associated to long models. Later, these ideas were summarized in the notions of strongly or weakly programmed building (Hillier, 1996), when the interface or interfaces of the former have a long model, and the interface or interfaces of the latter have a short model. In this context, programme means:

> The spatial dimension of an organization, and the key element in any programme in the interface, or the interfaces, that the building exists to construct. An 'interface' is a spatial relation between or among two broad categories of persons (or objects representing persons) that every building defines: inhabitants […]; and visitors (Hillier, 1996, p. 251).

It is important to highlight that the areas that will be subject of spatial analysis are those accessed by all categories of people (visitors and inhabitants), and used for the display of artworks, which together characterize the definition of exhibition spaces. In other words, the spatial configuration of the non-exhibition areas (such as the FBSP facilities, which are

[78] Morphogenetic potential in this context means the relationship between rules and randomness and how much their interaction produces not only known outcomes, but also new outcomes (e.g., the cell aggregation process, which is much higher when there are fewer rules, or less global rules, and more randomness).

located inside the Pavilhão Bienal) are not analyzed both for not being the purpose of this study and for the lack of information about these spaces for all cases.

However, this short model and long model, or weak and strong programme, discussion relates to the empirical object of this investigation in the sense that in the specific case of exhibitions the length or the strength of the spatial model the inhabitants are represented by the arrangement of the artworks. That is, through the premises of the curatorial projects that, together with the existing spatial configuration of the building, constitute a set of rules that restrict the randomness in the encounter between visitors and works.

Indeed, many syntactic studies about "the interaction between the two aspects of spatial layout: the layout of objects within spaces and the layout of the relations between spaces" (Hillier and Tzortzi, 2006, p. 296), their interdependence and their ability to shape the experience of the visitor, addressed issues related to the interaction between exhibition space, visitor experience and curatorial intentions.

Many of the themes that unfold from this major research question are, to some extent, related to this research, including: 1) the interplay between the narrative elements of the curatorship and the non-narrative elements of the building layout (Stavroulaki and Peponis, 2003); 2) the notions of promenade, exploration and wayfinding in the context of visitors experience and their relation to the spatial characteristics of museums and galleries (Psarra, 2005; Psarra et al., 2007; Psarra and Grajewski, 2000); 3) the interaction between building layout and display layout in museum buildings (Tzortzi, 2007a, 2007b); 4) how architectural and curatorial design strategies in museums constitute the spatial dimensions of galleries, where architecture functions as a curatorial device by analyzing how changes in spatial organization coincides with curatorial narratives (Zamani, 2009); 4) and the pedagogical functions of museum space through the analysis of three different stages of a same building (Zamani and Peponis, 2010).

However, the empirical objects they investigate are distinct from the object of this research in a very particular aspect, but of great relevance, which is the fact that these structures tend to be perennial, whereas the Bienal de São Paulo, although perennial in the history of art and as a building, it is ephemeral in space, since its exhibitions last about three months every two years, aspect that differentiates and motivates this investigation.

3.1.3.3 Exhibition spaces as specific networks

The discussion in the previous section raises the need to characterize exhibition networks considering what makes them distinct from museum buildings, for instance. In other words, it emphasizes the fact that a biennial is not a museum, neither in social terms (that is, in the aspects that characterize these institutions), nor in spatial terms (since the ephemerality and frequency with which they take place imprint another rhythm and configuration that can be spatially captured).

This phenomenon, which can be investigated in the BSP (which have not been studied from a configurational point of view), is particularly interesting to be approached precisely because of the overlap between the long existence of the event and its building and the ephemerality of its exhibitions. Such an overlap allows us to investigate how the building's spatial system is modified every two years to receive artifacts arranged under specific discourses, which can be enlightening both in terms of understanding the particularities of these exhibition layouts and the role of the building's layout in this structuring.

The characterization of the exhibition spaces takes as a starting point the argument that they are not necessarily complex networks (in the sense that they do not promote a strong classification of people and sometimes not even of uses), nor are they generic (since they cover demands and devise detailed exhibition arrangements). Therefore, it is suggested that these are specific networks, since their configuration results from the exhibition and articulation of very unique works and concepts.

The notion of specificity is based on the notion of site-specific defined in the artistic field to describe works conceived especially for a certain place and occasion (Kaye, 2000; Kwon, 1997). This notion has also been investigated in the field of architecture to address the relationship between art and architecture in galleries designed to house works by specific artists, which were called building-specific (Rangel, 2018). In this investigation, the author suggests that some art galleries, particularly those designed to house the work of a single artist, may constitute a particular type of building[79]. The object of this research are the art galleries of Inhotim, located in Brumadinho (Minas Gerais, Brazil), namely: the Adriana Varejão Gallery (TACOA Architects, 2008); the Miguel Rio Branco Gallery (Arquitetos Associados, 2010); and the Psicoativa Tunga Gallery (Rizoma, 2012).

[79] The expression building-specific was mentioned by the architect Rodrigo Cerviño, author of the Adriana Varejão Gallery, which, among the set of galleries analyzed, is the one that best illustrates the proposed definition (Rangel, 2018).

In this study, the author discusses not only the spatial properties of each building, but also the conceptual design processes involving architects, artists, and curators that can inform the specific dynamics of appreciation of the works of art in each gallery, which, in turn, are reflected in their spatial arrangement and exhibition narratives (Rangel, 2018). Such buildings are characterized by a relationship between architecture and art that is simultaneously interdependent and autonomous, because in the studied cases, the works of art are elements also capable of revealing and promoting architectural experiences.

These specific relationships can be summarized in the way each gallery was designed to house the work of a single artist, not only from a visual and symbolic perspective, but also from a configurational point of view, as, for example, in the idea of the passage-building that characterizes the Adriana Varejão Gallery (whose sequence of spaces seeks not to interrupt the sequence of the artworks) or in the physical integration with the nature of the Psicoativa Tunga Gallery (which refers to the theme explored in the artist's own works). The author also considered the spatiality of the works, classifying them between surface works (that is, which are supported by the barriers defined by the building's configuration) and partition works, which also constitutes an element of spatial structuring[80]. The case of the Inhotim galleries, however, is quite exceptional, as each building was designed not only to house a specific collection, but also whose works of art are authored by the same artists.

In other configurational studies of museums and galleries, in turn, it is possible to identify a similar concern with the interplay between the perennial layout of the building and the ephemeral layout of things. Many of these studies, however, studied cases whose exhibition layout was strongly defined by the spatial configuration of the building. That is, the building's barrier and permeability system, often formed by rooms in sequence, already had a sufficiently defined structure both to support the artworks (i.e., the walls of a room) and to classify them (from the existing arrangement between rooms).

This is the case of the Sainsbury Wing (London) and the Castelvecchio Art Museum, in Verona, Italy, studied by several authors (Stavroulaki and Peponis, 2003; Tzortzi, 2004). As well as the aforementioned Tate Gallery and the Natural History Museum (Hillier et al., 1996; Peponis and Hedin, 1982), buildings that were often not designed, but adapted, for this purpose (Figure 31).

[80] Very enlightening notions for the investigation of the case in question but which, in principle, will not be used since the number of works in each BSP is very high and the information about the works, especially in older cases, is insufficient to establish such a differentiation – but that can be used in future investigations on specific and more recent cases.

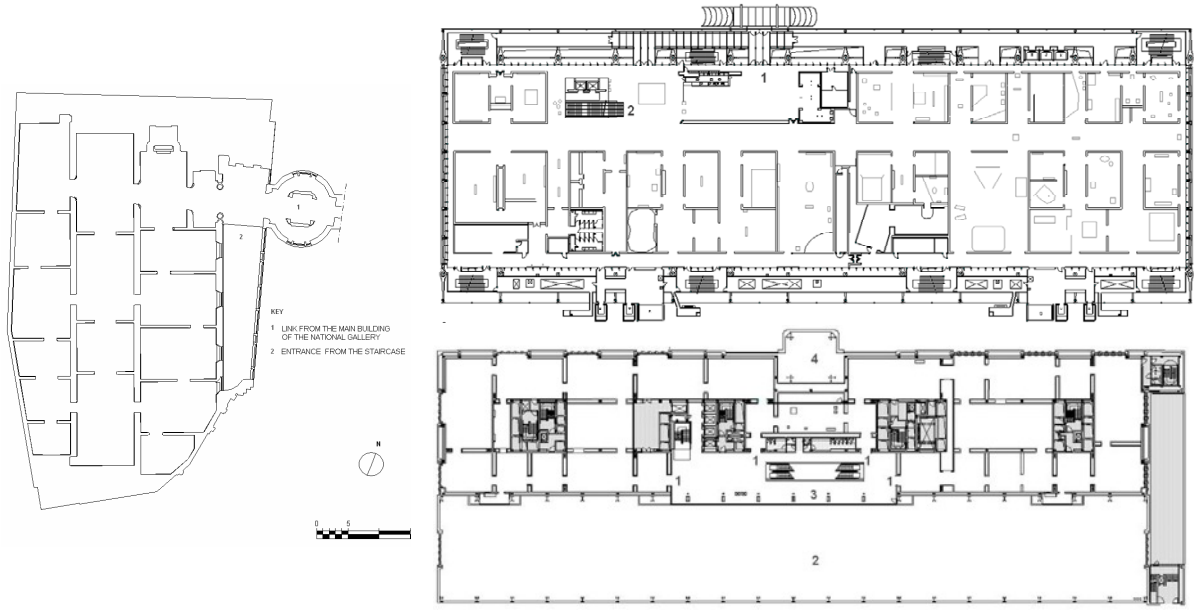


Figure 31. The Sainsbury Wing (left), Centre Georges Pompidou (top), and Tate Modern (bottom) plans (Tzortzi, 2007).

Other studies have addressed museum buildings with complex structures that constrain and channel movement choices and movement paths in various ways (Choi, 1999; Dalton, 2003; Turner et al., 2001). Some open-plan buildings are also objects of configurational studies. These, however, despite presenting particularities that are not addressed, are minor and relatively simple (Peponis et al., 2004, 2003). In other cases, the distinction between the original structure of the building and the partition added by the exhibitions is not relevant or possible to determine, as it seems to be the case of studies on the Centre Georges Pompidou (Paris) and the Tate Modern (London) (Tzortzi, 2007).

This last case, in turn, present a very interesting and apparently increasingly common element in contemporary museum buildings, which is the coexistence of areas intended for ephemeral and perennial (or short and long-term) exhibitions – that are distinguished not only functionally, but mainly spatially. In the case of the Tate Modern, this distinction is spatially expressed in the coexistence between open-plan areas (as is the case of the old turbine hall), with areas that are more clearly spatially constituted, such as the rooms that develop along the three floors adjacent to the void of the turbine hall.

This spatial distinction also allows these buildings to receive different exhibitions, not only for their duration, but for the artistic formats they can support. However, each of these areas seems to require a different approach in terms of spatial description, as in one of them (in those more closed) the building layout seems to largely define the exhibition

layout, whereas in the other (in the more open areas), this layout seems to be largely defined by the layout of the exhibition and their objects (i.e., the one that is applied over the underlying building).

In this context, all these cases seem to share a common concern, which is the fact that they are constituted by different (and sometimes simultaneous) types of spatial networks, a pre-existing one (which can be more complex or more generic) and another that is introduced (generally quite specific). In this case, the term specific seems to better describe the main element that characterizes these networks, since the complex term (also frequently used in configurational studies of buildings, as discussed in the literature review on space and things, 3.2.3) also comprises the classification of people (an aspect that has less impact, compared to the classification of things, in the configuration of exhibitions).

Therefore, this notion of specificity, is particularly enlightening for the understanding of the Bienal de São Paulo, not only from the point of view of the configuration of its exhibitions, but also of its building, which, despite being often described as an open-plan building, seems to bring together several of the characteristics of the cases discussed above.

* * *

The discussion of the Bienal de São Paulo as a set of exhibitions (section 3.1) sought to provide an overview of the event through the presentation of its organization and classification systems. Such systems, in turn, contribute to characterizing their prescriptive text (Markus, 1993), which embed the social practices and meanings they materialize. Such meanings can be summarized in the ideas of modernity and progress, the reinforcement of national identities, and, more recently, the formulation of curatorial discourses detached from a geopolitical vision and engaged with global themes of contemporary society. On the other hand, morphological studies of buildings that, to a certain extent, share similar issues, contribute to the identification of principles that allow addressing how such ideas, values, and discourses can be spatially constructed and analyzed – by drawing attention to types of movement, and spatial modes and models that interact in the possibilities of communicating such messages. However, in the case of BSP, it is argued that the underlying structure also plays a key role in such structuring that cannot be neglected, object of investigation in the following section.

3.2 Buildings as spatial commodities

This section discusses the idea of buildings as spatial commodities, that is, used as architectural resources, or transformed into such, for the structuring of exhibitions, in light of the buildings that housed the Bienal de São Paulo exhibitions, particularly the Pavilhão Bienal (which hosts the event since its fourth edition, in 1957). Similar to the previous section, such discussion begins with an example also taken from a BSP exhibition that illustrates at various levels the main points of this discussion.

At BSP 33 (2018) the artist Bruno Moreschi, with the support of Gabriel Pereira (collaborating scientist and researcher), displayed a series of images that consisted of photographs from previous BSP exhibitions collected in the Arquivo Histórico Wanda Svevo/FBSP after subjected to artificial intelligence readings (FBSP, 2018a) (Figure 32).



Figure 32. *Outra 33 Bienal de São Paulo*, Bruno Moreschi and Gabriel Pereira (AHWS/FBSP).

The algorithm that processed the images is similar to the one used for the production of fake news and the resulting interferences were problematized by the artist, who, with this intervention, sought to build an alternative archive of the Bienal de São Paulo, a work he called of Another 33rd Bienal de São Paulo (FBSP, 2018a). One of these images is of particular interest to this discussion, as it shows the space known as the central void (probably the most iconic of the pavilion) during BSP 32 (2016). In the image, in addition to the work *Dois pesos, duas medidas* by Lais Myrrha, there are several people leaning on balconies, looking at each other and at the works on display.

AI-generated interferences described this space as "a large room with a lot of people" and associated it with museum (66%), retail (61%) shopping (59%) and outlet (52%) spaces. On the one hand, these similarities may seem obvious, since many commercial spaces are characterized by the existence of both atriums and people walking and standing around them (Saxon, 1994). On the other hand, they awaken to the understanding of which social and spatial attributes that buildings for cultural and commercial use (that house exhibition spaces) have in common, in general and in the specific context of the Bienal de São Paulo.

Therefore, while the previous section sought to discuss the different curatorial discourses that characterize the Bienal de São Paulo exhibitions and how these can be addressed configurationally, this section seeks to understand the role of the building in the structuring of such discourses. Such a role was associated with the notion of commodity, both in its strict sense (as a primary good that has an exchange value) and in its expanded sense (where any good or service can be commodified, that is, an exchange value is assigned that outweighs its use value) (Appadurai, 1994, 1988; Shepherd, 2002).

In this context, these aspects are addressed according to three axes: The first three Bienal de São Paulo pavilions (1951-1955) (3.2.1) – which discusses the buildings that housed the first three BSP exhibitions; The Palace of the Industries (Pavilhão Bienal (1954-2018) (3.2.2) – which focuses on the buildings that housed most of the BSP exhibitions held to date (BSP 4-34); On space and things (3.2.3) – which discusses the mechanisms through which buildings can foster the exchange between people and things.

3.2.1 The first three Bienal de São Paulo pavilions (1951-1955)

In 2008, the curator of BSP 30, Luis Pérez-Oramas, stated that "the destiny of the Bienal de São Paulo was to find a place between a market, an art fair and a museum"[81]. In this sense, the curator and his team sought to select works by artists who neither participate in the commercial circuit nor entered the museum system. In other words, the curatorial discourse of this specific edition mediated between languages and artists associated with both a popular an erudite sphere, suggesting that these are antagonistic categories. Although this passage refers to the Bienal de São Paulo as an event, it also helps to describes the environment that surrounded the architectural design of the pavilions that housed the Bienal de São Paulo exhibitions, particularly the Pavilhão Ciccillo Matarazzo, known as Pavilhão Bienal, specific object of this study.

At first, the term Bienal de São Paulo refers to a contemporary art event held every two years, something that has become increasingly common throughout the world (Filipovic et al., 2010; Gardner and Green, 2016; Jones, 2016). However, a diachronic study of its history, especially from a spatial perspective, allowed to identify a particular condition that differentiates it from other events of a similar nature, which is the fact that the same building, the Palace of Industries, has hosted these exhibitions since 1957. However, before discussing this specific building, the first three buildings that housed the first three biennials are presented and discussed for documentation and to introduce the main purpose of this discussion.

In this context, this topic presents the architectural commodities of the Bienal de São Paulo, that is, the buildings that housed their exhibitions, especially the Pavilhão Ciccillo Matarazzo (originally called Palace of Industries and known as Pavilhão Bienal), and highlights the spatial elements from which networks of exchanges between things and people are structured. Although the emphasis is on a single building, the expression is used in the plural as a way of describing the fact that this same building in fact acquires different configurations throughout the years – not only those introduced by the exhibitions, but also its own, which has changed slightly in these more than six decades (as introduced in this section and analyzed in detail in Chapter 5).

[81] In an interview with Marcos Grinspum Ferraz and Fabio Cipriano on the occasion of the opening of the event (Pérez-Oramas as citted in Cypriano and Grinspum Ferraz, 2012).

3.2.1.1 The Trianon Pavilion (BSP 1, 1951)

> The venue of the International Art Exhibition of the City of Venice was the Giardini di Castello, partially fenced and fitted out by renovating some existing buildings to host the exhibition's first building, known as the Palazzo Pro Arte, Palazzo Internazionale, Palazzo Centrale and Padiglione Italia (Mulazzani, 2014, p. 8).

The creation of the Bienal de São Paulo as an event is accompanied by the design of a building to house it (Sombra, 2016). This is another fact that brings the Brazilian case closer to the Venice Biennale, which is the construction of pavilions, that in the Italian case were dedicated to specific nations (Mulazzani, 2014), whereas in the Brazilian case this nationalist spirit was expressed in the classification of artworks in a single building. However, except for the temporary pavilion that housed BSP 1, the other pavilions of the Bienal de São Paulo had a more perennial character when compared to the pavilions of the Italian case (since the pavilions that housed BSP 2 and 3, which are discussed in the next section, still exist, although being used for other purposes)[82].

The temporary pavilion that housed BSP 1[83], designed by the architects Luís Saia and Eduardo Kneese de Mello in 1951, was located adjacent to Mirante 9 de Julho, a public square and observatory at the Esplanada do Trianon, and became known as Pavilhão Trianon (Figure 33). The site is the current headquarters of the Museu de Arte de São Paulo (Masp), designed by Lina bo Bardi in 1957, built in 1968, and both projects share interesting similarities, as discussed by Sombra (2016). His publication includes a memorial on the preliminary design of the pavilion, which brings together important elements for its spatial discussion (mentioned in Chapter 2 in the BSP 1 example).



Figure 33. Pavilhão Trianon – BSP 1 (1951) (AHWS/FBSP).

[82] The Fundação Bienal de São Paulo made a brief discussion of these three buildings in: https://bienal.org.br/post/404
[83] Demolished one year after the event (Sombra, 2016).

These elements are: the long circulation facing Avenida Paulista, the proximity between the entrance and exit, passing through the goalkeeper; the independent entrance and exit of the auditorium, in addition to an internal access; toilets, waiting rooms distributed at specific points of the building; support facilities (such as kitchen, restaurant, secretariat and warehouses) located on the lower floor (Saia apud Sombra, 2016) – according to plans presented in chapter 2.

The street level floor, a free span of 28 meters with a ceiling height of 4 meters, was described as a space of freedom, but which can also be exhausting: "freedom in this sense, is complete. As the area is large and can be tiring for the visitor, two resting spots were envisaged, in addition to a chat room, for latter with a window facing the city landscape" (Saia, 1951, apud Sombra, 2016).

This last observation can be related to the potential that the building offers for the design of exhibitions (since the architect mentions this as a facility for installing panels and arranging sculptures in space) and to the anticipation by its architects of possible routes to be taken by visitors, which were equipped with facilities. In this context, even though this pavilion is described as an open plan building, its architecture still incorporates elements that interact with the design of these exhibitions.

3.2.1.2 The Palace of States and Palace of Nations (BSP 2 and 3, 1953-1955)

In contrast to its first building, the following pavilions of the BSP were built to last. All of them are situated in the Parque Ibirapuera, a complex composed of green areas and cultural pavilions built on the occasion of the 400th anniversary of the city of São Paulo (Cury, 2016), celebrated in 1953[84]. The various buildings that make up the complex of the Parque Ibirapuera are the Palace of States (that housed the BSP 2), Palace of Nations (that housed BSP 2 and 3, in 1953 and 1955, which today houses the Museu Afrobrasil) and the Palace of Industries (latter called Pavilhão Ciccillo Matarazzo) (Figure 34).

If the nomenclature palace can be understood as a reference to the pavilions that housed the Universal Exhibitions, the imagery that permeated the design of the Parque Ibirapuera seems to be another reference to the Venice Biennale, both with regard to the idea of pavilions arranged in a garden, as well as in the ideas of national identity, modernity, monumentality and progress embedded in its buildings (Curi, 2018; Cury, 2016).



Figure 34. Palace of the States (BSP 2) and Palace of the Nations (BSP 2-3) (AHWS/FBSP).

[84] Whose construction was also raised political disputes and social conflicts in the local context (Barone, 2009).

Another aspect of the Parque Ibirapuera and its architectural ensemble are the ideas of functionalism and sectorization, where "the park, together with its architectural complex designed by Oscar Niemeyer and his team, was divided functionally into various 'islands' over the years" (Curi, 2018b), that are connected through an extensive and curvaceous sunroom, probably its most iconic element. The park and its buildings are an icon of the city of São Paulo, which marks "the capital's entry to the modern industrialized world" (Curi, 2018, p. 21) (Figure 35).

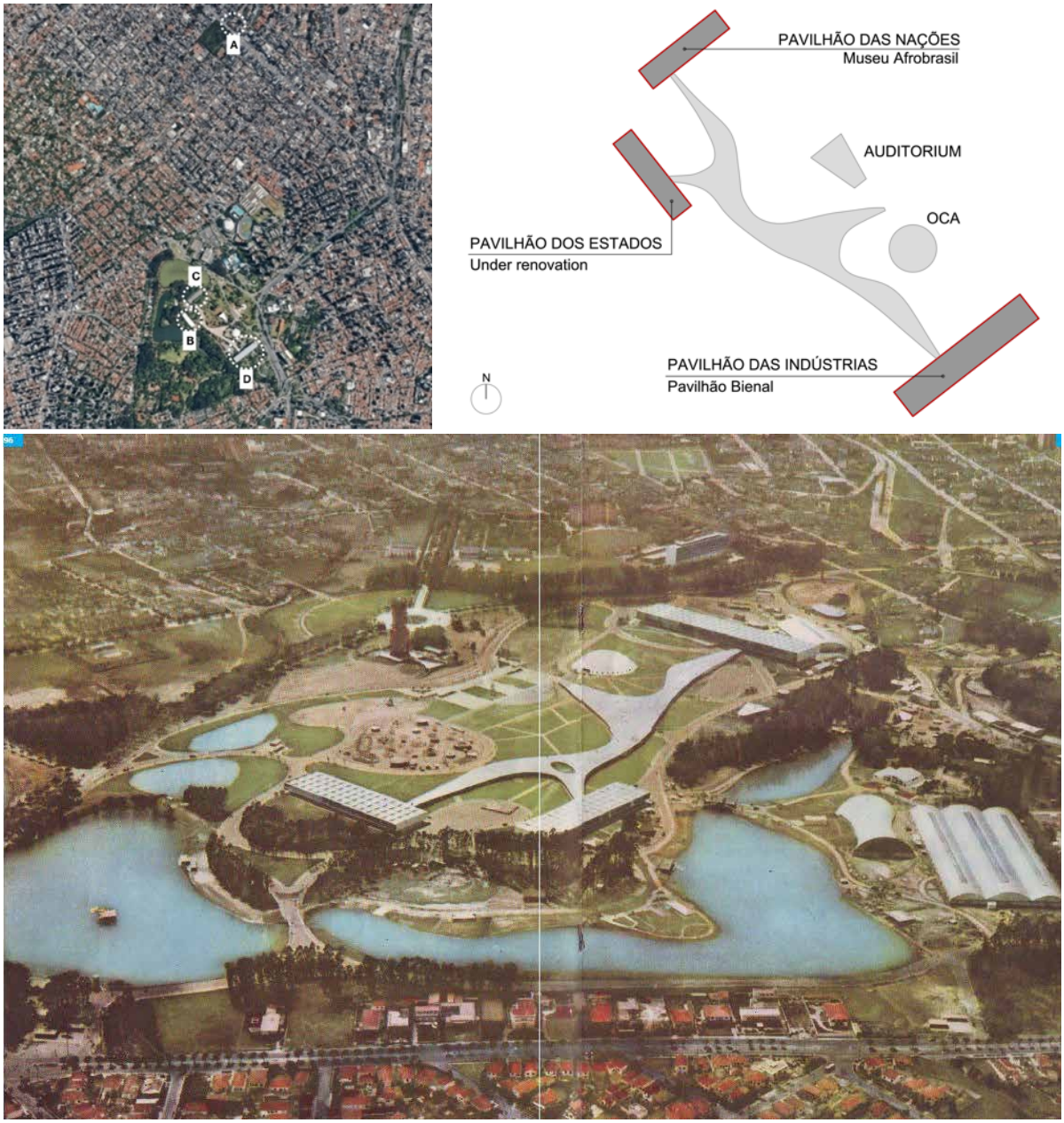


Figure 35. Location and identification of the pavilions: A) Pavilhão Trianon (BSP 1); B, C, D) Parque Ibirapuera – Palace of States (BSP 2), Palace of Nations, (BSP 2-3) and Palace of Industries (BSP 4-33). Parque Ibirapuera in 1954 (bottom) (author's illustrations and Revista Manchete).

Although the scale and spatial configuration of the Palace of States and the Palace of Nations are quite different from the first pavilion, some architectural premises of the Bienal de São Paulo seem to have been announced since the first building, such as: a longitudinal bar-shaped building with two floors, open plan, high ceilings and flat surfaces. However, the architecture of these two new pavilions introduces some spatial elements that are also expressive in the design of the Pavilhão Bienal, which are the wide ramps, voids, double height ceilings and a robust structure, key to the development of its exhibitions.

BSP 2, known as *Bienal da Guernica*, was the only edition to occupy both buildings, the newly opened Palace of States and Palace of Nations. BSP 3, in turn, returns to occupy only the Palace of Nations. In this context, the pavilions of BSP 2 and 3 are discussed in conjunction with the plans of their exhibitions which, unlike the exhibitions held in the Pavilhão Bienal, were not separated from the plans of their buildings in the redrawing process (discussed in chapter 4) – since these cases are not part of the analytical framework of this research.

Both pavilions have two floors, a structural module measuring 10x10 meters and approximately 150 (length) x 40 meters (depth). Bathrooms, support spaces and vertical circulation are concentrated at ends of each floor and a wide ramp surrounded by a void in the central area of both buildings. With respect to the exhibitions held in these buildings, the classification of artworks in BSP 2 and 3 (1953 and 1955) was based on the same system of national representations (NR), as in BSP 1, whose contents were distributed in the buildings as shown in Table 4 and Figure 36.

BSP	Pavilion	Floor	Sector
2	Palace of States	1	Brazil and United States
		2	Canada, Central and South America, Architecture Biennial
2	Palace of Nations	1	France, Italy, and Picasso special room
		2	European and Asian countries
3	Palace of Nations	1	Brazil, Belgium, and Germany
		2	Central and South American, Asian, and European countries

Table 4. Distribution of National Representations along the Palace of the States and the Palace of the Nations in 2 and 3 BSP (1953 and 1955).

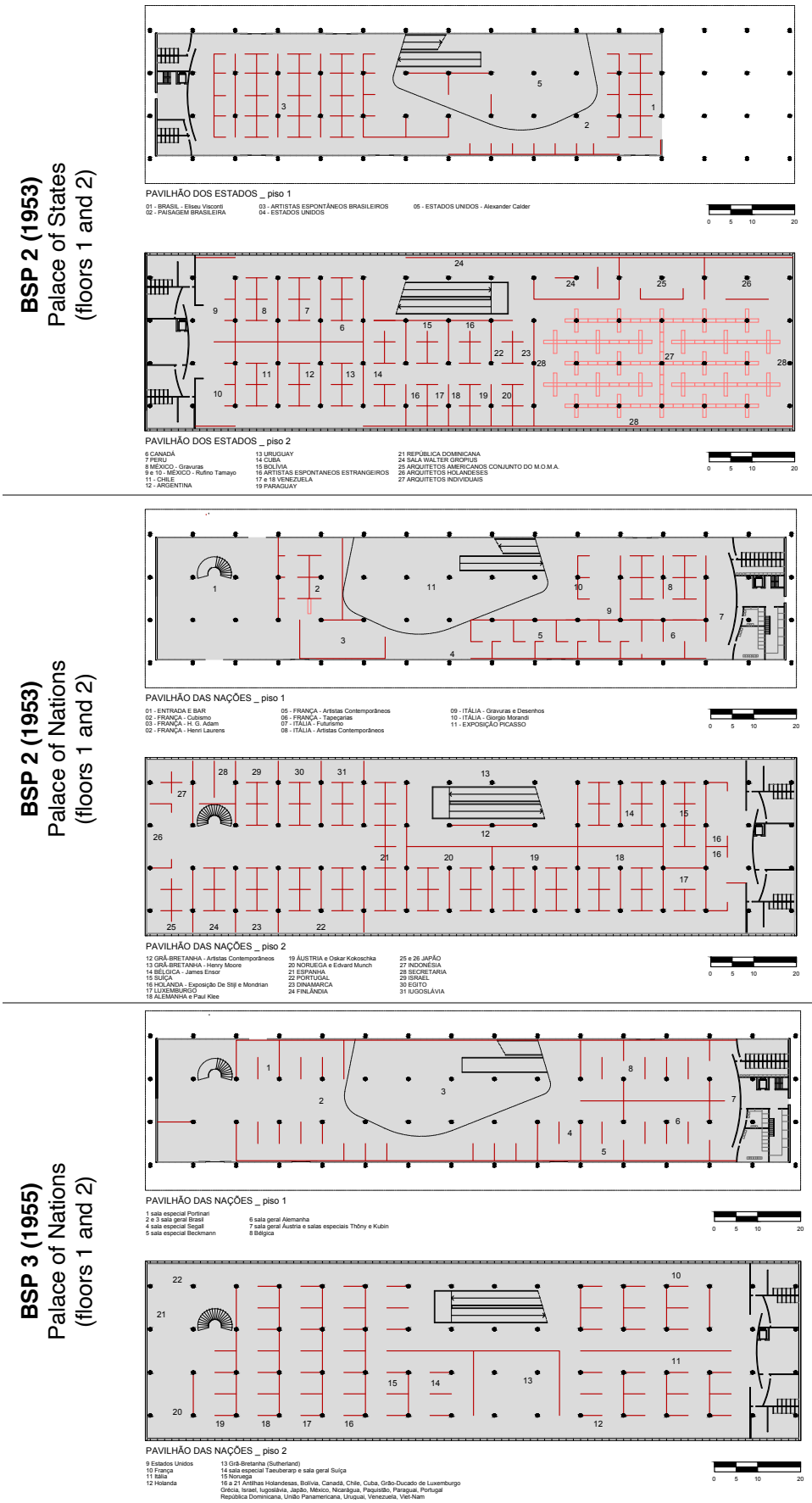


Figure 36. Palace of States during the BSP 2 and Palace of Nations during BSP 2 and 3.

Reflections such as those raised in the discussion of BSP 1 and the Pavilhão Trianon (chapter 2) can also be made for these cases, such as: what are the main elements of the building and how they interfere in the spatialization of the artworks' classification? Which sectors of the exhibitions were placed close to key elements of the spatial configuration? Which are the most distant? Which sectors of the pavilions are more restrictive to occupation? Which ones are more flexible? How were these areas occupied and how people can navigate through them?

A quick comparison between the Palace of Nations in BSP 2 and 3 may shed light on some of these questions. For example, while the occupation of the first floor of the Palace of Nations in BSP 2 defined a slightly more labyrinthine route, in both cases the stairs, the ramp, and the central void were fundamental for structuring the exhibition layout. In BSP 2, the void area on the first floor hosted the Picasso special room (hence its nickname of the *Bienal da Guernica*). Also on this same floor, in both cases the area adjacent to the access to the restrooms, elevator, and facilities was also dedicated to the special rooms Futurism (Italy), and Thôny and Kubin (Austria), in BSP 2 and 3, respectively.

Similar observations can be made in relation to the second floor, which in BSP 3 introduced a central corridor that breaks with the labyrinthine mesh of the same floor in the previous edition. However, the ramp, the stairs, as well as the accesses to the restrooms and elevator are strategic interface points for understanding the overall structure of the layout. The Brazilian rooms (general and special), arguably a much-awaited sector of the exhibition, were also arranged at the beginning of the circuit in both cases, although in different buildings, Palace of States in BSP 2, and Palace of Nations in BSP 3.

Therefore, the observations raised in the discussion of BSP in chapter 2 seem to persist and gain consistency when elaborated in comparison to the BSP 2 and 3 and their buildings. However, there is a need to develop a methodology that can support this discussion in a structured way, based on the description of the spatial configuration of the building and its exhibitions. This spatial approach, in turn, can shed light on how and why these works were arranged in space, something that can be discussed more robustly in the Pavilhão Bienal and in its dozens of exhibitions, described below.

3.2.2 The Palace of Industries (Pavilhão Bienal, 1957-2018)

The Palace of Industries, original name given to the Pavilhão Bienal, was initially designed to house industrial exhibitions[85], in the context of the 400th anniversary of the city of São Paulo. Although this building still houses not only the Bienal de São Paulo event, but also other events and exhibitions over the years[86], several considerations can be made both in relation to the aspects that preceded its construction and that marked its initial stages, as well as what concerns its architecture and its transformations. The discussion of these aspects is divided into social antecedents, which contextualizes the design of the building and discusses its first version (3.2.2.1); and brief architectural characterization, which presents the second design version and the built versions (3.2.2.2).

3.2.2.1 Social antecedents and the first version of the building

The Crystal Palace[87] is highlighted by Markus (1993) as the responsible for modeling "the processes of material production and exchange by removing them from their *habitat* and enclosing them in a vast glass showcase (p. 249). The same building is mentioned by Birnbaum and Wallenstein (2019) in the context of a discussion about how:

> a visual culture emerges in which the juxtaposition of commodities and artworks generates an immersive experience of modernity. Commercial artifacts and artworks henceforth exist in the same space, not just in order to overthrow or reevaluate values – to elevate industrial objects as art, or bring artworks from their pedestals-but also, and more importantly, to show the dimension out of which they both emerge, and to invest their common radiance and power with a magical quality (Birnbaum and Wallenstein, 2019, p. 30).

This juxtaposition between art and industry is evident in the Pavilhão Ciccillo Matarazzo when considering the first exhibition that this pavilion received, in 1954, when the Parque Ibirapuera was inaugurated. The Palace of Industries, as it was called in 1954, has been the home of the Bienal de São Paulo since 1957, and may represent for the city of São Paulo what these universal exhibitions represented for their respective capitals. Named as Pavilhão Ciccillo Matarazzo after the death of the FBSP director, the building is the largest of the park's pavilions, all of them connected by a huge and iconic marquee that is the symbol of Ibirapuera.

---

85 Since the artistic exhibitions would be held in the Palaces of States and Palace of Nations, as happened in 1953 and 1955.
86 Like the São Paulo Fashion Week and the SP Arte (an art trade fair).
87 Which held the London universal exhibition in 1851. The same authors also mention similar exhibitions, such as the New York (Exhibition of the Industry of All Nations, 1853), Dublin (Great Industrial Exhibition, 1853) and Paris (Exposition Universelle, 1867).

The idea of commodity as a resource that embeds exchange value can be also associated with the striking architectural characteristics of the Pavilhão Bienal which "has hosted the event to the point of being its trademark" (Farias, 2001, p. 28). It was precisely this (con)fusion between event and building that motivated the development of this study.

The building, a 250x50 meters parallelepiped, four floors, ceilings of almost 4 meters high and 35,000 square meters has already been compared to an aircraft carrier and a ship, because "over the 250 meters of extension of the building, the terrain drops by 2 meters and the large volume accuses this step as if detaching itself from the ground, as if floating" (Farias, 2001, p. 28). This is one of the reasons, together with the role the pavilion played in the urban culture at the local and national scales, why this building can also be approached from studies on urban spaces (as discussed in the next section).

Although some authors affirm that the buildings were "designed with no clearly defined use after the festivities that gave rise to them" (Curi, 2018b) [88], and the flexible space of the buildings, in a way, reinforce this argument, the building name and architecture raises a reflection on its precedents with respect to this relation on industry and art[89].

Designed by Oscar Niemeyer and his team[90], on the occasion of its inauguration the pavilion was published in the magazines *Acrópole*, *Módulo*, *Revista Brasil Arquitetura Contemporânea* and in the book *Modern Architeecture in Brazil* (Mindlin, 1956). One of these publications (Revista Acrópole, 1954), presents a record not only of the building as it appeared at the time (1954), but of the exhibition that it hosted in the celebrations of the IV Centenary of the city of São Paulo (known as the IV Centenary Biennial). Items on display included sophisticated artifacts, such as tapestries, furniture, chandeliers, glass mosaics, and raw building materials and items from the metallurgical industry.

In Figure 37, the Palace of Industries, as built in 1954, is occupied by rooms that bring together the main artifacts manufactured nationally, among carpets, mosaics, tiles, bricks, and furniture. These images bring the two most iconic spaces of the building, which are the curved void and ramp, where it is possible to have an overview of the displays, which generally did not reach the ceiling, and whose path was marked by signs.

[88] The celebrations of the 400 years of the city of São Paulo.
[89] And registered as the Armando de Arruda Pereira pavilion, a Brazilian engineer and politician who died in 1955, years before the inauguration of the building. Later, his name is used to designate the Palace of States (http://www.bienal.org.br/post/404).
[90] Zenon Lotufo, Eduardo Kneese de Melo and Helio Uchoa, according to Villela (2019).

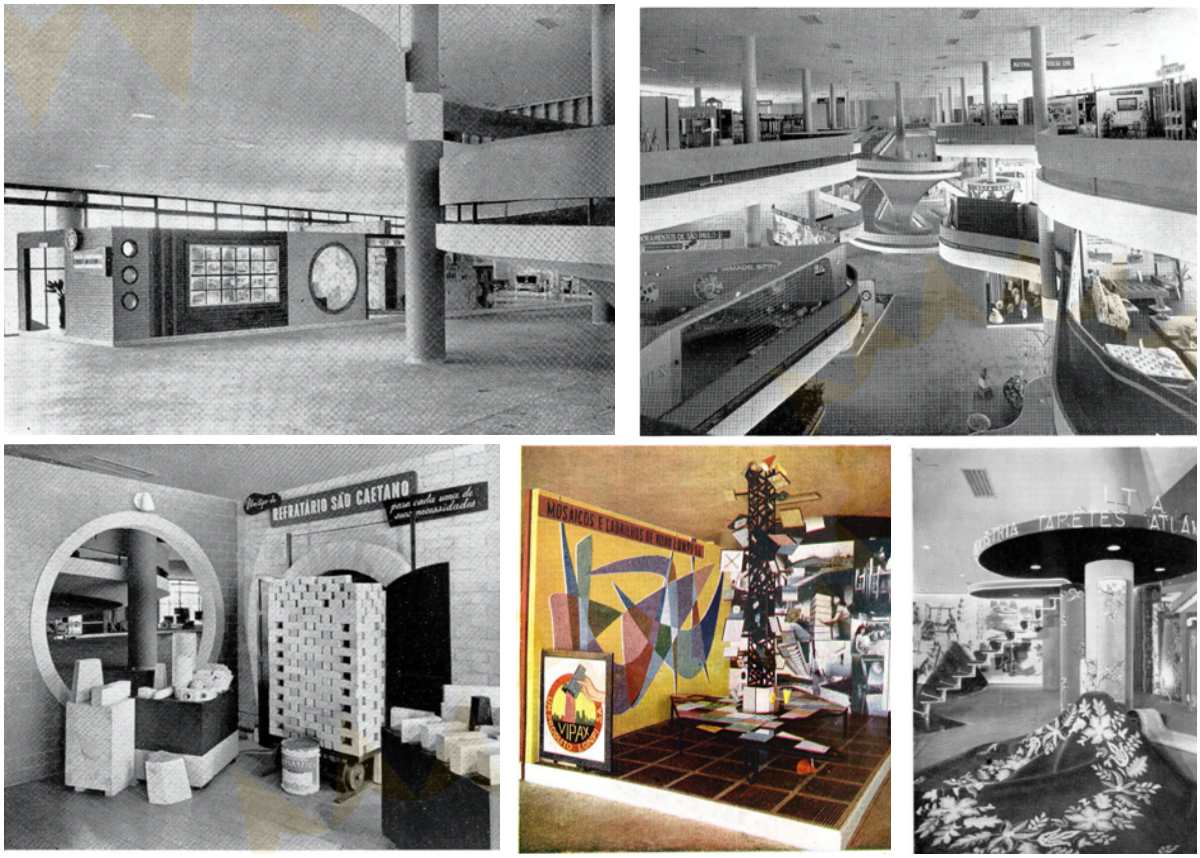


Figure 37. Palace of Industries (Pavilhão Bienal) during the IV Centenary Exhibition (1954) (Revista Acrópole, 1954, n. 193).

However, Palace of Industries, went through two previous versions before reaching its final version (Figure 38). Although the understanding of the spatial configuration of the Pavilhão Bienal is addressed in the studies developed throughout chapter 5, a brief architectural characterization is necessary at this point. The first version of the building is quite distinct from the built version, and for this reason it is discussed in this topic, as part of the background that preceded the construction of the building. The second version is very similar to the one that was built, so it is presented along with the architectural characterization of the pavilion, in the following section. They all date from 1954.

The first version of the pavilion had more than 43 thousand square meters, with almost 39 thousand for exhibition areas (Fraga, 2006). In fact, it is not just this pavilion that is altered in the process of designing the Parque Ibiprapuera, but several aspects of the other buildings in the complex, as well as the design of the marquee that connects them (Fraga, 2006). This first version was characterized by an extruded elliptical section that formed a volume with three floors, which resembles the Fábrica Duchen building[91].

[91] Built in São Paulo in 1950 (Fundação Oscar Niemeyer, n.d.)

In its drawings it is possible to note that the entire building had been slightly lowered in relation to the ground level, making it possible for the visitor to access it from a ramp that would lead to the first or second floor. All floors had the same height, with the exception of the third floor, which, in addition to being higher (due to the building geometry), had zenith lighting (Fraga, 2006). The visual connection between floors, despite being present in three points of the building (in the two voids and in the ramp) seems to be much smaller than that achieved in its two subsequent versions.

It is interesting to note that, despite being intended for exhibitions, all these pavilions are not included in studies on the architecture of Niemeyer's museums, which, similar to these pavilions, has a very simple program, often characterized as having a secondary role in relation to formal and structural issues (Gonçalves, 2010).

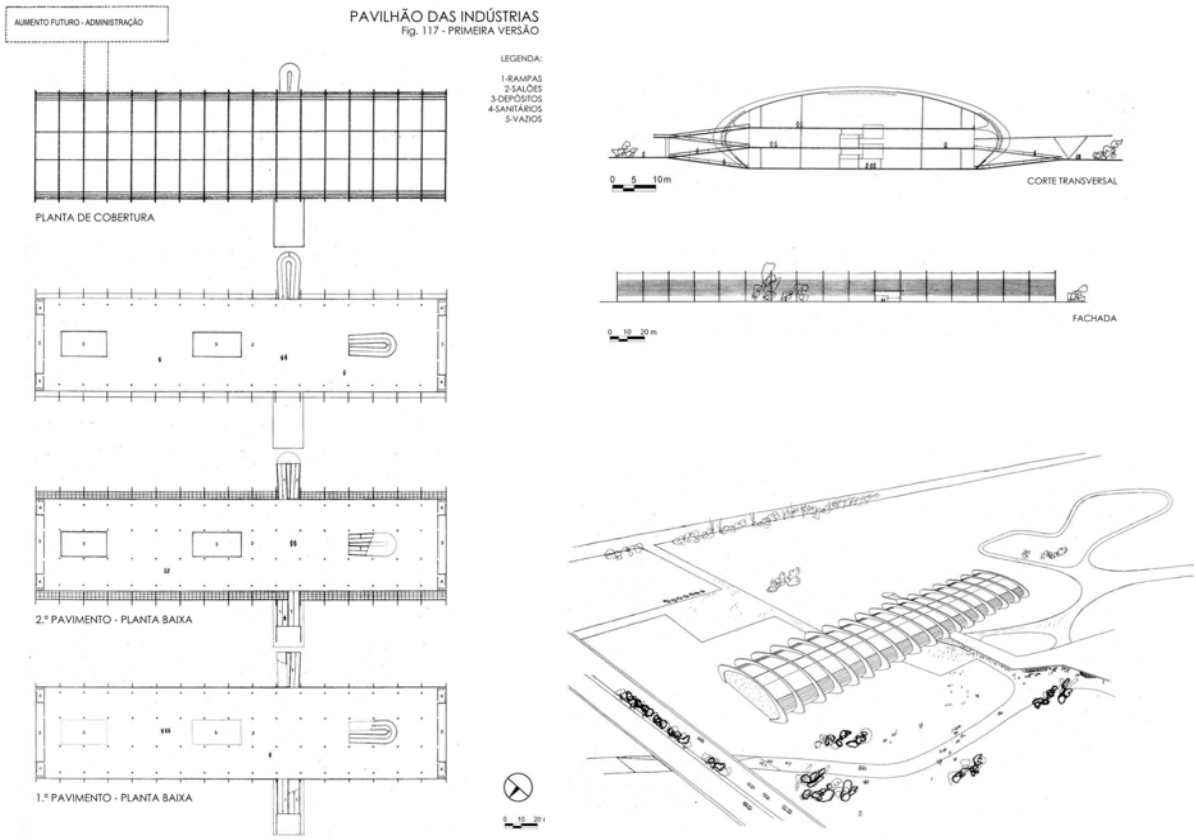


Figure 38. First version of the Palace of Industries (Fraga, 2006).

3.2.2.2 Brief architectural characterization of the second version and the built version

Although quite distinct in volumetric terms, some of the elements that make up the Pavilhão Bienal were already present in this first proposal, such as the internal and external ramps, the existence of atriums and the positioning of the bathrooms at the edges of floors. The way these elements are arranged with each other is also maintained, to some extent, in its following versions (Figures 39, 40, 41 and 42).

The second version of the building is very close to its built version. It is taken as a reference for understanding the spatial configuration of the built version in chapter 5. However, it should be noted that the main changes in this second version in relation to the first are also maintained by the built version. These last two versions now have four floors contained in a 500x50 meters prism. The study of Fraga (2006), however, does not present the plans of this intermediate version of the building, only its textual description, which summarizes the second version as equivalent to the built version with some alterations.

During the investigation, the plans of this second version were found in Mindlin (1956) and redrawn by the author (just as all the plans of the BSP exhibitions and their equivalent buildings were redrawn, as discussed in Chapter 4). Through these plans, it can be observed that the main differences between them are the increase in the closed area on the first floor (which in the second version constituted a covered terrace); suppression of the void between floors 3 and 4 and the addition of an auditorium, also on the fourth floor.



Figure 39. Parque Ibirapuera and Pavilhão Ciccillo Matarazzo (Pavilhão Bienal).

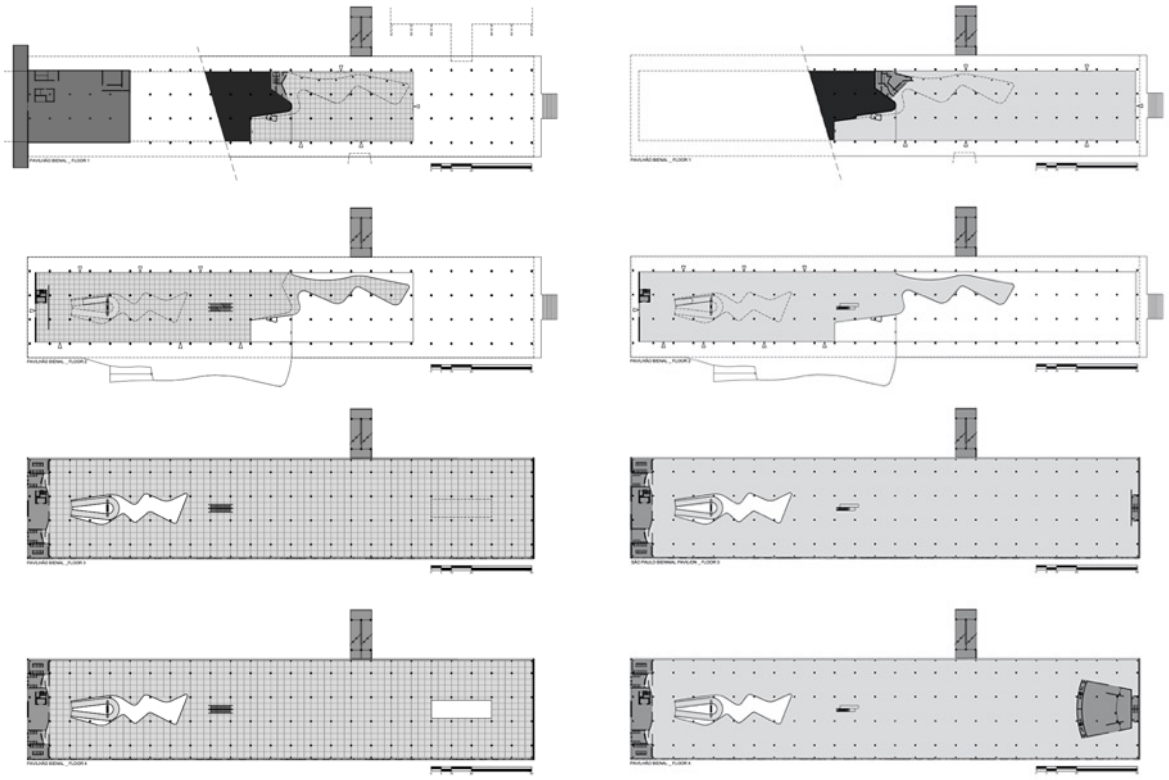


Figure 40. Plans of versions 2 (left) and 3 (right) of the Pavilhão Bienal.

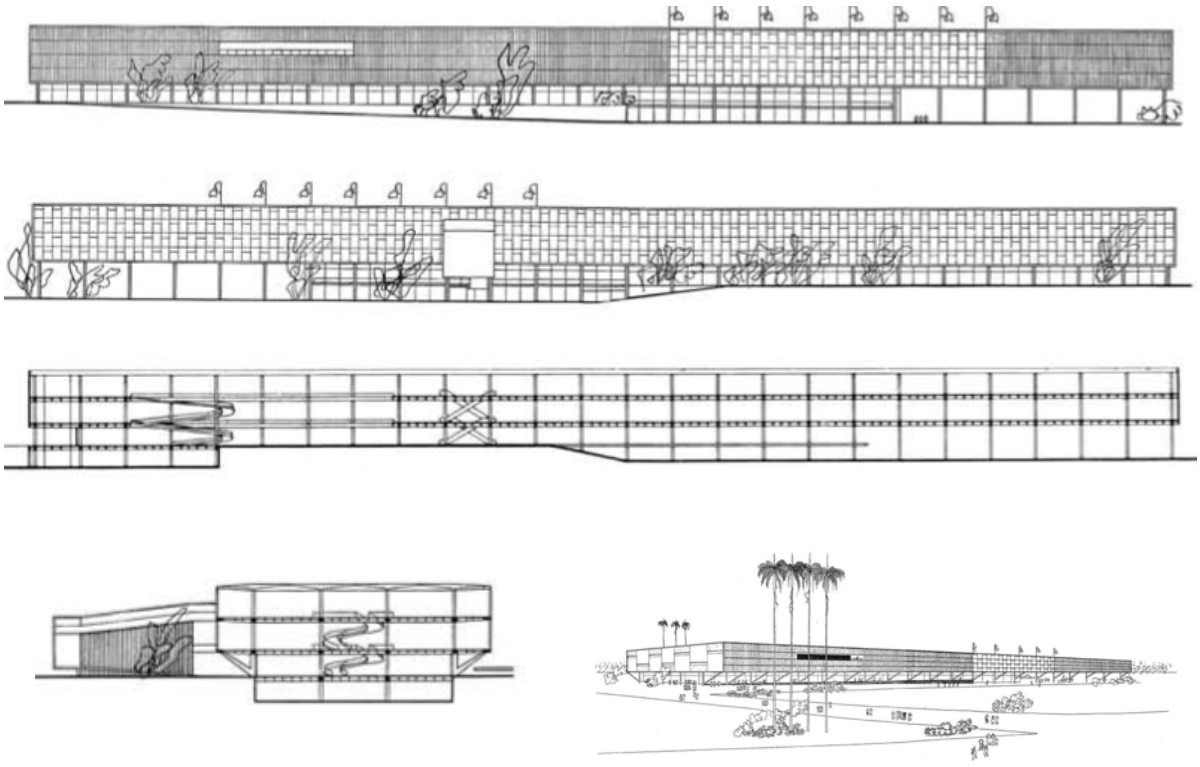


Figure 41. Northwest and southeast façades and longitudinal section of version 3 (Fraga, 2006).



Figure 42. Palace of Industries (Revista Acrópole, 1954).

> Ibirapuera, through its numerous manifestations, is a faithful testimony of our true economic stature. But that is not all. Also, art, science, culture, in short, are represented there in a magnificent way. Occupying the largest area to date conceived in São Paulo for such initiatives, the IV Centenary Exhibition is our greatest legacy to posterity. The Palace of Industries alone is irrefutable proof of that. More than five hundred stands are installed there, giving interested parties a real picture of our production capacity. Exquisitely decorated, these stands are the best in taste... The Palácio das Indústrias gives its visitors all the necessary comfort with the due appreciation of the material displayed by the firms established in our industrial park. The building where the Palace is installed has three large floors and is equipped with modern escalators, which contributes greatly to the best locomotion of visitors (Revista Acrópole, 1954).

If the building's descriptions in the Revista Acrópole (1954) highlight its bold technical solutions for the time (such as its structural modulation of large spans, 10x12 meters with cantilevers of 7.5 meters on the sides), the publication also dedicates a good part to the documentation of the IV Centenary Exhibition.

Such changes, which are addressed configurationally in chapter 5, may seem subtle when looking at the plans of the two versions, but are quite drastic when considered in relation to the first. In them, the first floor of the building is partially embedded in the land and has a double-height ceiling, over which an organic mezzanine lean. Although the building has several entrance doors (along floors 1 and 2), its main access, on the first floor, is characterized quite differently from the first version.

The pavilion's design strategies (Moneo, 2004), therefore, can be briefly described in four steps: 1) the definition of five rectangular plans; 2) the reduction of the first plan to adapt the building to the topography of the terrain; 3) the perforation of plans 3 and 4 to the creation of the void (which visually connects floors 2, 3 and 4) the vertical connection of these plans at four different points (through ramps, elevators and escalators).

The continuous use of the pavilion for BSP exhibitions suggests that the building has remained the same throughout more than six decades. In fact, externally, the only major change was a set of "vertical circulation plumbs and emergency exits that created great interference on the southeast façade" (Villela, 2019, p. 63) installed between 1998 and 2002[92] to meet new safety regulations. Its interiors, however, underwent more modifications than a quick glance at the plans of its exhibitions would suggest.

Although the detailed record of these transformations is the object of study in Chapter 5, as it results from the process of redrawing and studying the exhibition plans in Chapter 4,

[92] So far, it has not been possible to determine the precise year of introduction of the emergency stairs. This interval of four years corresponds to the interval of the biennial exhibitions in which they were introduced, whose biannual calendar was broken between these editions (BSP 24 and 25).

it is important to point that the building is not spatially the same over these decades, which constitutes another element to be observed in this building-exhibition layout interaction.

These spatial transformations seem to be linked to the absence of a specific programme organization, since many of them are in the direction of incrementing the building's original program (such as the installation of restrooms/bar/restaurant on the floor 2). This aspect is mentioned by Herbst (2011), who speaks of a "special inattention, in Niemeyer's proposition, for quarantine spaces, assembly and disassembly of artworks" (p. 134).

In addition, new demands emerged over the years, such as the need for spaces to house the Fundação Bienal de São Paulo (FBSP), created before the 7th edition of the event (and allocated in a portion of floors 3 and 4), or storage for the Museu de Arte Contemporânea da Universidade de São Paulo (MAC-USP) (which occupied, in intermittent periods, a part of the fourth floor of the building).

Interestingly, although its external façades are also composed of elements typical of modern architecture, "on one side with glass walls, on the other, where the sun shines, metallic, thanks to its mobile sunshades that guarantee a variable texture" (Farias, 2001, p. 28), this is a building that is much better known for its internal aspect, precisely because of these spaces that escape the idea of open plan, which are the void and its ramp and the double-height area which houses a mezzanine of equally irregular shapes (Figure 43).

Most of the existing literature on the building contextualizes the construction of the pavilions and the park in relation to the national historical facts that surrounded the 400th anniversary of São Paulo (Farias, 2001; Fraga, 2006; Herbst, 2011; Henrique E. Mindlin, 1956). However, its association with a broader international context, in which the conception of the pavilion and the park are embedded, can be understood as evidence of this background of building, that since its origin mixes art and industry.

Other studies, carefully document the building's architecture (Fraga, 2006; Villela, 2019). Although these studies recognize the plastic expressiveness of the building, these records often reduce the description of the pavilion as an open plan building. If, on the one hand, these descriptions represent good part of the building, it also suppresses important aspects of its particular spatiality.



Figure 43. Interiors of the Pavilhão Ciccillo Matarazzo (Pavilhão Bienal) (photos by Luiz Amorim).

This particular spatiality is characterized by the coexistence between highly modular and repetitive sections (both in two-dimensional and three-dimensional terms) and regions that break with this modularity, by physically and visually connecting different floors of the building. On the last aspect, this break with the rationality of the building is made through architectural elements that not only record the time in which the building was conceived, as well as print the signature of its architect, namely its ramp, void and balconies, and mezzanine and double-height floor.

These spatial exceptions of the building seem to have a strong role in the structuring of its exhibitions, not only because of their functionality, which is quite relevant, but also for a matter of symbolic order. Therefore, it can be suggested that these are the most attractive spaces in the building, as they appear to be located in key points of its configuration and constitute the most iconic elements of its architecture.

The investigation attractive areas in the building could be carried out, for example, based on prices at which these spaces are rented at the events it hosts. In addition to this data not being publicly available, these data would not give an account of the main event held in the building, which in this sense does not operate in the same way as an art fair, nor the broad period studied (since the only event held with such consistency in the building is the BSP, therefore all other events, even if data were available, would not cover the entire existence of the building). However, it was considered important to study the relationship of the architecture of the building with the BSP art exhibitions due to the fact that both lack better documentation, especially from an architectural perspective, and therefore this study can serve as basis for several others.

On the other hand, the attractiveness of the spaces of the pavilion can, to some extent, be observed in the description of the building as shown on the FBSP website[93], from which it is possible to obtain information and contact those responsible for holding events in the building. This description, in addition to containing information about the area and the ceiling height of each floor, highlights elements such as: "sinuous curves" (particularly the mezzanine area on floors 1 and 2[94]), "noble space" (characterized by its prominent height and glass façades, as well as the lightness of the shapes that mark its ramps and central column), and "modular floors" (that allow unlimited creativity, from the free design of

[93] http://bienal.org.br/pavilhao

[94] Which, according to the description, would be more conducive to smaller and intimate events.

internal divisions, where the floors can be used in different combinations according to the size of the event and its configuration).

In this context, it seems pertinent to develop a system that allows to characterize the building's spatial capital, both globally (that is, of the building as a whole, whose careful examination of its plans allows us to identify spatial transformations that may have an impact on this capital globally) and locally, that is, to understand which spatial attributes make a specific space or set of spaces attractive for exhibition purposes, particularly of the biennial art exhibitions. Therefore, understanding this building from a spatial and configurational perspective can be a contribution not only to the specific discussion of this thesis, but to enrich its historiography, as well as to shed light on the study of buildings with similar characteristics.

Finally, this topic sought to, in addition to documenting and presenting the buildings that housed the Bienal de São Paulo exhibitions, highlight how the spatiality of the building can mediate the arrangement of things and the movement of people. This, in turn, was associated with the idea of commodity precisely because the building is not exactly a primary good or a white canvas on which the exhibitions are placed. On the contrary, its spatial peculiarities – whether those that carry the semantic load that characterizes the work of Oscar Niemeyer (such as the solid, sinuous, and white volumes), or the syntactic load (which is the dimension that this research intends to address), were associated with the idea of exchange value that characterize commodities or objects that have been commodified (Appadurai, 1994, 1988; El-Husseiny, 2012; Good, 2005; Jeon et al., 2009; Shepherd, 2002).

In this context, some concepts extracted from morphological studies of buildings and urban spaces are discussed in order to understand how the spatial and configurational characteristics of buildings can, to some extent, structure this system of exchange between things (in the arrangements proposed for the artifacts) and people (in the navigation through spaces).

3.2.3 On space and things

This topic discusses some concepts extracted from morphological studies of buildings and urban spaces that contribute to characterize the dimension of the BSP as a building, especially with regard to the potential contained in its spaces to promote exchanges between people and things. Its title, as discussed in Chapter 2, is a reference to the building classification system proposed by Markus (1993), where the buildings that relate people and things are those intended for their production, and especially, for their exchange.

Given the set of selected studies, this discussion is structured around three axes: the complexity of classifying things (3.2.3.1); buildings as economies of movement (3.2.3.2); complexly generic buildings (3.2.3.3). These three axes connect the main aspects of each set of studies, highlighting the point of interest extracted from them for the investigation proposed in this thesis.

3.2.3.1 The spatial complexity of classifying things

The term complex is often used in the literature of morphological studies or architecture to describe buildings whose spatial configuration reflects an extensive programme organization, particularly with regard to the specification of functions and the categorization of people (Hillier, 1996). Such complexity is configurationally expressed, for instance, in the number of convex spaces of different sizes and shapes, and in a great diversity of arrangements in the form of local spatial subsystems.

A classic example of a complex building is a hospital, as the relationship between its spatial system and the need to classify, not only the activities carried out, but especially the people involved in them, is very evident (for example, the diseases that patients have, or the severity of their health condition are key to the structuring these spaces). It is a "building type traditionally considered strongly programmed" (Sailer et al., 2013a, p. 2), in which the differentiation between people (inhabitants and visitors) and its interfaces are highly regulated, reflecting, therefore, in the spatial dimension of its organization.

However, the term complex is used to describe a wide range of buildings, such as campus buildings (da Silva and Heitor, 2014; Kim et al., 2008; Sailer et al., 2013b), metro stations (van der Hoeven and van Nes, 2014), museums (Lazaridou and Psarra, 2015; Tzortzi, 2007) and many others. If, on the one hand, complex buildings are often associated with the idea of strong programming, "weakly programmed buildings can show aspects of

strong programming" (Sailer et al., 2013a, p. 2), which suggests that seemingly simple buildings can also embed spatial complexities.

To some extent, this aspect is observed in practically all buildings. However, as Markus' classification suggests, it is crucial in buildings that relate people to people, whether for formation or re-formation (in which hospitals, convents, and prisons are included). Therefore, in the other two categories of buildings (people-knowledge and people-things), this classification of people, although present, is secondary to the needs posed by their main functions (relating people to knowledge or people to things).

As suggested in the title of this topic, the classification of things can also produce complex spatial systems, although this complexity does not result from the need to classify people. It is argued that this complexity is especially evident in exhibition spaces precisely because their spatial configuration is, to a large extent, defined by this arrangement of things, which in turn structures the use of space by people.

When we talk about exhibition spaces, whether in a shopping mall, a museum, or a market, we are dealing only with those areas where the things are displayed for exchange. However, even these areas, which do not include areas of restricted access (such as supply and technical reserves, where the classification of people is strong, and the notion of complex building is evident) present a spatial complexity that deserves to be addressed.

In other words, just as weakly programmed buildings (such as the Pavilhão Bienal) can present aspects of strong programmed networks, in building that relate people to knowledge and people to things (in which exhibition spaces can be found) this programming happens in a pervasive way. That is, "systems that are designed to be 'invisible' to users because they are designed to blend in with their environment and become part of the fabric of the everyday life" (Kostakos, 2010, p. 31). Therefore, even if these organizational mechanisms are not as evident as in buildings that relate people to people, their close relationship with the built environment interferes in "people's mobility and sociability" (Kostakos, 2010, p. 50).

A good starting point for understanding this distinction between the complexity of people and the complexity of things is a study that analyzed the conversion of a prison building into a market – more specifically the Casa de Detenção do Recife (a 19th century prison) into the Casa da Cultura de Pernambuco, a market for local artisan products (Nascimento,

2008). In other words, it deals with the conversion of a re-formation building into an exchange building (Markus, 1993).

The original building "is actually a re-formation building of the most complex and the most specialized" (Nascimento, 2008, p. 139), an example of an ideal penitentiary, as it strictly followed the reform precepts of the time, such as the notions of power, hierarchy, control and vigilance. The work suggests that a building of such nature, that is, with morphological characteristics so dependent on its programming would not meet the spatial demands required by an exchange building (which, unlike re-formation buildings, the free movement of visitors is one of its central premises – albeit restricted or guided).

Therefore, the study seeks to understand the interdependence of the resulting building with the original one. To address the conversion, the author analyzed the two main renovations of the building, in 1976 and 2004. The first introduced three elevators, one in each wing of the building, inside old cells. The latter also introduced three glazed panoramic elevators (to minimize their impact as barriers) at the center of each wing. The main results[95] were compared with the original prison and with the average of the results of other similar penitentiaries. They show that both conversions sought to enable the free movement of visitors through the building which, in turn, increases visual and physical contacts of visitors with staff and artifacts – aspects which are slightly enhanced in the second renovation.

This is an interesting case as it discusses the idea of prescriptive text (Markus, 1987, 1993) in the design of buildings and uses analytical procedures to describe how this prescriptive text constitute the spatial configuration of buildings. In addition, the study highlights which spatial characteristics are desirable for an exchange building, such as the free movement of people between spaces and the presence of wide fields of vision, fostering a spatial socialization incompatible with its previous use as a prison building. These notions can be interesting not only to understand how the Pavilhão Bienal embeds in its architecture principles that, to a certain extent, characterize it as a building of exchange, as well as to understand to what extent the exhibitions inserted in it modify such condition.

Although the study by Shields (1989) does not specifically address the syntactic aspects of the building, the author discusses the issue of spatial socialization, that is an "aggregate of processes, a mode of being, a manner of 'seeing' and a way of doing" (Shields, 1989, p.

[95] Such as their values of permeability and visibility integration (minimum, medium and maximum) and depth (from the exterior).

147), in the context of another exchange building, a shopping mall. For the author "malls, as interventions in the fabric of urban public space, are fragments of broader changes in the system of spatiality and concrete spatial practices at global, national and local scales" (Shields, 1989, p. 147). To some extent, the Pavilhão Bienal can also be understood through that approach, as it is also "a site of consumer culture" (Shields, 1989, p. 48).

> Department stores form systems of objects that adapt continuously to the desires and values of customers and managers as well as to patterns of shopping behaviour. Close study of how commodities are distributed in department stores and how this distribution is related to emergent patterns of movement and browsing reveals a number of underlying values and ideas invested in this distribution of desires and values. These acquire meaning in a performative interplay between distribution and agents. Such an analysis uncovers how commodities are organised in, and by, space, and in relation to patterns of use, thereby augmenting our understanding of (commercial) space in contemporary culture (Koch, 2007, p. 443).

On the topic of consumption, Koch (2007) also investigated how "social values and norms are mapped out and negotiated in space"(p. X) through the study the spatial systems of department stores, as they "allow for a wide range of changes and retail practices to inhabit them due to allowing a range of different spatial strategies in ways that single shops (too small) or malls (too linear in their concept) do not" (p. IX), in order to understand how the practice of shopping is socially and spatially performed.

His work relates to this study in the sense that the focus "is thus neither the department stores in particular nor the specific sets of values they present (because they constantly change over time), but the spatial principles used in this process" (p. X). The identification of such principles is done through a reflection on the notions of the distribution *in*, *through* and *of* space, that is "what is placed, what appears and how space is distributed by material boundaries" (p. 82)[96]. The three concepts are also related to three basic notions of architecture, which are the ideas of *function* (which refers to the managed system of personnel and artifacts), *use* (how the system is uses by customers or visitors) and *form* (its architecture or urban design) (Koch, 2007).

Through a comparative study of two different department stores, the author analyzed questions, such as: how the artifacts were distributed though the buildings (whether by type of product, by brand, etc.); the boundaries and overlaps between different product areas; what is seen from strategic points of the buildings (such as the escalators); the relationship between the type of product and the space it is inserted (whether it is more

[96] A methodological framework developed in his previous study of library buildings (Koch, 2004).

integrated or segregated, if it has clear or diffuse boundaries[97] and if they foster co-presence and co-science); whether navigation is punctuated by meetings (with other costumers) and interaction (with personnel) or not; and accessibility and visibility conditions for facilities such as dressing rooms (e.g., where they are seen from or how many turns someone needs to make to access them).

Koch's ideas were summarized in a scheme which shows a simplified layout, linear and progressively arranged according to its properties (or spatial operations) of exposure, availability and sequence, where: 1) the commodities of the first encounter are both available and exposed; 2) the ones of the second encounter are more available than exposed; 3) the ones near to the back are more exposed than available; 4) and in the back there are things that are hidden (Figure 44).

These four types of encounters were also related to a model that brings together a set of social situations (whether they are more public or private) and how they are structured in relation to the number of people (few or many) and their space use (static or moving). Therefore, even though the study deals with a private building, some of its types of encounters find correspondence with different public spaces.

Several aspects raised in the study of department stores (Koch, 2007) can be observed in the case of the Bienal de São Paulo, particularly with regard to the notions of exposure, availability and sequence, that are understood as elements linked to both dimensions of this study (of exhibitions as spatial discourses and of buildings as spatial commodities). However, unlike Koch's approach, the focus of this investigation lies less in understanding movement patterns and more in describing their spatial possibilities.

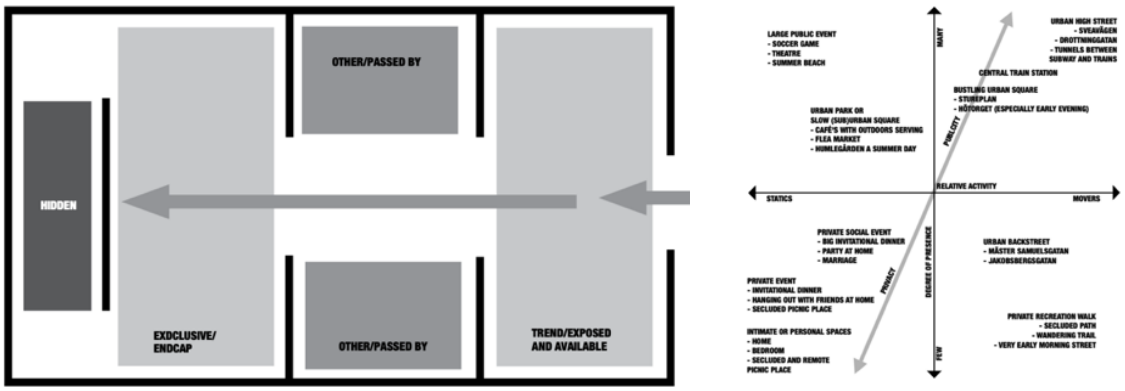


Figure 44. Schemes on the relation of space, commodities, and social situations (Koch, 2007).

[97] The notion of fuzzy boundaries is also an aspect addressed by Amorim (1999) in the definition of housing sectors.

One last study to be highlighted in the context of this discussion (the spatial complexity of classifying things) deals with the impacts of different layouts of objects in the same building (a supermarket) in the consumers' path choices and trajectories (Kalff et al., 2010). In contrast to the original orthogonal layout of the shelves, two virtual and oblique versions were proposed (plus and minus 45 degrees of rotation). In the study, an experiment was conducted where "the participants' task was to find 15 items which exhibited different degrees of congruency regarding their in-store placement and the generalized background knowledge average consumers have regarding their semantic neighborhood" (Kalff et al., 2010, p. 45).

Although apparently similar, the minus 45 configuration condition proved to be overall easier for the participants as they were able to find items more quickly (in relation to the plus 45). This difference is due to both syntactic and semantic aspects, as it involves the individuals' prior knowledge about the products and spatial properties of the store. Regarding the spatial properties that capture the difference in customer behavior the most evident is the area of main aisle that is visible from the destination locations, where the "orientation of the shelves seems to function as a guiding appliance that 'deflects' building users into different direction" (Kalff et al., p. 45). Regarding syntax-semantic interaction, the study also shows a correlation in isovist areas and groups of products, or product-neighborhoods (i.e. products placed congruently, incongruously, or ambiguously), where for congruent placed items see more means finding faster, and the opposite is true for the other two groups (seeing less means finding slower) (Figure 45).

This study is interesting for this discussion on two levels. The first refers to the question of investigating different possibilities of layout in the same building and its effects, although the study does not take into account the particularities of the underlying building (represented in a simplified way). The second aspect refers to the consideration of syntactic and semantic aspects in understanding the syntactic effects of layout changes.

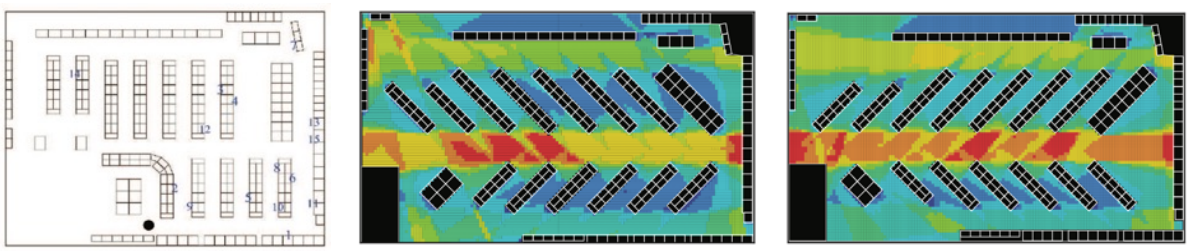


Figure 45. Original and proposed supermarket layouts (Kalff et al., 2010).

Although other studies also consider semantic aspects, the study by Kalff et al., (2010) demonstrates how users' prior knowledge on products interfere in their decision-making processes, something that also seems to occur in art exhibitions (Bourdieu et al., 1991). However, its theoretical and analytical construction is based on a virtual supermarket, described as a regular building whose influence of the underlying spatial configuration is disregarded. The building is a rectangular polygon without internal structures, with a single access point in the lower left corner, and no indication of other openings. Such simplicity aims to neutralize any interference that the building's "shell" could have on the layout configuration (although the definition of the entry point is fundamental in this regard), which is precisely the aspect that we seek to address in this thesis.

Still on this subject, Chen and Shi (2011) draw attention to the intelligibility, convenience of entrances and local areas, and accessibility to ancillary facilities as key aspects for the programming and structuring of commodity markets, based on deficiencies observed in the Yiwu International Trade Mart. That is, the spatial configuration of the market has low intelligibility (a relevant attribute for understanding exhibition spaces, where people move relatively freely), its entrances are positioned at inconvenient points (a fundamental aspect in the structuring of paths) and the access to accessorial facilities (such as restrooms, which, in the context of this research, are framed as non-exhibition spaces) is not perfect.

In addition, it is known that "floorplate shapes influence the global properties of internal layouts" (Shpuza and Peponis, 2008, p. 334), where building shells affects the spatial structure of office layouts, whose relationship is mediated by the generative principle to the generation of the layout (Shpuza and Peponis, 2008). That is, grid and fishbone layouts (alternative principles for increasing integration) are affected by the floorplate shape in different and opposite ways, which points to an underlying congruence between a morphological typology of layouts and a morphological typology of shapes (which can be more compact and convexly unified or with a clear differentiation of wings, for example).

In other words, an office layout can be highly or poorly integrated depending on the way it is structured (with high density and little differentiation among circulation paths or with highly differentiated layouts and long primary corridors) and in which kind of floorplate it is inserted (i.e., compact blocks with external core, deep space with small central core, bars, pavilions, or winged), "underlying tendencies are constraints within which designers work, and which they sometimes have to overcome" (Shpuza and Peponis, 2008, p. 334).

On this distinction between constraint and determination, the authors also point out that the shape effect is statistically less powerful in cases where actual layouts (rather than hypothetical layouts) and real floorplate shapes were analyzed, as these layouts incorporate other factors ranging from design program to design approach. Which, in turn, reinforces the idea that the underlying basis constrains, not determine, the office layout.

Although this is not an example of a building that relates people to things, but a building for the production of knowledge, it is an interesting example precisely because it addresses this relationship between the shape of the building and its internal layout. If, on the one hand, this aspect seems little associated with the case of the Pavilhão Bienal (a rectangular building in much of its extension), it gains special importance when considering that its internal perimeter has been modified over time (with the decrease/increase of its exhibition spaces), as discussed in chapter 5, hardly fitting the role of a simple shell.

This discussion on the spatial complexity of classifying things has sought not to exhaust the syntactic studies on this subject, but rather, to discuss key studies of its main examples (market, shopping mall, department stores, and supermarkets) without losing sight of how these relate to the empirical object of this thesis. The review sought to highlight its main spatial aspects in relation to freedom and control of visitors' movements, distribution of commodities through the building and visibility relations between people and things.

In fact, many other studies on the relationship between space and things could be cited, as this is a very explored field, not only of buildings, but also of urban spaces. any of these studies sought to understand the relationship between the urban fabric and the location of certain uses and processes of the city, particularly commercial and economic ones.

However, unlike the studies cited in this topic, which emphasized the way in which this relationship between space and things constitutes the configuration of buildings, there are some underlying mechanisms in common between cities and buildings that can influence their configuration and how they can foster exchanges of different natures, as discussed in the following section.

3.2.3.2 Buildings as movement economies

> Analysis of the layout in conjunction with movement and viewing rates, show that the spatial layout of the gallery is itself the prime determinant of how the gallery is used, more important than signage, or the guide or the attractions of particular works. As in a good town, it is the structure of the space itself that guides the visitor around the Tate (Hillier et al., 1996, p. 3)

A concept discussed in the context of urban studies is the idea of movement economy, which derives from the theory of natural movement (Hillier, 1996a, 1996b; Hillier et al., 1993). The idea of natural movement, introduces "a new configurational paradigm in which a primary property of the form of the urban grid is to privilege certain spaces over others for *through* movement" (Hillier et al., 1993, p. 29), demonstrating that the configuration of the urban fabric is the main generator of patterns of movement. This aspect, in turn, would privilege certain spaces to the detriment of others, having an effect on their use and occupation, something especially exploited by uses of a commercial nature, where "Retail land uses are then located to take advantage of the opportunities offered by the passing trade and may well act as multipliers on the basic pattern of 'natural movement' generated by the grid configuration" (Hillier et al., 1993, p. 29).

These ideas are refined in the paper *Cities as movement economies* (Hillier, 1996a), also a chapter (7) from the book *Space is the Machine* (Hillier, 1996b), in which the author concludes that "movement in a urban grid is, all other things being equal, generated by the configuration of the grid itself" (Hillier, 1996a, p. 41). This finding is fundamental to support the premise that the spatial layout (whether of an urban environment or a building) has the same importance as the uses positioned in it in terms of generating movement of people. These concepts relate to several of the studies mentioned, as, in a sense, they deal with the role of space in modulating the relationships between people, space, and material resources. In fact, the idea of economy of movement in the context of buildings is embedded in the study on the Tate Gallery, when the authors compare the role that the structure of the building plays in its functioning with "a good city".

Figure 46 illustrates three schemes that bring together the main elements that constitute the theory of natural movement and that, in turn, support the argument of cities as movement economies. Diagrams a and b represent two different street layouts, a simpler (a) and a more elaborate (b), which demonstrate how, in the case of the former, "the more central segments of the 'main street' are likely to be best used, and peripheral segments the least" (Hillier et al., 1993, p. 29). In the case of the latter, "the two most central vertical

elements, one above and one below the 'main street', would be on more shortest routes that more peripheral vertical elements" (Hillier et al., 1993, p. 29). These diagrams represent the notion of *through-movement* (i.e., they consider the layout as a system of multiple routes).

Diagrams c and d, on the contrary, consider the street layout as a system of origins and destinations, in which the configuration is associated with the idea of *to-movement*. Diagram c represents a set of streets arranged around a "central square" which offers a more accessible destination than the others spaces in the layout (both in metrical and topological terms), "to the extent that accessibility of destinations is a fact in the choice of destinations" (Hillier et al., 1993, p. 30). A similar effect also occurs in unlikely layouts, as the one represented in the diagram d, where their central segments are more accessible than the peripheral ones. Therefore, accessibility (diagrams d and e), in addition to configuration (diagrams a and b), also plays a role in generating movement of people. These ideas are finally synthesized in the diagram e, which illustrates how these three elements, attraction (A), configuration (C), and movement (M) influence each other. Attractors and movement may influence each other, but both do not influence the configuration. That is, the configuration is the only variable that can influence two other variables.

As discussed in chapter 2, studies on spatial capital and spatial capacity point to a possible theory of natural occupation (Bobkova, 2019; Marcus, 2017, 2010, 2007), and are, to a certain extent, derived from these notions of natural movement and movement economy. That is, they also seek to demonstrate how the urban fabric, through its system of plots (with different sizes, geometries, and diversities of combinations), therefore not through the street system, tends to attract certain types of occupation and economic processes.

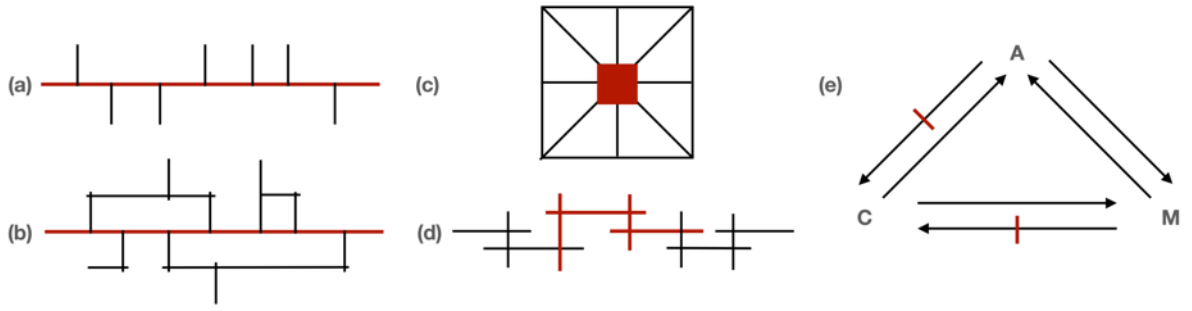


Figure 46. Through-movement (a, b), to-movement (c, d), and attractors, configuration, and movement relationship (A, C, M) (redrawn from Hillier et al., 1993).

These notions, of natural movement and natural occupation, seem to be particularly interesting to approach the case of the Bienal de São Paulo, since in these networks occupation and movement happen in a very intertwined way. That is, in these exhibitions, the circulation system and the occupation system often overlap, as the works and messages contained in the arrangement between them are perceived precisely through the navigation between spaces and that, in many cases, works are arranged along all the way.

Particularly about the notion of attractors, this can also be interesting to address aspects related to the configuration of the building, as well as its exhibitions. In the case of exhibition networks, the idea of attractor can be observed in the relationship between the configuration of its layout and the uses attributed to it, both artistic (from the strategic positioning of similarly strategic works – for example, due to the widespread recognition of artists of the polemics that specific works arouse) and auxiliary to the exhibition (such as spaces for rest, socialization, eating, and shopping). In the building, attractors can constitute elements of pronounced importance for the syntactic constitution of the system, such as entrances, ramps, void, and stairs, which in the case of the Pavilhão Bienal are also points of great symbolic interest. That is, these attractor spaces are associated with uses or spaces of a symbolic interest, in this case, especially ramps and voids.

Unlike the configuration of urban spaces, whose street layout tends to have a long duration and great distinction from the system of plots, the case of the BSP is distinguished precisely by its accelerated pace of change and by the great overlapping of occupation and circulation networks. Furthermore, in buildings, the effect of spatial structure is, to a certain extent, reduced by its programming, whereas in urban space the degree of entropy is much higher. Therefore, if, on the one hand, the Bienal Pavilion appears to be the same, but undergoes spatial changes over time, its exhibitions, on the other hand, although clearly distinct in their discourses, seem to present significant configurational recurrences - both aspects being relevant to the characterization of the notion of spatial mediation.

This rhythm, in turn, may be related with the very particular spatial conditions offered by the Pavilhão Bienal, whose weak program delimitation seems to give rise to a deliberately hybrid spatial system, which appears to be open enough to support multiple occupations, and minimally closed to delimit some possibilities of movement. Such conditions, which were associated with the notions of complex and generic spatial systems, are discussed in the following section.

3.2.3.3 Complexly generic buildings

This last topic of discussion deals with studies that relate space and things, discussing the relationship between the notions of complexity and genericity, which are argued to characterize the spatiality of the Pavilhão Bienal. These are recurrent expressions in the literature on morphological studies of buildings that can provide subsidies for understanding the dynamics that characterize the Bienal de São Paulo – in which a largely open-plan building, which can support complex occupations, in converted into a network very specific every two years[98].

The notion of specificity previously discussed (exhibitions as specific spatial networks, section 3.1.3.4), seems adequate to describe the spatial configuration of the exhibitions, as it refers to the way in which certain spatial systems were created to house and articulate a set of artworks. The discussion of complex buildings, also done earlier (the spatial complexity of classifying things, 3.2.3.1), argued that in exhibition spaces this notion of complexity that characterize their configurations is primarily a result of the classification of contents and messages in space. That is, although the classification of people also plays an important role in constituting this configuration (when considering the interaction between exhibition and non-exhibition spaces in the same building, for example), it is secondary to this study, since the focus is on understanding how the arrangement of things can mediate the encounters and avoidances between people at the same time it is mediated by the configuration of the underlying building.

When thinking about the Pavilhão Bienal, which opens perspectives for understanding of other buildings, a better reflection on these terms (complex and generic) seems necessary. In this context, one study that introduced "concepts and techniques for the analytic description of exhibition layout as a configuration" (Peponis et al., 2004, p. 472) compared two exhibition settings arranged in three different small open-plan buildings – ZAP! Surgery and Robotics, arranged in the Great Lakes Science Center, and later shown in the Cargenie Science Center and in the San Jose Tech Museum. In these buildings, in contrast to buildings that clearly constrains and channels movement choices and sequences, "is intuitively less clear that layout will have significant effects upon the way in which visitors explore and engage exhibition contents" (Peponis et al., 2004, p. 453) (Figure 47).

[98] This particularity of the building and the ways in which it can be approached are preliminarily discussed in the work Hybrid Buildings: Complexity and Genericity in Exhibitions Spaces – The case of the Bienal de São Paulo Pavilion, presented in the 1st International Online Space Syntax PhD Conference (Nóbrega, 2021).

The demonstration of how the exhibition layout works in this exploration and engagement is based on describing the spatial behaviors of visitors, treating the spatial structure data implicit in these behaviors as an independent element, and approaching layout in terms of distribution of individual objects and conceptual structures embedded in the layout through the spatial grouping. The study also mentions the distinction between two models of spatial arrangement, positional and compositional, where the former describes "the manner in which boundaries literally obstruct various kinds of connections of accessibility or visibility" and the latter concerns "the way in which space is configured to stage our perception of how objects might be related" (Peponis et al., 2004, p. 472). However, the small scale of the buildings (actually, exhibition spaces, as they were represented as dissociated from the other spaces that constitute them), meant that their spatial configuration (that is, devoid of displays) was not considered in the investigation of these positional and compositional models.

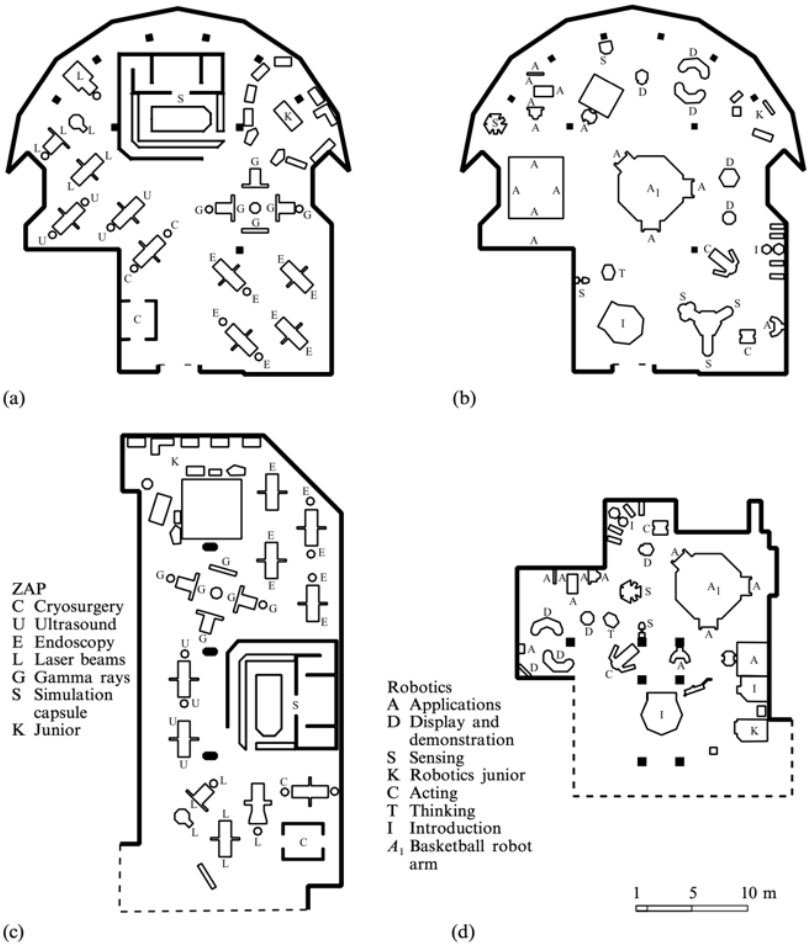


Figure 47. Plans of two science exhibitions in different museum settings (Peponis et al., 2004).

In the search for studies of generic buildings, it was identified that in most cases these studies refer to hypothetical computationally modeled buildings (Eastman and Siabiris, 1995). These models generally seek to assess natural and artificial environmental issues (such as temperature variation, lighting, ventilation, and fluid dynamics) (Allegrini et al., 2015; Zhang et al., 2020), which in turn can influence, for example, the concentration of contaminants within a building (Tominaga and Blocken, 2015). That is, they carry out performance evaluations (Arinami et al., 2019) in which the configuration of the building is modeled in order to frame different scenarios and support the investigation of such issues.

Although such studies do not directly contribute to the notion of generic that is intended to be addressed, they shed light on the fact that, in the modeling of such generic buildings, priority was given to the definition of regular perimeters and interiors free of barriers (or with strategically placed barriers), aspects that, to some extent, also characterize the Pavilhão Bienal. If, on the one hand, the pavilion is far from being a hypothetical building, on the other, its spatial configuration has a clear impact in the distribution of people and things, both those specifically designed for the exhibition, and the underlying one. Thus, the generic term is used to describe the spatial configuration that is characteristic of the building, precisely because it is the opposite of specific (term used to describe its spatial systems after the introduction of exhibition settings).

However, it is worth mentioning that the case of the Pavilhão Bienal is curious because, although the building is largely generic (in the sense that its spatial configuration seems to present few restrictions to movement and occupation), it also presents areas of relative geometric variety (such as the ramp, the void and the mezzanine, whose geometries introduce specificities that breaks with the predominant order of the building), as well as it seems to be able to support occupations and movements of great complexity. That is, this complexity refers not to what the building *does*, but to what it *can do*, in terms of distribution of artifacts, uses, and people across the spatial system. In this context, it is important to define not only the extent to which this building is generic, but also to devise the procedures that allow simultaneously addressing this complexity and this genericity.

In this context, studies such as the one by Amorim (1999) are of fundamental importance to address these ambiguous characteristics of the building layout and that may also be considered relevant for understanding the layout of its exhibitions. In this study, the author develops the idea of sectors' analysis, from which sets of convex adjacent spaces that also share the same function are represented in a unified way (in justified graphs), which in

turn allowed "constructing consistent regularities in the unpredictable and irregular world of graphs" (Amorim, 1999, p. 388). These consistent regularities refer to the way in which the modernist and historic dwellings are configured around distinct but recurrent sectors (such as social, service, and private), that are expressed in forms of sectors' genotypes (in addition to houses' plans and occasionally in their volumetric compositions) (Figure 48).

This clustering of similar activities traced a pervasive underlying paradigm for housing organization, whose boundaries may be clear or fuzzy, and whose shapes can form trees or rings, in addition to eventually presenting a mediation space (as highlighted in chapter 2). Their social dimension can be observed in the form of these sectors and the way they are linked together, that allow us to infer how household members and domestic activities were distributed throughout modern and historic houses (Amorim, 1999). Despite the differences between the objects studied by Amorim (1999) and the empirical object of this thesis, this methodological resource seems interesting in the sense of allowing the identification of spatial recurrences in a vast set of cases with apparently distinct networks.

In the case of the BSP, this description through sectors can be applied both to the description of the exhibitions (since spaces with the same use, depending on their configuration, can be unified), as well as to the description of the building, in this case from the adoption of an exclusively configurational criterion (since their spaces share the same functions). This concern with the simplification of spatial systems is due to the extension of the object and its great variety. In the case of the Pavilhão Bienal, this extension contrasts with a great repeatability, which suggests that the spatial system of this building can be simplified. The specific character of its exhibitions, in turn, seems to make it difficult to identify patterns between them, and the unification of spaces with similar spatial and/or functional characteristics can facilitate the identification of such patterns.

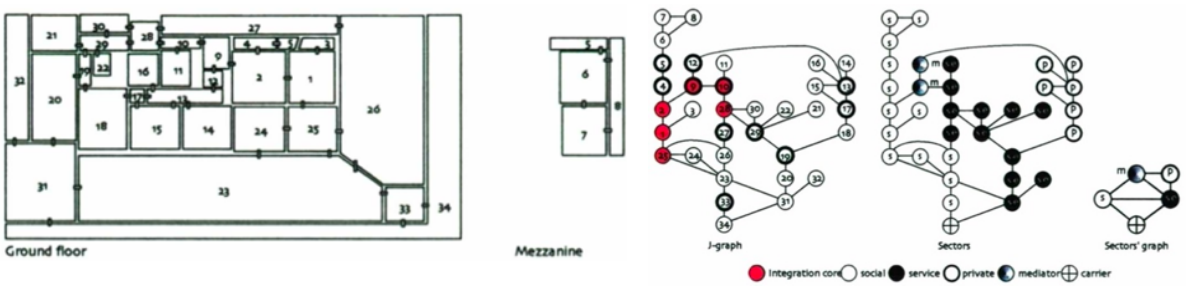


Figure 48. Example of sector analysis – Convex map and justified graphs of the Reynaldo House (Amorim, 1999, p. 86).

This interplay between complexity and genericity can also be related to discussions about flexibility and adaptability, terms also frequently used to describe the architecture of the Pavilhão Bienal, and widely studied in the field of architecture.

Flexibility is a topic addressed in many configurational studies of the built environment (Arslan and Uraz, 2017; Dawes et al., 2021; Franz and Wiener, 2008; Stavroulaki et al., 2017), which in turn provide interesting insights on how to approach this particular object. Some authors define flexibility as "buildings that are intended to respond to changing situations in their use, operation, or location. That is, architecture that adapts rather than stagnates, responds to change rather than rejects it; is motive rather than static" (Kronenburg, 2005, p. 59). Others summarize it as "the ability of buildings to respond to changing configurations" (Arslan and Uraz, 2017, p. 62), that is, "flexible enough to contain alternative functions" (Dawes et al., 2021, p. 467).

Adaptability, on the other hand, can be defined as a property that "inherently takes account of the uncertainty and changeability of the relationship between activities and spaces" (Fawcett, 1979, p. i). It is also described by Fawcett (1979) as the probability that a building will not become obsolete. Other authors define it as "a design characteristic [that] embodies spatial, structural, and service strategies which allow the physical artefact a level of malleability in response to changing operational parameters over time" (Schmidt III et al., 2010, p. 234), also highlighting the temporal dimension as critical to its characterization (Schmidt III and Austin, 2016). This notion has been studied from different perspectives and objects, in some cases to address "the changes brought by the rapid developments from the pedagogical practices, the curricular options, and the information technology" (Coelho, 2018, p. v). As well as from a sustainable perspective, focused on understanding the relationships between humans and their natural environment through architecture (Moreira and Henriques, 2019).

Although establishing differences between the two concepts needs further investigation, both sets of studies seem to use both expressions for their characterization, which suggests that such ideas, although autonomous, are quite complementary. In a very simplified way, the discussions about flexibility seem more directed to the understanding of the physical capacity of the building to support changes of use, function, and operation, whereas the notion of adaptability seems to take as a starting point the recognition of such changes to assess certain building conditions.

In this context, both definitions seem to apply to the case of the Pavilhão Bienal, since the long existence of the event in the building and the different configurations it supported are clear evidence of its ability to respond to the different artistic, curatorial, and technical demands over these decades.

Such notions, in turn, seem to be embedded in the broader notions of complexity and genericity proposed for the framing of the phenomenon studied, as they seem to describe the attributes that characterize such flexibility or adaptability of the pavilion's networks and their exhibitions. That is, the configurational scenarios in which this flexibility is minimal or, in opposition, those in which it presents maximum adaptability. In addition, with regard to the building layout, we want to understand not only whether or how it is flexible or adaptable, but precisely the limits it offers to the performance of such conditions, which the ideas of complex and generic, in addition to finding great support in the related literature, seem to describe more accurately.

The definition of such limits or boundaries, finally, seeks to define a framework in which the networks of the BSP exhibitions can be related, considering that the building offers both minimum and maximum limits for the performance of its generic functions (occupation and movement), so that the different ways through which spatial mediation operates (either through the spatialization of curatorial discourses or the use of its building as a commodity) can be characterized.

* * *

This chapter discussed the idea of spatial mediation from an empirical perspective, both with regard to the object of this research, as well as the studies that support its understanding. The structuring of the chapter in two parts, exhibitions as spatial discourses (3.1) and buildings as spatial commodities (3.2), also reflects the two facets of the empirical object of this thesis, as well as the literature on related themes and objects.

The first two topics in each part provided an overview of how BSP exhibitions were organized and classified (in four eras, Museum, Matarazzo, Curators' and International Professional Curators', and three periods, National Representations, NR+CP, and Curatorial Project, respectively), as well as presented and discussed the buildings four buildings that housed them (Pavilhão Trianon, Palace of the States, Palace of the Nations, and Palace of Industries). And the third topic of each block discussed the literature on configurational studies that related space and knowledge and space and things, extracting from each set of studies the main themes and concepts that guide the approach of the research problem, such as the notion of exhibitions as specific spatial systems and the interaction between complexity and genericity in buildings that house exhibitions.

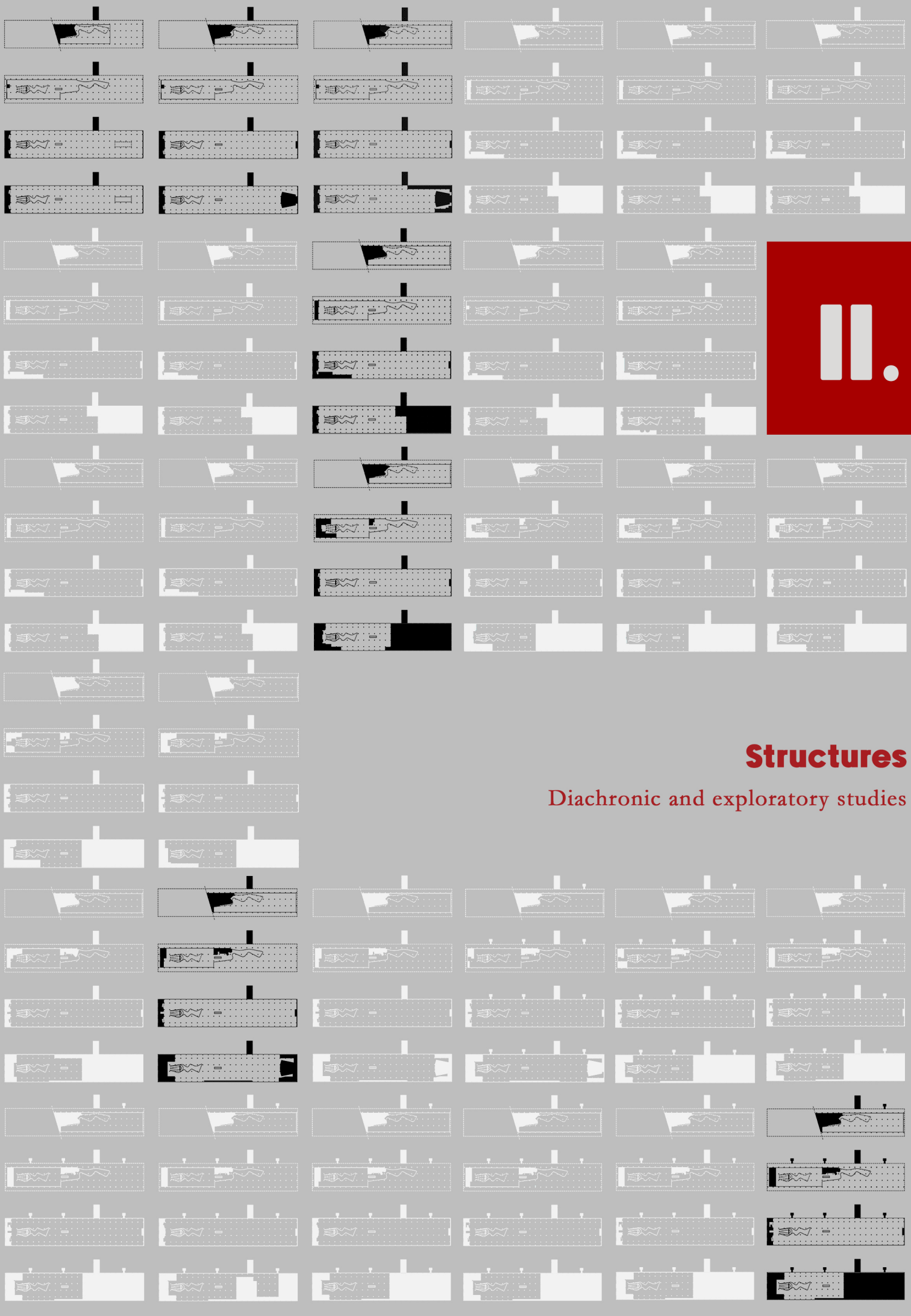
Regarding the exhibition organization and classification systems, it was observed that the former, taken from the existing literature on the BSP, provides a good background for understanding the history of the event. The characterization of the different institutions (MAM-SP and FBSP) and actors (curators and international professional curators) responsible for organizing the event over the years allows for an understanding of its four distinct eras, where pre-1980s exhibitions are marked by a strong museological character, while more recent exhibitions register the emergence and consolidation of curatorship, as an approach and profession. however, this system is not very explicit about how its premises are converted into criteria for classifying and arranging works in space, since from this point of view the first two and the last two eras are very similar to each other - because both are organized from the notion of countries and principles contained in a curatorial project, respectively.

On the other hand, the classification system, extracted from the FBSP's own description of its event, proved to be very enlightening for addressing the relationship between the exhibition discourses and the spatial configuration, as it is more specific about the elements that guided such classification (namely, the idea of national representations and/or the

principles of a curatorial project), which together constitute three periods in which the event can be framed. That is, if the classification of the works of art followed the countries of origin of the artists or according to the themes proposed by the curatorship.

With regard to the literature review, both sets of studies support the understanding of the empirical object and present gaps to which this study can contribute. The first group (on space and knowledge) for bringing concepts that inform how configurational analyzes of the exhibition space can inform the way in which their discourses are structured and how they can be read by their visitors through navigation. And the second group, on space and things, for providing principles that allow addressing the economic role of the building in the spatialization of such discourses, from the interplay of the notions of complex and generic that their spaces embody.

Specifically, about the gaps identified in these studies, these are theoretical, empirical, and methodological in nature. From a theoretical point of view, it is considered important to shed light on the interdependent, but also autonomous, nature of the spatial systems of perennial and ephemeral structures. From an empirical perspective, developing studies on exhibition spaces and exhibition morphology (particularly these ones that are both repetitive in space and ephemeral in time, such as biennials and triennials) can be particularly interesting to address this relationship. And for that, it is necessary to develop methods that allow describing and analyzing the building layout and the layout of the exhibitions as autonomous and at the same time interdependent systems.



II.

Structures

Diachronic and exploratory studies

4 EXHIBITIONS AS SPATIAL DISCOURSES: THE BIENAL DE SÃO PAULO EVENT

This chapter, in fact the entire of part II of this thesis, focuses on a diachronic and exploratory study of the empirical object, discussing it in its two dimensions: as an event (a set of 30 exhibitions) and a building (the Pavilhão Bienal). While previous chapters provided an overview of the entire BSP (exhibitions 1 to 33 and its four buildings), by relating it to the proposed bisociative approach, chapters 4 and 5 make a first approximation to the object, studying in a diachronic and exploratory way the 30 exhibitions that were held in the same building.

Focusing on the exhibitions held in the Pavilhão Bienal, this first cut (which comprises the BSP 4-33, all held in this building), albeit small (since it eliminates 3 exhibitions[99]), considers that the entire panorama before 1957, which includes the historical background for the creation of the event and the conception of the pavilion, has already been discussed.

Therefore, this chapter, as well as Chapter 5, addresses the BSP based on a set of data collected during the research, especially in the Arquivo Histórico Wanda Svevo/Fundação Bienal de São Paulo (AHWS/FBSP), compiled to provide a diachronic understanding of the object. These data refer to the number of participating artists, artworks, and countries, exhibition catalogues, and the exhibition and buildings plans. The chapters also work as a pilot study, as they introduce and test procedures that allow drawing preliminary conclusions, fundamental to the selection and analysis of specific cases (Chapters 6 and 7).

[99] Although data from BSP 1-3 is eventually included for comparison and documentation purposes.

They are in an intermediate condition between the discursive descriptions of the object conducted in chapter 3 and the non-discursive analyzes developed in Chapter 7, a distinction drawn by Hillier (1996) to differentiate techniques of description and analysis of space and form. That is, while the previous chapter focused on written description with the support of images, these introduce non-discursive description mechanisms, although interspersed with discursive analysis and in an exploratory manner. Such approach considers that a broader and at the same time deeper understanding of the object is necessary for the design of a non-discursive analysis. In this context, this pair of chapters seek to trace a spatial history of the BSP hitherto not told by previous studies.

> Instead, we need to think of the two together: we need to both historicize space and spatialize history. In other words, rather than solely providing analysis of how the meaning and use of the word 'space' has changed over time – a useful analysis to be sure – we need to recognize how space, place and location are crucial determining factors in any historical study (Elden, 2002, p. 3).

This spatial turn in history (White, 2010, p. 1) is in convergence with the socio-spatial paradigm on which this thesis is based (Hillier, 1996b; Hillier and Hanson, 1984). In fact, many of the authors who supported this notion, such as Lefebvre (1991) and Foucault (1982), are also widely used in morphological studies of the built environment. The notion of spatial history comprises the idea that "space is neither simply natural geography or nor an empty container filled by history. It is rather something that human beings produce over time. Spatial relations shift and change. Space is itself historical (White, 2010, p. 2)".

With this, these chapters (4 and 5) seek to outline a spatial history of the event, since the BSP literature lacks an integrated understanding between history and space, without letting space become simply another term to be examined historically (Carter, 1989; Carter and Malouf, 1989; Elden, 2002; White, 2010). In other words, we seek to "spatialize (its) history, to inject an awareness of space into all historical studies, to critically examine the power relations as play in the ways space is effected and effects" (Elden, 2002, p. 7).

Following the bisociative approach proposed in chapter 2, this chapter is divided in two parts. The first of them characterizes the prescriptive text of the exhibitions (4.1), focusing on issues in the artistic and curatorial fields (which required an examination of the catalogs of all the exhibitions studied). And the second discusses the relationship between curatorial discourses and the spatial configuration of exhibitions (4.2), thus focusing on the relationship between curatorship and architecture (stage in which all the floor plans of the exhibitions and their buildings were redrawn and some spatial patterns were identified).

4.1 The prescriptive text of the exhibitions

Over its 70 years of existence, 64 of them in the same building, the Bienal de São Paulo witnessed several transformations in the fields of art, curatorship, and architecture. Although this aspect is carefully discussed by previous studies (Alambert and Canhête, 2004; Farias, 2001; Herbst, 2011), through the literature review it was possible to identify that most of them do not address these transformations from an architectural and spatial point of view. However, these studies, as well as the extensive material housed in the Arquivo Histórico Wanda Svevo/Fundação Bienal de São Paulo, provide very rich data on the prescriptive texts of each exhibition, through the documentation of the set of artworks, rules and social norms that supported the spatial conception of each BSP.

Evidently, a detailed understanding of the prescriptive text of each exhibition requires reading all its catalogs (and other publications on specific editions), examining its plans and photos, comparing the descriptions made by the FBSP in its website, among other research procedures. After these research procedures were completed, data were extracted and systematized to identify trends and patterns in view of the apparent high specificity that characterizes each of these cases.

The first dataset refers to the number of artists, artworks, and participating countries from BSP 4-33 (section 4.1.1). They are discussed in the light of the four eras of the organization system (Museum, Matarazzo, Curators and International Professional Curators) and the three periods of the classification system (National Representations, NR+CP, and Curatorial Project), as it is understood that these categories have a fundamental role in the definition and understanding of these numbers.

The second group of data (4.1.2) refers to a structural study of the exhibition catalogs. Following the example of other research that "capitalizes on the retrospective digitization of exhibition catalogues, allowing for large-scale longitudinal analysis heretofore unviable for researchers" (Braden and Teekens, 2019, p. 1), this section explores the exhibition catalogues, source of growing scientific importance and great potential for obtaining spatial information. In addition to presenting specific information about the exhibitions' architecture, they are the main public record of the text that constituted each exhibition.

4.1.1 Curatorship as an operating system

In search of data that could support a diachronic description and discussion of the prescriptive text of the Bienal de São Paulo exhibitions, the number of artists, artworks, and participating countries in each edition of the event is surveyed. Dispersed in previous publications and on the FBSP website, when viewed together, and in relation to the eras of event organization and classification, these numbers support the discussion of some diachronic aspects of the event.

The first step was to bring together these numbers into a single chart. However, as the volume of artworks is much larger than that of artists, which in turn is still larger than that of participating countries, the latter two are also represented separately, as illustrated in Figure 49.

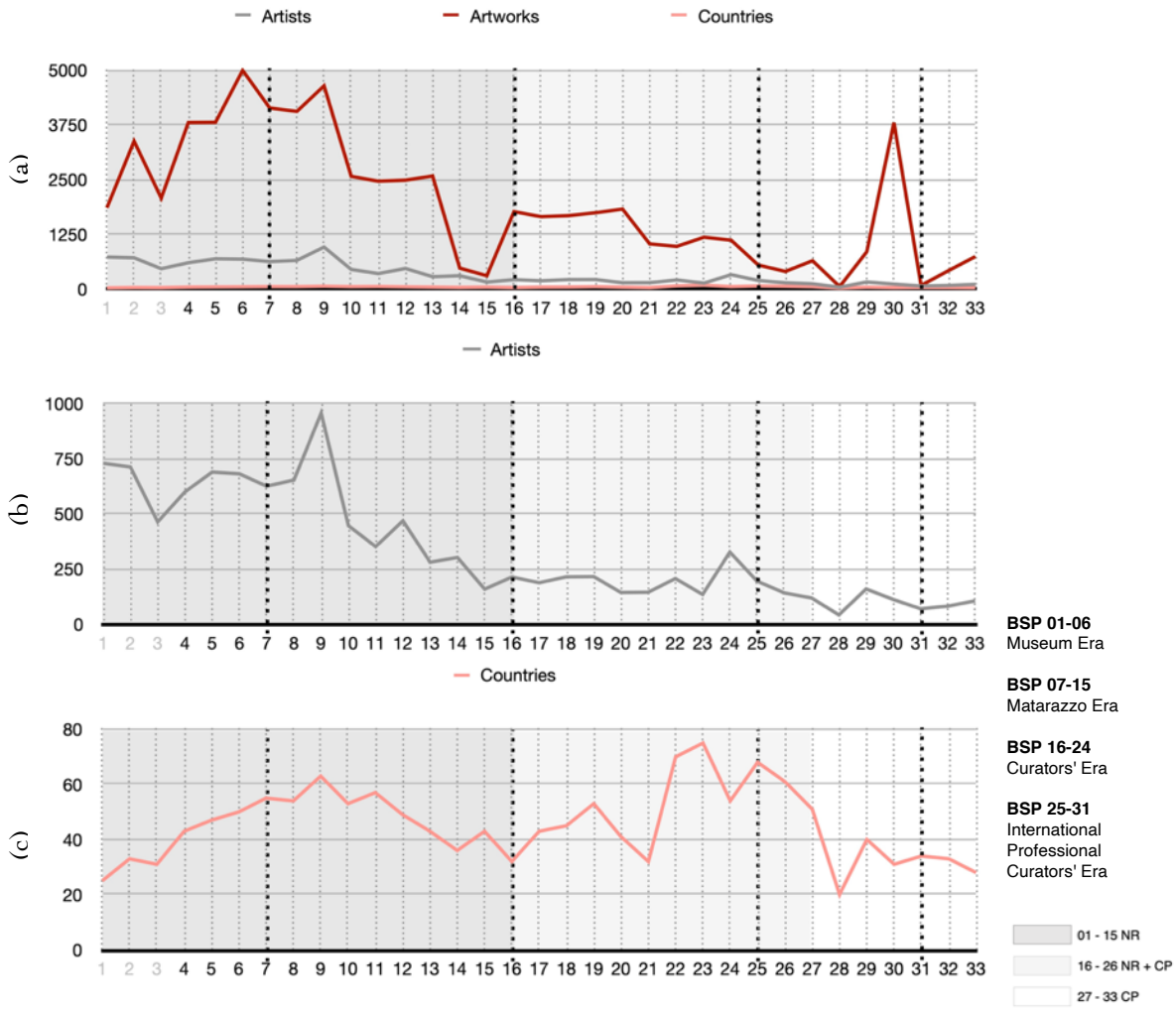


Figure 49. Number of artists, artworks, and countries in BSP 4-33.

The figure shows the variation of numbers of artists, artworks, and countries in each BSP in relation to: 1) the three periods of the classification system (dark grey, light grey and white regions – NR, NR+CP, CP) (contained in the descriptions that FBSP makes of the exhibitions on its website[100] and confirmed by the literature); 2) and the four eras of the organization system (vertical dotted lines – Museum Era, Matarazzo Era, Curators' Era and International Professional Curators' Era) (Alambert and Canhête, 2004; Di Carlo, 2016). The variation in the number of artworks (a) is represented by the dark red line, and the artist (b) and country (c) variations are represented by the grey and pink lines.

Taking the variation in the number of artworks (a) as a starting point, it can be observed that the fluctuation in the numbers of BSP 1-3 (with 1954, 3374 and 2074 artworks, respectively) can be attributed to a consolidation period of the event, and to the fact that each of these editions were carried out in different buildings – as discussed in chapter 3. In addition, although the exact area of each of these exhibitions is not available) the number of artworks seems to be strongly related to the area available for their display (since BSP 2 was held in two buildings, Palace of States and Palace of Nations, and BSP 1 and 3 occupied only one – Trianon Palace and Palace of Nations).

> The VI Bienal exhibited almost 5 thousand works from 53 different countries, in addition to twenty countries participating in the International Architecture Exhibition, which was also looming. Lourival Gomes Machado's[101] fears about the exhibition's growth were now very evident – in its 38 thousand square meters, the VI Bienal already had the appearance of a "megaexhibition" (Alambert and Canhête, 2004, p. 86).

Interestingly, from BSP 4 onwards these number of artworks reached a very high level, especially in the period comprised between BSP 4 and 9 (1957-1967), with exhibitions with more than 3750 works (the highest numbers in the entire period studied). This is an interesting fact because, even though from BSP 7, there is a change in the organization system, from the Museum Era to the Matarazzo Era (Alambert and Canhête, 2004) – when the event is no longer organized by MAM-SP and is now organized by FBSP, created a year earlier. This change, however, is not reflected in the volume of artworks, which remains quite high, which in turn seems to illustrate what the authors have called an "excessively museological character", in part because of this accumulation strategy – considering that a museum is characterized by the presence of a collection of artworks.

---

[100] http://bienal.org.br/exposicoes

[101] Member of the artwork's selection jury.

This collectionist approach reached its peak in BSP 6 (1961), which exhibited 4990 artworks, precisely the last one organized by the MAM-SP, a biennial that sought to make a detailed survey of the state of the art of each participating country, but at the same time to show the origins of these artistic movements, which seems to have expanded this range of selection (Alambert and Canhête, 2004, p. 89-90). On the other hand, the biennial with the lowest number of artworks was BSP 28 (2008), which displayed 54 artworks, and for this reason is known as the *Bienal do Vazio* (the Biennial of the Void). Its curatorial project left the entire third floor of the pavilion unoccupied (FBSP, 2008), but open to visitors as part of the exhibition circuit, as a "metaphor of the conceptual crisis crossed by the traditional exhibition systems and faced by institutions that organize them".[102]

I**n the period between BSP 6 and 28,** that is, of the biennials with the highest and lowest number of artworks, respectively) several observations can be made, since the reasons for such a drastic variation (a drop of 4936 artworks in 44 years), must be very different. BSP 6-9 still displayed a very high number of artworks (between 3750 e 5000). From BSP 10 onwards, this variation in the number of artworks occurs in two levels: 1) BSP that displayed between 1250 and 2500 artworks (BSP 10, 11, 12, 23, 16, 17, 18, 19 20); 2) and BSP that displayed less than 1250 artworks (all from BSP 21 onwards, except BSP 30).

With regard to the first group, these are biennials between the mid-1960s and the late 1980s, that is, BSP 9-20, with few exceptions (BSP 14 and 15). The second group, concentrates the most recent biennials, from 1991 onwards (BSP 21-33), except for BSP 30, the only recent biennial to exhibit more than 3500 works (3796).

BSP 10 (1969) is the first to have a drastic drop in the number of artworks (from 4638 to 2572). This drop is attributed to the boycott that artists made to the event in protest to the advance of authoritarianism promoted by the military regime in the country (Alambert and Canhête, 2004). At the *Bienal do Boicote* (Boycott Biennial), as it became known, "eight percent of the invited artists refused to participate in the Bienal as a protest against the military dictatorship"[103]. Chile, Japan, Mexico, Venezuela, Soviet Union, Netherlands and Sweden were some of the countries that withdrew entirely from this exhibition, the latter not participating in the event until 1979 (Schroeder, 2011; Whitelegg, 2013).

---

[102] http://www.bienal.org.br/exposicoes/28bienal
[103] http://bienal.org.br/exposicoes/10bienal

BSP 14 and 15, although held in the 1970s, present numbers in the order of the 2010s biennials (i.e., BSP 25 onwards). The latter, which exhibited 302 artworks, had a good part of its exhibition dedicated to a retrospective survey of the awarded artists in the 14 previous editions[104] - which explains the expression by which it became known, "biennial of biennials". This BSP 15 retrospective can also be understood as a curatorial strategy, not only because it uses a temporal criterion for the classification of artists/artworks (and not a geopolitical one), but also because its organizers argue that this is an opportunity "not only to review but also to reevaluate through the current works of the winners of the first to the fourteenth Bienal the trajectory that these artists have developed to the present" (FBSP, 1979a, p. 18), also enabling reflection on the paths of the BSP itself.

This drop in the number of artworks, accentuated in BSP 14 and 15, may be related to the fact that, from this edition onwards, the selection of artworks started to be carried out by the Art and Culture Council, which had full deliberative powers, and "coincidence or not, all these innovations occur exactly in the first edition of the exhibition without the presence of Ciccillo Matarazzo" (Alambert and Canhête, 2004, p. 121). Although it is not possible to spatially discuss the BSP 14, due to the lack of its plans, its catalogue (FBSP, 1979a), point towards a very innovative biennial, named Contemporary Propositions, and structured around seven axes[105]. Therefore, in practice, this seems to be the first exhibition to be structured based on a curatorial project – terminology used after the BSP 16 (1981) and consolidated after the BSP 27 (2006).

Changes in BSP 14 and 15 preceded a major change in the event, both in terms of organization and classification, through the introduction of the curator as the main responsible for the exhibition. These changes are reflected in the number of artworks, that increase considerably in BSP 16 (from 302 to 1766) – the first to adopt the principles of a curatorial project, simultaneously with the artists' countries of origin, to classify the artworks in space, and marks the end of the boycott period (Alambert and Canhête, 2004).

The number or artworks remained stable over the next four editions (BSP 16-20). This stability may be related to this new system of selection and classification, which involved both international commissioners and curators – a period that goes from BSP 16 to 26.

---

[104] Which is something that BSP 9 also have done, but only as a list gathering the awarded artists and artworks in the previous editions that is part of catalogue, not as a classification principle of the exhibition.

[105] Urban Archeology, Landscape Recovery, Catastrophic Art, Video Art + Spatial Poetry + The Wall as a Support, Uncatalogued art, Anthological Exhibitions, Great Confrontations (FBSP, 1979).

The first four biennials of this period, BSP 16-19, are particularly emblematic and were organized by two curators, Walter Zanini (BSP 16 and 17) and Sheila Leirner (BSP 18 and 19), responsible for two consecutive events, which may indicate a relative success of this new operating system. These four exhibitions are remarkably innovative from the standpoint of their exhibition design in what appears to be a closer dialogue between curator and architects. This dialogue, investigated in the work of Matos (2009) on BSP 16 and 18, was associated with the Brazilian context of redemocratization, which provided a framework for overcoming an institutional crisis experienced by BSP in previous editions.

From BSP 20 onwards, the numbers are always below 1250 works. This decrease can be attributed to several factors: changes in the organization/classification systems (which also reflect institutional crises), economic aspects (smaller budgets and increasingly higher transport and insurance costs), as well as changes in the artistic formats (such as the emergence of site-specific artworks that can reach enormous dimensions even if they constitute a single work) (Alambert and Canhête, 2004; Farias, 2001).

Except for BSP 30, the number of artworks tends to decrease over time, never returning to the level of biennials prior to 1981. In the context of the most recent exhibitions, in addition to BSP 28 (with the smallest number of artworks), BSP 30 and 31 (2012 and 2014) also stand out. The former for presenting a number of artworks of the magnitude of the exhibitions of the 1950s and 1960s. And the latter for returning to a very low number of artworks (81), the second smallest of all.

In the case of BSP 30, one of the biennials of the era of International Professional Curators' (curated by the Venezuelan Luiz Pérez-Oramas), this number reflects the curatorial project, which established the idea of constellation as a metaphor, where each artist exhibited a large number of works (which also resembles the curator's idea that the BSP must find a place between a market, an art fair, and a museum, cited in the beginning of this work). On the other hand, the low number of artworks that characterize the BSP 31 (2014), curated by the Brazilian Luís Terepins, can be related to fact that many of the works in this edition "were conceived within the concept of 'project', many carried out in collaboration between two or more individuals"[106].

It is difficult to address the impact of artistic transformations on these numbers, since this broad period of time has seen the emergence of new artistic formats (installations,

[106] http://bienal.org.br/exposicoes/31bienal

happenings, site-specific and videoart), expressions that characterize contemporary art which emerge with great force in large-scale perennial exhibitions, such as the BSP (Filipovic et al., 2010; Jones, 2016). However, an examination of catalogues, photos, and plans supports empirical observation of the emergence of these new formats in addition to the paintings and sculptures that predominated in the first BSP (1-13).

Figure 50 illustrates this diversity of artistic formats: BSP 4 – Germany room (Max Bill's sculpture and paintings by Moholy Nagy and Josef Albers); BSP 13 – Iolanda Soares Freire (performance); BSP 17 – Keith Harring (performance); BSP 24 – Iftikhar & Elizabeth Dadi (videoinstallation) and Choi Jeong Hwa (installation in the central void); BSP 28 – Carsten Höller (Valerio Sisters); BSP 31 – Prabhakar Pachpute's (Dark Clouds of the Future) (FBSP, 1957; 1975; 1983a; 1998a; 2008; 2014).



Figure 50. Examples of the art formats displayed in BSP 4-33 (AHWS/FBSP).

What this first examination of the number of artworks shows is that the introduction of curatorial approach, officially held in 1981, but in practice began in 1977, makes the entrance door to the event much narrower. That is, their selection process seems to become more restrictive – even though their catalogs say otherwise, as it is precisely the catalogs of these BSP (1-15) that contained detailed information on regulations, participation criteria, instruction, and costs for submission of works and award information.

As the volume of artworks (up to 5000 per edition) is much larger than that of artists (956) and countries (75), the latter two categories are represented separately to better describe their variation over time and to formulate other considerations (Figure 49). In general, the number of artists tends to decrease over time (as does the number of artworks), while participating countries (an average of 44 per edition) remain stable, with the greatest variations in the periods between BSP 22 and 26 (with more than 60 countries per edition) and after the BSP 28 (with an average of 30 participating countries).

The first big drop in the number of artists happened precisely at BSP 10 (1961), the boycott biennial, with 446 artists, right after the BSP with the highest number of artists in history (956). This number continued to decrease until BSP 15 (1979), with 158 artists, the last one before the introduction of curatorship as the event's operating system. After this exhibition (BSP 15), the number of artists tends to be below 250, except for BSP 24 (1998), that brought 326 artists, and highlighting the BSP 28, 32 and 33, which exhibited 41, 81 and 105 artists, respectively. Regarding BSP 24 (1998), the increase in the number of artists in relation to neighboring exhibitions can be related to the fact that this exhibition had 76 curators, known as one of the best BSP ever made[107].

It is interesting to note that the period with the most participating countries was precisely in the last editions of the second period of the classification system, where the national representation system (NR) coexisted with the curatorial project (CP), suggesting an active participation of international commissioners and curators in the organization of the exhibition (something that can be seen in the plans of these exhibitions, which bring specific themes, as well as countries, in their layout).

[107] "Known as one of the best Bienais ever made, the *Bienal da Antropofagia* (Anthropophagy Biennial) was curated by Paulo Herkenhoff and had Adriano Pedrosa as its assistant curator. The concept, extracted from the roots of Brazilian culture, permeated the work of all 76 curators involved with the exhibition, resulting in potent individual exhibitions dedicated to each of the 53 National Representations. The curatorship worked with the idea of contamination and put contemporary Brazilian works in dialogue with works from the Historical Nucleus" (http://bienal.org.br/exposicoes/24bienal).

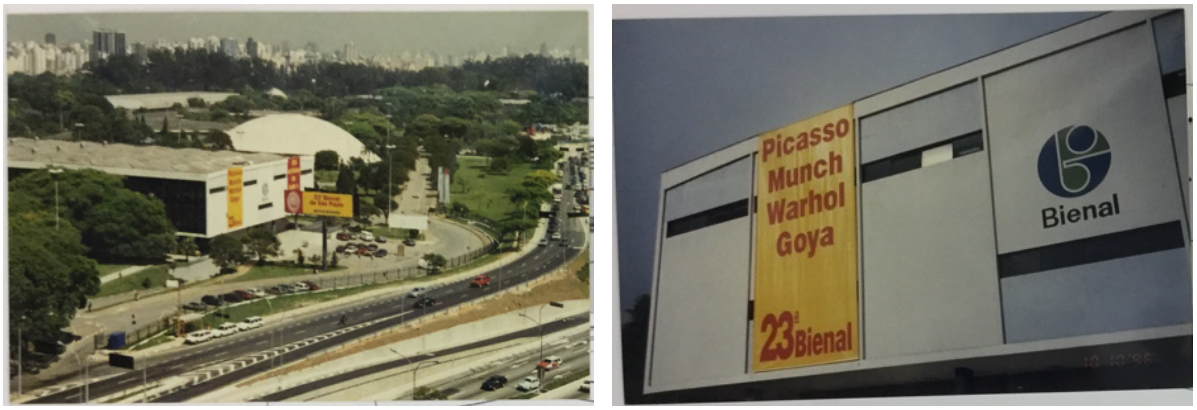


Figure 51. Advertisings with artists exhibited at BSP 22 (1994) and 23 (1996) (AHWS/FBSP).

It is interesting to note that BSP 22 and 23 (1994 and 1996) present the highest number of countries, with and 70 and 75, respectively[108]. This may be related to the consolidation of a period that was marked by the "private financing for mega exhibitions, animated by tax waivers (therefore, also by public money) and by marketing interests" (Alambert and Canhête, 2004, p.191) which strengthened the visibility of Brazilian art abroad, through international agreements that happened after that biennia (Alambert and Canhête, 2004).

These marketing interests are especially evident at BSP 23, which displayed banners on the pavilion's façade (on the side of the avenue) with the name of the most recognized artists participating in the exhibition, such as Francisco de Goya, Edvard Munch, Andy Warhol, and Pablo Picasso. Although this was not the only exhibition to publicize the exhibited artists, it may have been done more clearly (Figure 51).

> It is evident that the richest nations have always benefited from the best spaces within the pavilion, but with this measure the curator is able to bring together artists from different regions in a common environment. In historical terms, this gesture inaugurates two important moments for critical narratives: the questioning of "national representations" and the role of curatorship in the construction of new bases for the interpretation of art (Lagnado, 2015, p. 83).

These interests can also be addressed spatially, as suggested by Lagnado (2015)[109]**,** since the pavilion's architecture seems to present privileged spaces, traditionally occupied by the richest countries, and for which curatorship can be a mechanism for circumvent this practice. Although an examination of the plans makes Lagnado's argument evident, this was the only mention found of the matter. And if this practice can occur in any exhibition, at BSP it seems especially relevant, since the Pavilhão Bienal has housed it since 1957.

[108] In fact, the FBSP website presents two distinct numbers for the number of countries participating in the 23 edition, 75 and 87. However, according to the catalogue there were 75 participating countries.
[109] Curator of the BSP 27 (2006), the first to adopt only the system of curatorial projects for the classification of artworks.

In this context, a brief study of the presence of countries in the event was carried to observe their participation throughout it. The study started from the fact that the FBSP presents on its website the total number of countries participating in each edition, although since BSP 27 (2006) this is no longer an organization and classification criterion. From this number of countries per edition, each country and the continent to which it belongs were identified, as well as the total number of times this country participated in the event[110]. The catalogs of the BSP 31 to 33 no longer inform the country of origin or in which country the artist are based, this information was obtained from the artists' websites. This may constitute another move towards a more global approach to the event, eliminating any remnants of the idea of national representations (Jones, 2016; Spricigo, 2011) .

Figure 52 provides an overview of the participation of countries throughout the event, grouped by continents and quantified in percentage. It also highlights the three periods of the classification system (NR – BSP 1-15; NR+CP – BSP 16-26; CP – BSP 27-33). From this figure[111], the continents with greater presence over the period are Europe and South America. However, as the proportion of countries per continent is very different, the fact that countries in Central America and North America have always attended the event at the event also stands out. European artists have always been massively present at the event and the only edition that did not feature North American artists (or rather, US artists) was BSP 11 (1963), the second boycotted biennial[112], in the year in which the parliamentary regime instituted in the previous year, was overthrown.

The least expressive participation is that of artists from Africa and Oceania, sometimes completely absent. Such absence is observed in BSP 16, the first to present a distinct pattern of continent distribution in relation to previous editions. In other words, although this edition has introduced curatorial principles, the origin of the artists remains predominantly European. BSP 27 and BSP 32 were those in which artists from Africa and Oceania had the greatest presence.

The geographic proximity, as well as mutual cooperation and intention to reinforce Latin American artistic identities and cultures (Nascimento, 2011), seems to favor the presence of artists from Latin American countries (South and Central America), which together

110 Although negligible, the total number of countries that appears in the catalogs is not always the same as the ones on the FBSP website. In this way, the information present in the catalogs was followed as it is more detailed.
111 Whose map also represents the intensity of participation of each country (through the color and size of the circle – the bigger and warmer, the more times a country participated in the event)
112 In the year in which the controversial parliamentary regime, instituted in 1961, was overthrown (Westin, 2018).

account for the second largest volume of participation in the event. It is interesting to note that, as of BSP 26, the presence of Central American artists, which in previous editions was quite expressive (especially in BSP 22-24), practically disappeared.

This Latin-American convergence in fact culminated in the holding of the 1st Bienal Latino Americana (1978)[113], curated by the Peruvian Juan Acha with the support of the Brazilian historian Aracy Amaral (also held in the Pavilhão Bienal). This exhibition preceded BSP 16, not only temporally, but also with regard to the introduction of curatorial thinking in the organization of an exhibition, since it is precisely in the late 1970s and early 1980s that the term curatorship begins to circulate in Brazil (Lagnado, 2015).

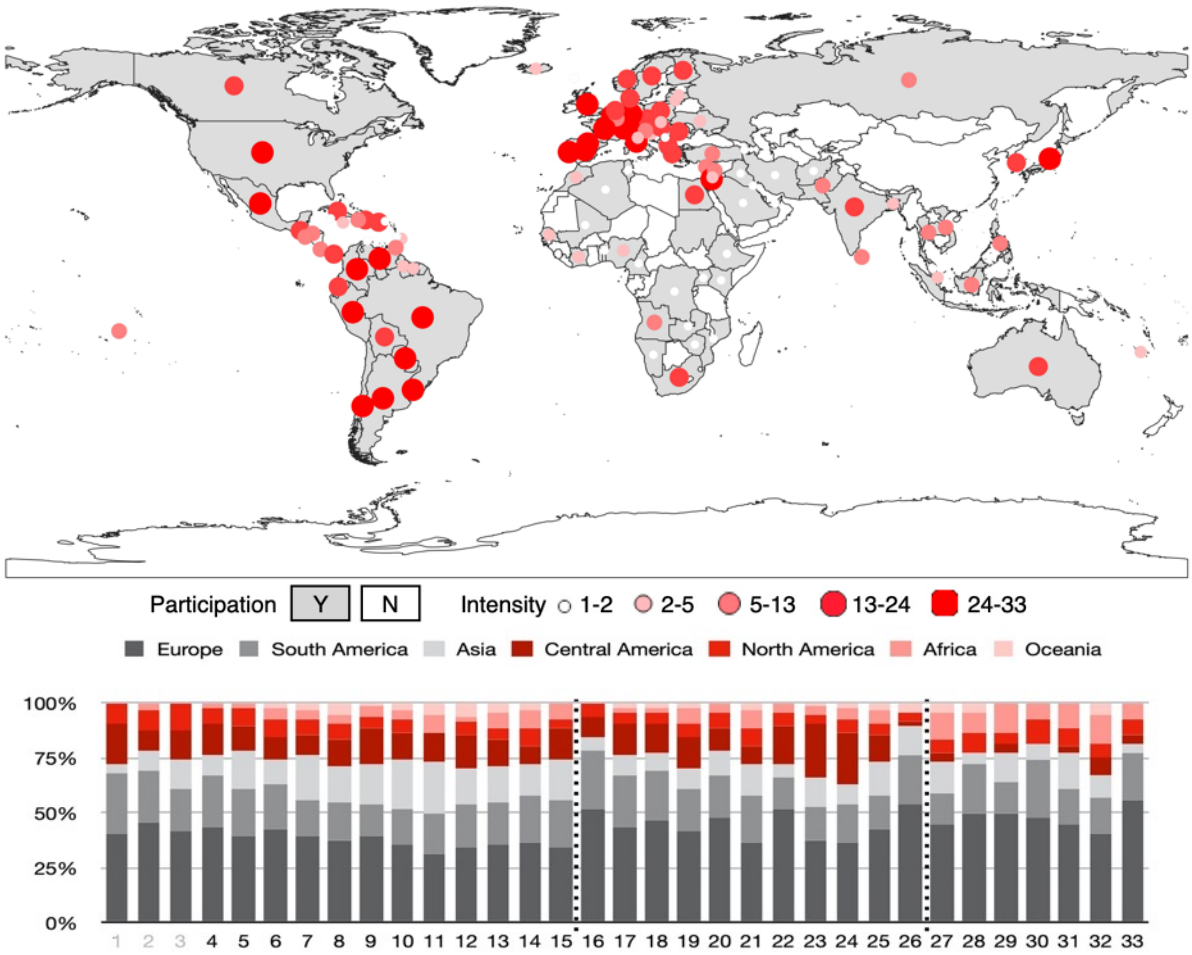


Figure 52. BSP 1-33 – Proportional map and chart of countries' participation.

[113] Which, on the occasion of its 40th birthday, was remembered by an exhibition held at the Centro Cultural São Paulo in March 2019, which also reissued its catalogue (http://centrocultural.sp.gov.br/2020/07/29/catalogo-i-bienal-latino-americana-de-sao-paulo-40-anos-depois/

Much more could be highlighted about this participation of countries throughout the event. However, at this point, what is important to highlight is that, in addition to a significant presence of South American countries, the continents associated with the richest countries are present both in quantity (that is, throughout all the exhibitions) and in volume (constituting approximately 50% of each edition, as is the case of Europe), a fact that seems to go in the same direction as the argument announced by Lagnado (2015).

This map and chart highlight the geographic discrepancies in participation of continents/countries. This description, in turn, demonstrates the importance of some countries for the event's history, and also for a particular edition, to the detriment of others – which, in turn, allows us to analyze the relationship with their location in the building and in relation to neighboring countries, for instance[114].

Considering that there is a correlation between this pattern of participation of countries and the degree of recognition of artists, a direction that other studies have already pointed to (Braden, 2018; Braden and Teekens, 2020, 2019), looking at this data is also a way of inferring the relationship between syntactic and semantic aspects of these exhibitions.

That is, this data may support the description of the relationship between aspects of the spatial configuration of exhibitions (which are anchored in the building layout) and the classification of artworks and artists along their layouts. Allowing, in turn, to observe how the layout of the exhibition (by reinforcing or subverting the characteristics of the underlying layout of the building), added to the decisions about the positioning of the works, can act as attractors of occupation and movement (Bobkova, 2019; Hillier, 1996a; Hillier et al., 1993; Marcus, 2010).

* * *

All these analyzes allow characterizing an operating system for the event, which covers aspects related to the selection of artworks and artists and organization and classification aspects. This operating system takes BSP 16 (1981) as its milestone, since the numbers of works and artists are much higher in the first half of the event's history (BSP 1-15), and the classification criteria and the professionals involved in the organization change

[114] Although this distribution of countries is not explicit in the plans from BSP 27 onwards.

significantly after it. These changes have in common the introduction of the curator as the exhibition's main organizer, as well as the introduction of principles of a curatorial project as a criterion for the selection and classification of works (Figure 53).

If in the first half the event was organized by two institutions, the MAM-SP until 1961 and the FBSP (presided by Ciccillo Matarazzo) from 1963 onwards, after 1981 (although FBSP continues to be responsible for the organization), the exhibition is signed by a curator (or group of curators), Brazilian or foreign, with or without specialized training. Just as after 1981, national representations are no longer the predominant criterion for classifying works – although the principles of the curatorial project become the exclusive criterion of classification only in BSP 27 (2006).

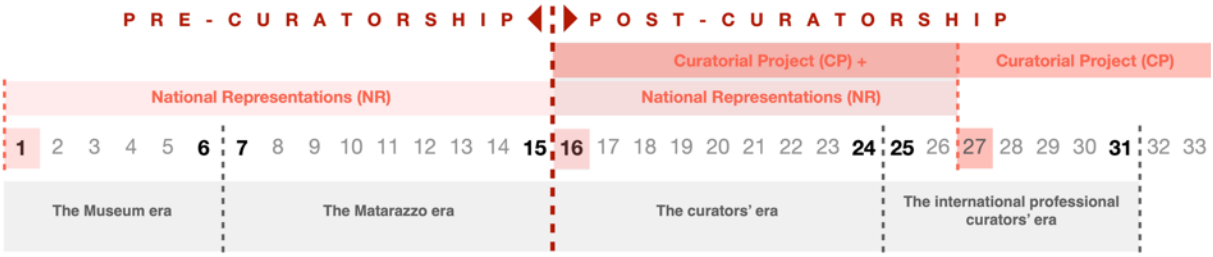


Figure 53. BSP operating system – pre and post-curatorship.

In this context, the importance of morphologically and configurationally characterizing what this privileged condition provided by the building means is highlighted. In fact, the idea that the pavilion has areas of greater interest than others – whether for participants or visitors, is implicit in the very notion of the understanding of the building as a commodity (whether in its raw state or after the changes proposed by the exhibition layout), as discussed in chapters 2 and 3 and empirically analyzed in Chapter 5.

Finally, this diachronic study of the main numbers of the event, in relation to the main eras of organization and periods of classification, provided an expanded understanding of the characterization of the prescriptive text of these exhibitions. However, these numbers have brought out particularities about the construction of the discourses of these exhibitions which are believed to be better addressed from a study of their catalogs, aspect that is explored in the following topic.

4.1.2 Catalogues as sources of spatial approach to curatorial discourses

This topic continues the characterization of the prescriptive text of the BSP, based on diachronic and exploratory studies of the catalogues of its exhibitions. These catalogues are an important part of a broader set of publications, which also includes educational material, guides, lists of artists and artworks and maps[115], available at the Arquivo Histórico Wanda Svevo of the Fundação Bienal de São Paulo.

In addition to being the only constant source of information available for the entire sample (since the BSP 14 plans were not found and the photos often record the artwork, not its relationship to space), it constitutes a fundamental record on the conceptual framework that preceded each exhibition. That is, from them it is possible to infer the social model that guided the design of each case (Hillier and Penn, 1991).



Figure 54. BSP 1-33 – Covers of the main exhibition catalogues (AHWS/FBSP).

[115] Available at https://issuu.com/bienal, which also includes catalogues and other publications of activities and events carried out by the Fundação Bienal, such as management reports of the most recent Bienais and catalogues from other events, like the Architecture Biennial (1973) or the Brazilian representation at the Venice Biennale.

Available virtually on the FBSP website, the publications also include lists of artworks, visitors' guides, and educational materials, which are important sources of information, but secondary to the catalogues in this research. These catalogues are particularly important because they constitute an official textual record of the exhibitions, also representing, to some extent, the institutional and curatorial narratives of the event (Figure 54).

Through them, it is possible to reflect on the history of Brazilian graphic design[116], "where the posters of the Bienal reign supreme" (Farias, 2001, p. 292). The catalogues are also used for their written information, in order to: 1) extract quantitative data (such as participating artists, artworks and countries[117]); 2) understand the organizational system of each exhibition (the people involved, their roles and the different biennials within the same biennial[118]); 3) understand the different forms of participation (invitation, spontaneous application or selection); 4) understand the award criteria (which existed until BSP 10); 5) and apprehend their curatorial projects, be it more explicit (as in BSP 16) or more tacit.

A large part of the existing studies on the BSP exhibitions use catalogues as a source of information, such as the work from Grippa and Bosak (2018), who reflect on the history of Brazilian jewelry through its participation on the BSP exhibitions, specifically using catalogues as a tool to infer interest in this artistic expression throughout the exhibitions.

However, few of these studies reflect on the specificities and potential that the catalogues represent for the creation and consolidation of the field of exhibition history, as well as for a spatial understanding of exhibitions, in general. In this sense, they are one of the main data of this research by identifying studies with similar challenges and approaches that also use them. These studies, in general, dealt with exhibitions and their networks, which occurred over a wide period time (Braden, 2018; Braden and Teekens, 2019).

These studies used catalogues as a tool that can inform: 1) the effects of artist association on their reputation and status, where the "research capitalizes on the retrospective digitization of exhibition catalogues, allowing for large-sale longitudinal analysis heretofore unviable for researchers" (Braden and Teekens, 2019, p. 1); 2) and the curator's work, as the catalog "instruct the museum's audience on why exhibited objects were selected and how they fit together collectively" (Braden, 2018, p. 4).

---

116 Which is the subject of several academic works in the area, as listed in the Arquivo Histórico Wanda Svevo/FBSP.
117 Although the FBSP website also presents the general numbers of each exhibition.
118 Such as Architecture, Books and Theater that shared the same space with the Art biennial until the BSP 12 (1973).

In this context, the material is examined and discussed in two stages: from the compilation and stratification of its main numbers (such as quantity, type, and volume of publications per BSP) and its correlation with the operating system (which includes the organization and classification systems).

Regarding the first procedure, Figure 55 presents two charts that bring together the total number of publications (a), in dark red, and the volume of publications (b), in pink and grey. This volume was obtained from the quantification of the number of pages referring to the main catalogue and those referring to other publications. The charts also show the event classification and organization eras. The figure shows that: 1) the number of publications, which until BSP 15 consisted of a single catalog, increases in BSP 16 onwards, and grows even more from BSP 30 (with five or more publications per edition), since they now include special catalogues, guides, maps, teaching material, list of artworks, etc.; 2) when their number of pages is represented, it can be seen that these publications also increase in size, both the main catalogue (pink) and the other publications (grey).

Regarding the first aspect, this increase in the number of publications can be attributed to the increase in elements that characterize the second period of the classification system (precisely because this era mixed selection and classification criteria by countries and by artists/themes), since from BSP 16 onwards they increase predominantly steadily[119].

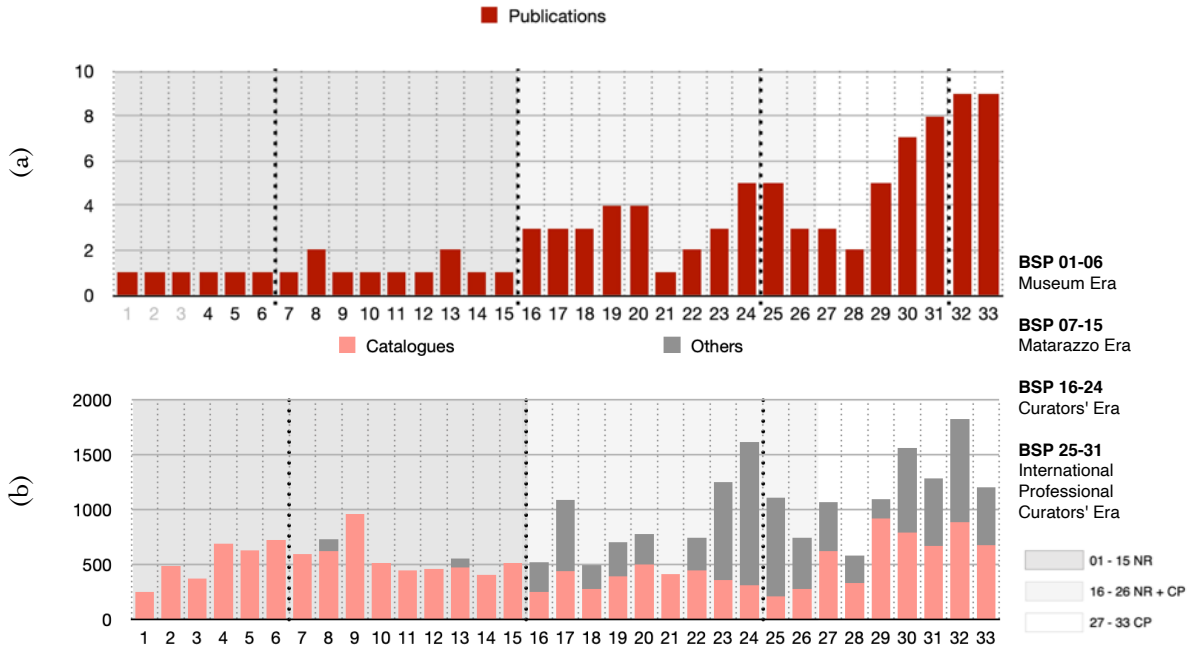


Figure 55. Number (top) and volume (bottom) of publications per BSP.

[119] However, the drop that occurs between BSP 21 and 23 reflects the oscillations of criteria that also characterize this period, where exhibitions with a predominance of curatorial project criteria also seem to present a higher number of publications.

BSP 8 (1965) and 13 (1975) are exceptions to this pattern, the only ones prior to 1981 that featured two publications each – Surrealism and Fantastic Art, in the case of the former, and Sala Brasília, in the case of the latter (FBSP, 1965a, 1965b; FBSP, 1975a, 1975b). This exception is, in turn, a good example of how catalogue data can inform aspects of a spatial nature (Figures 56 and 57).

In BSP 8, this additional publication is the catalogue of a special room that displayed artworks by Francis Bacon, Frida Kahlo, Giorgio de Chirico, Juan Miró, Man Ray, Marcel Duchamp, Pablo Picasso, Paul Delvaux, Paul Klee, René Magritte, and Salvador Dali[120]. This room was located on the fourth floor of the Pavilhão Bienal, in the area between the stairs and the void. In BSP 13, the additional publication described the Sala Brasília (Brasília Room), a sector reserved for Brazilian invited artists, located on the first floor, adjacent to the exhibition entrance/exit. This room sought to bring together the initial collection of what would be the *Museu do Artista Brasileiro*, which was not consolidated[121].

The position of both rooms in relation to the building points to different curatorial strategies. The first room, in BSP 8[122], suggests a strategy of attraction, while the second, in BSP 13, evokes the idea of an announcement. This attraction is characterized by the concentration of probably the best-known artists of that exhibition in a relatively deep area of the building[123], although strategically well located in local terms, that is, in relation to its own floor, since the room is situated between the stairs and the void. The idea of announcement, in turn, is spatially constructed not only by the proximity of the exhibition entrance (preceded Japan and United States rooms, and by the balcony for the sale of artworks, the first exhibition space) and the mandatory exit passage, but also because of the contrast between its ample space in contrast to the small rooms that preceded it.

These are examples of something that since BSP 16 has become increasingly evident. Between BSP 16-33, this number of publications rises to 4,27 on average per exhibition. Those with the highest number, in turn, are concentrated in the period which BSP started to adopt the system of curatorial projects for the classifying artists and artworks, with up to 9 publications in a single exhibition (as in BSP 32 and 33). This increase, especially after BSP 30 (2012), coincides with the fact that many of these publications are also published

120 The only special room in the whole exhibition, as the others referred to countries or specific biennials (architecture, book, photography, and theater).
121 A first initiative around the formation of the Museu do Artista Brasileiro (Museum of the Brazilian Artist, non-built/instituted), to be based in Brasília, part of a larger project to transform the city into a center of Brazilian studies (FBSP, 1975b).
122 Of which it was not possible to find photographic records.
123 An area of approximately 600 square meters on the fourth floor of the building.

separately in English[124]. For example, BSP 30 has 7 publications, 4 in Portuguese and 3 in English. Therefore, this average of 4 publications per exhibition applies to this entire period (1981-2018).

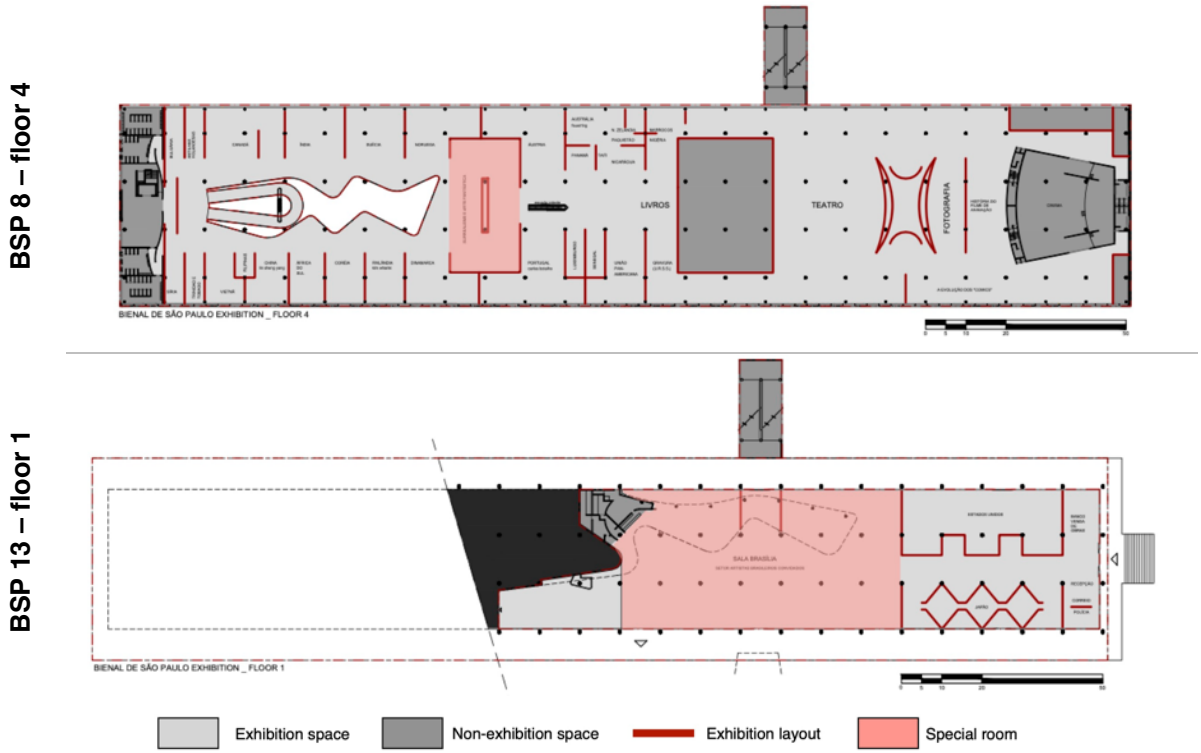


Figure 56. BSP 8 and 13 – Special rooms that were the subject of specific publications.

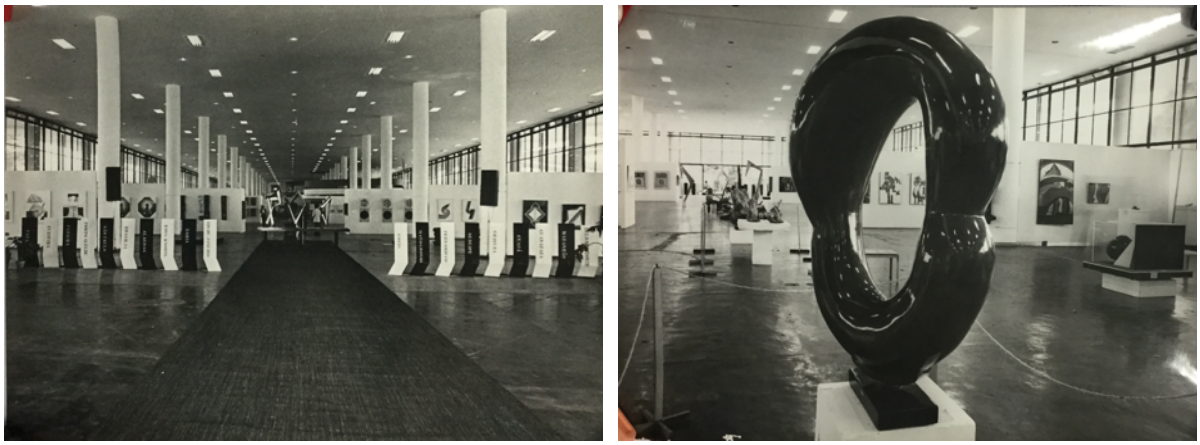


Figure 57. Entrance (left) and overview of Sala Brasília (right) on BSP 13 (1975) (AHWS/FBSP).

[124] Before that, some catalogs presented texts in English, but in a single volume, such as the ones from the BSP 26 (2004).

These examples also illustrate the fact that, although the exhibitions held between 1951 and 1979 adopted the national representation classification system, special rooms have always been part of these exhibitions, being also distinguished by complementary publications and located in very specific places in the building. The catalogues from this period (BSP 1-15) have a high number of pages (500 or more pages per copy), which is partly due to the large number of artworks that characterize this period of classification.

Regarding the second conclusion obtained in the charts about the increase in the number of pages in the most recent biennials, when observed by type of publication, it can be observed that: 1) the main catalogue decreases in size (BSP 16-26) and then grows back (BSP 27 onwards); 2) the volume of additional publications is quite variable (and especially large in BSP 23-25 and 30-33).

The drop in the size of the main catalogues of BSP 16-26 can be attributed to the decrease in the number of artworks and artists participating in this period. It is also interesting to note that it is during this period that secondary publications appear, a period in which countries and curatorial project coexisted as a criterion.

These additional publications also reach much larger volumes than the main publications themselves, especially in the biennials that preceded the change in the system of classification, 23 to 26. The main catalogues grow again in BSP 27-33, precisely in the period when the exhibitions started to be classified solely based on the curatorial project – whose complexity, to some extent, is associated with the size of these publications.

About the variation of additional publications, two observations can be made. In addition to the fact that some of these exhibitions feature an English version of the main catalogue, the exhibitions with the greatest amount of additional material seem to be those where a strong emphasis was placed on educational mediation activities (such as BSP 32, which features a series of educational booklets), as well as other types of artistic records (such as navigation guides and list of artworks).

A first general impression that can be taken from both charts is that from BSP 16 (which marks the beginning of a new operating system) the importance of building a curatorial discourse seems to grow considerably (since the number of publications, their size and the diversity of their contents also grew in this same period). This aspect, in turn, leads us to think about the spatial implications of these elaborated discourses, which raised the need for a deeper understanding of these publications.

A second step of this diachronic study of catalogues involved an examination of their structures in order to identify some patterns in the way artworks, artists, countries and themes were presented, which can shed light on the specifics of the spatial arrangement of these exhibitions. In general, it was observed that the catalogues of BSP 1-33 are structured into four main categories that present three variations within them.

The four categories of content structuring are:

1) National Representations (NR) – emphasis on nationality of artists;
2) Curatorial Project (CP) – emphasis on specific themes of the project;
3) Artists (A) – emphasis on artist name;
4) Artworks (AW) – emphasis on the name of the artwork or project.

The three variations within these categories were:

1) Artist-Order – alphabetical (based on the first or last name) or curatorial (when the presentation sequence is linked to a theme of the curatorial project);
2) Artwork-Text – the artworks have or not descriptive texts (which can be a title, a description of the technique or a brief presentation);
3) Artwork-Photos – artworks' photos next to the title/description or at the end.

Although these types of classification vary widely (in a visual sense), their general characteristics can be seen through some examples extracted from the catalogues. Figure 58 illustrates, through pages of four different catalogues (referring to BSP 4, 18, 29 and 33), the four categories of content structuring adopted in all cases.

The four examples illustrate catalogues that classified their works and artists according to: 1) the country of origin (BSP 4); 2) curatorial project themes (BSP 18); 3) artist's name (BSP 29); 4) name of the artwork or project (BSP 31). Comparing these examples also allows discussing the variations between each category. In the case of the BSP 4 catalogue, countries and artists are presented in alphabetical order, there is a text describing the country (made by its international commissioner) and the artworks (which included details about their format), and the images of the artworks were presented separately at the end. BSP 18 catalogue brings the works classified by theme (*Contemporâneos I*), followed by the artist's name and by a brief textual and visual description. The catalogues of BSP 29 and 32, although very similar, present an important difference. The first highlights the artist's name and the second the name of the artwork/project – in alphabetical order, with textual and visual description of the works.

BSP 4 (1957)

SUÉCIA

pintura

camponêsa. Com o seu forte temperamento artístico, êle conseguiu fundir êsses diferentes elementos, formando algo muito pessoal na arte sueca de hoje.
É nossa esperança que esta pequena exposição consiga transmitir um aspecto daquilo que é peculiar ao caráter sueco.

Prof. Hugo Zuhr

pintura

EVERT LUNDQUIST (1904)

1 A ÁRVORE, 1949. 116 x 104. Col. James Johansson, Norrköping.
2 O PÁSSARO, 1956. 100 x 81. Col. Harry Lund, Estocolmo.
3 CRIANÇA COMENDO, 1957. 100 x 80.
4 NOS CAMPOS, 1957. 74 x 83.
5 CORPO DE BOI, 1957. 116 x 104.

VERA NILSSON (1888)

6 MENINA ESCREVENDO, 1925. 32 x 40. Col. Rydbeck-Zuhr, Djursholm.
7 MENINA NA VARANDA, 1925. 77 x 66. Col. Ake Broman, Nyköping.
8 MULHER DE VÄRMLAND, 1933. 98 x 65. Museu de Arte, Göteburgo.
9 ATELIER DE COSTURA, 1937. 150 x 90.
10 CASA DE VELHOS, 1944. 71 x 57. Col. Ian Ridderstad, Estocolmo.
11 CINERARIA, 1944. 74 x 63. Col. Charles Nilsson, Estocolmo.

RAGNAR SANDBERG (1902)

12 JOGADORES DE FUTEBOL, 1937. 105 x 93. Col. Dr. T. Fahlén, Djursholm.

364

BSP 18 (1985)

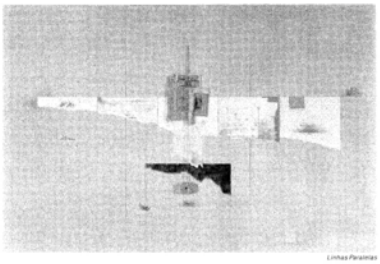
CONTEMPORÂNEOS 1

AGUIRRE, Carlos
México

Nasceu em: Acapulco, Guerrero, em 1948
Nacionalidade: Mexicana
Artista Convidado

Obras apresentadas:

Linhas Paralelas, 1984
Mista, 165 x 305 cm



Linhas Paralelas

ALCÂNTARA, Pedro
Colômbia

Nasceu em: Bogotá, Colômbia, em 1942
Nacionalidade: Colombiana

Obras apresentadas:

Série Los Ancestros
Mista/cartão
Col. Instituto Colombiano de Cultura
Série Los Ancestros
Mista/cartão
Col. Instituto Colombiano de Cultura



22

BSP 29 (2010)

Samuel Beckett

Dublin, Irlanda, 1906 – Paris, França, 1989. Escritor e dramaturgo, Samuel Beckett engaja em sua obra uma severa crítica à modernidade, centrada nos domínios da razão, da linguagem e do intelecto. Suas novelas, peças e poemas não utilizam o vocabulário para transmitir conceitos ou contar histórias, mas dedicam-se a fazer emergir uma dimensão autônoma e corporal da escrita e da fala. A experiência da Segunda Guerra e a participação na resistência francesa são decisivas para Beckett, que compõe, entre 1945 e 1953, a trilogia *Malone morre*, *Molloy* e *O inominável*. Escritas em inglês e em francês, com diferenças substanciais entre as versões, as obras declaram o interesse pela impossibilidade da tradução e pelos impasses entre os idiomas. A partir dos anos 1950, os seus experimentos com a linguagem o instigam a produzir obras inéditas e adaptações de textos para rádio, TV e cinema. ***Not I* é a versão em vídeo da peça homônima. Foca-se em uma boca destacada em um rosto coberto de negro, da qual verte freneticamente um monólogo como fluxo ininterrupto que, embora articulado, não consegue ganhar sentido claro.** Divorciada do intelecto, a fala torna-se ação bruta do corpo, e a boca, um simples órgão de emissão.

Not I
1972
fotograma



A palavra é o pai dos santos / a palavra é a mãe dos santos / com a palavra-serpente podemos atravessar um rio / povoado de jacarés / às vezes desenho uma palavra no chão / com uma palavra fresca pode-se atravessar o deserto / numa só jornada / existem palavras-remo para afastar tubarões / existem palavras-iguana / existem palavras sutis essas são palavras bicho-pau / existem palavras de sombra em cólera despertadora e cintilante / existem palavras Xangô / às vezes nado safado atrás de uma palavra golfinho //

Palavra macumba – **Aimé Cesaire**

BSP 31 (2014)

Não é sobre sapatos 2014
GABRIEL MASCARO

Para realizar *Não é sobre sapatos*, Gabriel Mascaro pesquisou imagens feitas durante as manifestações de 2013 em diversas cidades do Brasil. Assim como em outros países, como uma alternativa à imprensa oficial, os manifestantes criaram uma maneira própria de comunicar suas ações em território público, articulando ações via redes sociais e registrando a presença do corpo coletivo nas ruas com suas próprias câmeras. Essa documentação, que circulou amplamente pela internet, além de inaugurar uma certa ruptura na produção e compartilhamento de discurso, também denunciou a violência policial exercitada contra manifestantes.



Mas em vez de usar seus próprios registros ou aqueles realizados por manifestantes, o artista se interessou pelas imagens sob a ótica da polícia, invertendo o narrador do protesto e ao mesmo tempo questionando: "Como pensar o postulado estético, político e autoral das imagens produzidas pelo estado a partir de seus agentes que estariam filmando com o princípio de policiar e fiscalizar a ordem pública e de enquadrar rostos para a criminalização?". O jogo estabelecido entre duas instâncias – a do Estado e o do cidadão – que se

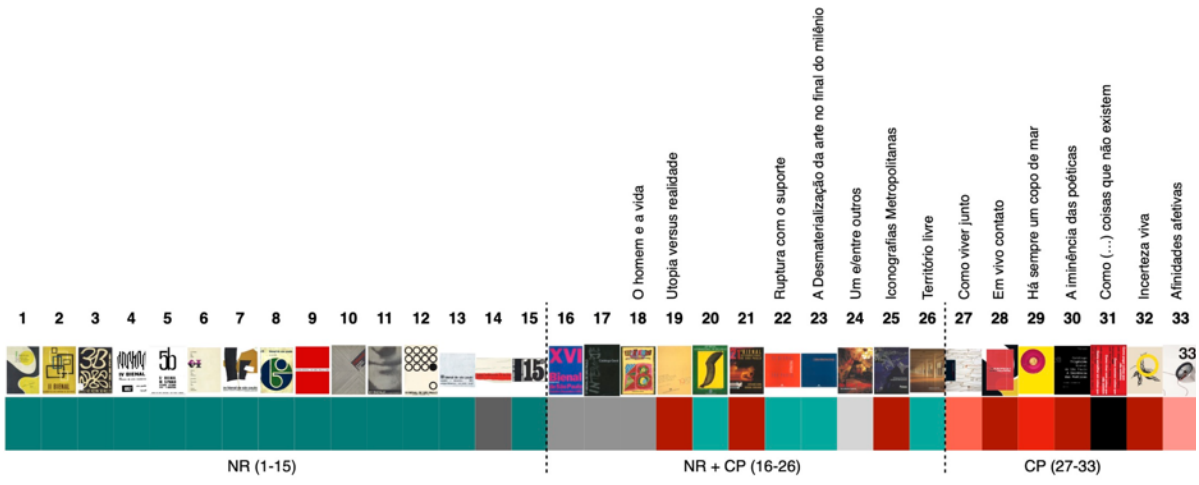
120

Figure 58. Examples of the four catalogue structuring categories – country (BSP 4), theme (BSP 18), artist (BSP 29), and project (BSP 31) (AHWS/FBSP).

This classification of catalogues is gathered in a timeline and a table, where the former shows the classification of each catalogue according to the four categories (as well as the title of the exhibition, if any), and the latter describes the existing variations within the same category (since the 4 categories comprise 10 subcategories) (Figure 59).

Most BSPs (18 of 33) structured their catalogues based on: 1) the name of the countries of origin of the artists (NR, represented in light and dark green); 2) 10 of them classified it based on the name of the artist or project (A/AR, represented in shades of red and black); 3) only 5 of them prioritized the themes of the curatorial project (shades of grey). The period with the most variations in terms of structuring the catalogues is that between BSP 16-26. In BSP 1-15 catalogues classified based on the countries of origin of the artists predominate, and in BSP 27-33, emphasis is given on the artist's name.

The exceptions to this pattern are BSP 14 (1979) and 31 (2014). The former for having classified the artworks by themes, which reinforces the idea that this was the first biennial to have a curatorial project. And the latter because it was the only biennial that emphasized the artist's work or project carried out by a group of artists, which reinforces the idea of its curatorial project – which was to encourage collaboration between different actors and disciplines, thus de-emphasizing the individual.



		NR		CURATORIAL PROJECT			ARTIST				ARTWORK
		1A	1B	2A	2B	2C	3A	3B	3C	3D	4
ARTIST ORDER	Alphabetical	x	x	x	x		x			x	
	Curatorial					x		x	x	x	x
ARTWORK TEXT	Yes	x	x	x	x	x	x	x			
	No								x	x	x
ARTWORK PHOTO	Separate	x		x							
	Together		x		x	x	x	x	x	x	x
BIENAIS		1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15	20, 22, 23, 26	14	16, 17, 18	24	19, 21, 25, 28, 30, 32	29	27	33	31

Figure 59. Catalogue classification system.

Although BSP have been organized by a curator since 1981, the first titled exhibitions are BSP 18 and 19, *O homem e a vida* and *Utopia versus Realidade*[125], curated by Sheila Leirner (second curator in the history of BSP), and from BSP 22 onwards, *Rutpura com o Suporte*[126], the assignment of a title becomes a constant. The period comprised between BSP 16 and 26 presented three of the four classification categories – countries (NR), themes (CP) and artist (A). This variety can be attributed to the fact that in this period both exhibition classification systems coexisted, therefore the two elements that characterize the earlier and the later eras overlap in this period.

It is interesting to note that the catalogues that adopt the country as a category for structuring the content of this period (BSP 20, 22, 23 and 25, described in light green) differ from those of the previous period (BSP 1-15) only by bringing the photos of the artworks together with their description. That is, while the catalogues from the 1950s to 1970s only brought few images of the artworks at the end, catalogues from 1980 onwards were much more illustrated and graphically elaborated.

Although other aspects of these variations between catalogues can be pointed out[127], in general there is a strong correspondence between how their catalogues were structured and the three eras of classification of exhibitions, as defined by the FBSP, and the four eras of organization (Alambert and Canhête, 2004; Di Carlo, 2016), which reinforces their importance as a source of research. In this context, some particularities of the catalogues are discussed according to the three eras of classification of these exhibitions in the following order: 1) National Representation Era Catalogues (BSP 1-15); 2) Curatorial Project Era Catalogues (BSP 27-33); 3) NR + CP Era Catalogues (BSP 16-26).

Although practically all catalogues from that period present the artworks by country and in alphabetical order, BSP 1 sorts them in order of adhesion, which, to some extent, represents a sign of the trust and support deposited in the event (FBSP, 1957) and can also be related to the ideas of reputation and status networks that exhibitions and exhibition catalogues materialize (Braden and Teekens, 2019). For instance, France, recognized by its tradition in the field of art, is the first country of the list, and displayed artworks by Fernand Léger and Pablo Picasso in this edition (FBSP, 1957).

---

125 The Men and the Life and Utopia versus Reality.

126 Rupture with Support.

127 Such as the fact that in some catalogues (BSP 2-4), even when in alphabetical order, Brazil was presented before other countries.



Figure 60. Advertisements from BSP 2-10 catalogues (AHWS/FBSP).

Another particularity of the catalogues from this first period is that most of them have a high number of advertisements on services and products not necessarily related to the artistic area (such as advertisements for hotels, banks, beverages, electronics), which grows significantly between BSP 2 and 6, going from 6 to 106 pages (Figure 60). This aspect, which also coincides with the period of expansion of the event, to some extent also reflects the interplay between art and industry, culture, and capital, that characterize the universal exhibitions, but also the event and the Pavilhão Bienal (Birnbaum and Wallenstein, 2019).

This cultural and economic interplay can also be observed through the regulation of selection and awarding criteria for artists and the sale of artwork[128], with detailed information on conditions of sale, prizes, and shipping costs. It can also observed in space, through the existence of areas for the sale of artworks as part of the exhibition circuit (as in BSP 6-8, located adjacent to the entrance and exit), as well as in the creation of a technically adequate area within the pavilion to exhibit artworks with greater restrictions

[128] E.g., "A section specially designed for the sale of the artworks will function at the Bienal secretariat and will charge a 5% commission on the amount of the acquisitions" (FBSP, 1951, p. 26).

in this regard, the air-conditioned area, also described as the "museological space", on the fourth floor, created in 1994 (Martinez, 2002).

The exhibitions of this first era (BSP 1-15), in contrast, were held in a period "when the artworks and their respective insurances had not reached the exorbitant prices of now, the technical standards for their exhibition were tor as radical nor their owners as whimsical and irreducible in their prerogatives" (Farias, 2001, p. 241). In this context, the catalogues from that period are a good illustration of this relationship between art and market, which seemed to be more explicit, both in social and spatial terms.

In line with another argument of Braden and Teekens (2019), on the relationship between groups or artists and their performance in the art market, the BSP seemed to be a very attractive event from a commercial point of view, both for artists and for those who supported the event. This, in turn, allows us to reflect on how this relationship permeated both the architecture of the Pavilhão Bienal and the layout of its exhibitions and how it happens at BSP in subsequent periods.

The catalogues of BSP 27-33 (curatorial project) adopt the artist's name as their main classification criterion. It is interesting to note that, although this era consists of only 7 exhibitions, it presents five different classification subtypes, 4 catalogue variations based on the names of artists, and 1 catalogue based on the name of the project or artwork. Although these exhibitions were classified based on a curatorial project, virtually all of them emphasize the artist's name, which leads us to think that the change to a curatorship operating system also represents a greater emphasis on the artists' individual work of (to the detriment of the idea of national identities and productions).

This period, also described as "the curators' era/the international professional curators' era" (Alambert and Canhête, 2004) in terms of organization, is marked by an emphasis on participating artists, a central aspect, for example, of the curatorial project of BSP 33 (FBSP, 2018a). Therefore, to some extent, it can also be considered as the artists' era[129].

The catalogue from BSP 31, which is an exception, brings a curatorial project that explored the idea of conflict, which would "point to the need to think and act collectively" (FBSP, 2014, p. 23), prioritizing people that "work on collaborative projects with other

[129] This was also the subject of an exhibition held in 2017 by the Museu de Arte Contempoânea da Universidade de São Paulo (MAC-USP), called "MAC USP in the 21st century: The Artists' Era", curated by Katia Canton, organized based on the artists' surname, avoiding fixed readings of the works, a gesture that sought to make curation invisible (Jornal da USP, 2017).

individuals and groups, in relationships that must continue and develop over its duration and perhaps even after its closure" (FBSP, 2014, p. 25).

The four variations identified in this period refer to differences in the order of presentation of the artists (alphabetic/curatorial themes) and the presence of texts and photos describing the artworks. For instance, the catalogue of BSP 27, the first to be organized and classified according to the principles of a curatorial project, presents the artists in alphabetical order together with texts that discussed the themes of the curatorial project. The large volume of texts of its first 300 pages describes its curatorial project, *Como viver junto*, whereas the following 200 pages illustrate the artworks through full-page photos without any description (just the artist's name), inviting readers to see for themselves the tensions, conflicts and contrasts, central ideas of the curatorial project (FBSP, 2006a).

BSP 33 catalogue, in its turn, represents a specific subtype due to an overlapping criterion. In this BSP the main curator (Gabriel Pérez-Barreiro) selected artists and 'artist-curators', which in the catalog were differentiated between collective exhibitions (curated by the artist-curators) and individual projects (artists selected by the main curator), both making up the exhibition *Afinidades Afetivas* (Affective Affinities) (FBSP, 2018a). The idea of affectivity is expressed in the curatorial gesture of extending the role of curator to artist-curators[130], "giving up the thematic model that prevailed worldwide in the last decades" (FBSP, 2018, p. 13). Although these artist-curators appear in alphabetical order, they are presented separately from the other artists selected directly by the curator.

Another aspect that differentiates this set of catalogues is the considerable amount of information about the educational and architectural dimensions of these exhibitions, as in BSP 29, 30 and 31[131]. BSP 31 has a peculiarity, its main curator, Oren Sagiv (Israel), was also the architect responsible for the exhibition design and its catalogue has a section to describe its architecture. In this BSP, the author proposed a sectorization of the Pavilhão Bienal into a "park area" (floor 1 – exploring the connection with the Parque Ibirapuera); "ramp area" (spaces surrounding the ramp and void - floors 2, 3 and 4) and "columns area" (spaces located in the opposite portion to the ramp/void, characterized by the predominance of regularity of the orthogonal grid defined by the columns – floors 3 and 4)

[130] Which was also a gesture criticized for, in liberating the artworks from "thematic imprisonment", having simplified complex issues by neutralizing the curatorial function, also referred as the non-curatorship (Osorio, 2019).
[131] Although other BSP present additional publications dedicated to the description of paths, such as guides and folders, as the case of the BSP 29 (discussed in Chapter 6).

–based on the most striking characteristics of the building, which also guided the general structuring of the exhibition space (Figure 61).

BSP 29 and 30 also include a similar section in their catalogues. The latter, designed by Martin Corullon, describes through diagrams, photos and models the conception of the exhibition supports, rooms and groups of rooms, the relationship between the exhibition, the pavilion, and the routes (FBSP, 2012). The former, by Marta Bogéa, highlights an archipelago through the definition of a diagonal mesh in contrast to the building's orthogonal mesh, which differentiate areas of occupation and movement (FBSP, 2010a).

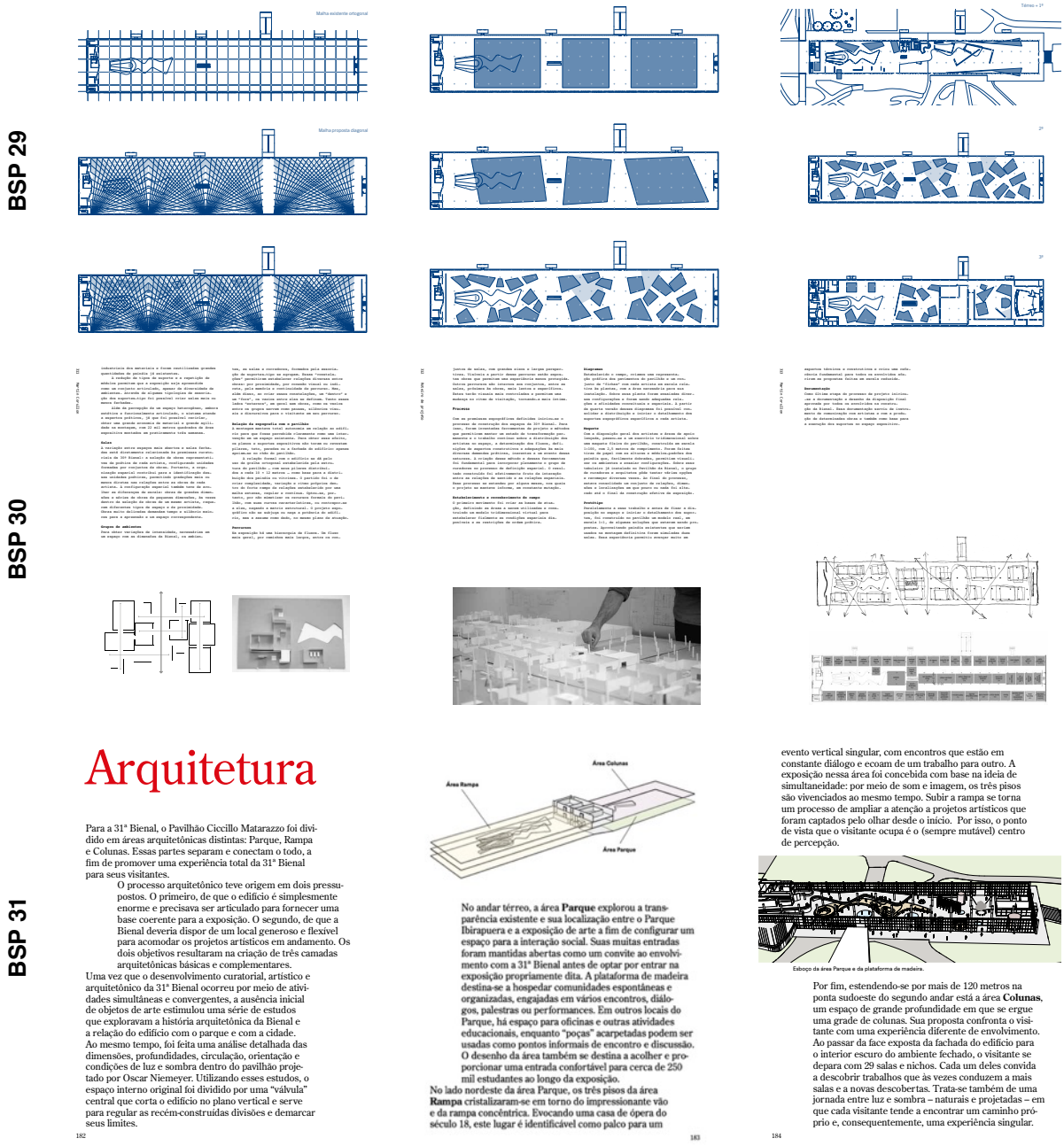


Figure 61. BSP 29, 30 and 31 – Architectural design premises of the exhibitions (AHWS/FBSP).

The two architectural projects, from BSP 30 and 29, used the third floor of the building as a base to illustrate the concepts that guided the exhibition design. The building's largest and most regular floor, this was also the floor that guided the conception of the exhibitions BSP 32 and 33, by Álvaro Razuk[132], who also quotes the expression "archipelago" when referring to the notion that guided his project.

The presence of architectural information is also identified in catalogues from earlier biennials. For instance, BSP 3 shows the exhibition plans on pages 8-9, as a suggestion to guide visitors' navigation. BSP 6 catalogue presents a map with countries, special rooms, and the location of artworks in the pavilion. And in BSP 11 the plans reappear at the end of the catalogue, being included at the end of most catalogues from this biennial onwards (except for BSP 14, 15, 24, 26 and 27).

Another architectural information that can be extracted from the catalogues is the authorship of the exhibition design, constantly mentioned since BSP 4, however, the nomenclature given to exhibition design varies. Until BSP 12 it was called "installation" and after BSP 13 it is called "assembly project". If the abandonment of the term installation can be associated with its use to designate an emerging artistic format, the introduction of the term "design", together with the publication of the plans, suggests a consolidation of this professional field.

Consideration on the intermediate set of catalogues (BSP 16-26) were left to the end since the discussion of the two previous sets provides a good overview of what characterizes the catalogues of this intermediate era. The emphasis on themes is perhaps its main distinction, the most diverse period in terms of catalogue classification systems. In this period there are still four exhibitions whose catalogues highlight the countries of origin of the artists (BSP 20, 22, 23 and 26), which links them with the catalogues of the first era. There are also three that highlight the names of the artists (19, 21 and 25), thus anticipating the system used in the most recent biennials. Four of them (BSP 16, 17, 18 and 24), in turn, are structured around the themes of the curatorial project. This is the period when additional publications appear, many of them dedicated to specific sectors of the exhibitions (to differentiate them from sectors of national representations). BSP 16 and 17, curated by Walter Zanini, and 18 and 19, by Sheila Leirner, are paradigmatic cases in this regard (Matos, 2009).

[132] As mentioned in an interview conducted by the researcher on the third field visit in June 2019.

While this is a period marked by the emergence of the curator and the idea of a curatorial project, it is also at this period that an emphasis on the artist begins to take shape, as in BSP 17 and 19, where specific publications were dedicated to Flavio de Carvalho (Brazil) and Marcel Duchamp (France), respectively (FBSP, 1983c, 1987d).

BSP 24, curated by Paulo Herkenhoff and Adriano Pedrosa, *Um e/entre outros*, had three additional publications, which emphasized Brazilian contemporary art. However, the exhibition sector that corresponds to the publication Historical Nucleus is the most remembered of this BSP, known as the "anthropophagy biennial" because of this sector, anthropophagy and stories of cannibalism, as a metaphor to propose a renewed look at national art (FBSP, 1998b) (Fig. 62). Working with the idea of contamination, by mixing artists and artworks from distinct origins and eras (16th to 20th century), this exhibition also inserted the BSP in the debate on multiculturalism in times of post-colonial globalization (Queiroz, 2011). Artists associated with this sector of the curatorial project were displayed on the fourth floor of the pavilion, in the museological space (Martinez, 2002).

The catalogue of the BSP 26, in turn, lists in its initial pages the name of 47 curators, who are equivalent to the commissioners of the exhibitions of the National Representation system (responsible for the delegation of each participating country). This is the second largest biennial in terms of numbers of curators, only behind the BSP 24, with 76. And the first catalogue to use the term curator to nominate the international commissioners (that is, those responsible for selecting the works of each country, acting as artistic ambassadors), was that of the BSP 20, which can be understood as another evidence of the transition of systems that characterizes this period (FBSP, 1989a, 1989b, 1989c).



Figure 62. BSP 24 publications – Main catalogue, historic nucleus, national representations, and guides (AHWS/FBSP).

Therefore, the catalogues of this third period, to some extent, allows us to reflect on how "the expression 'curating', so commonly used today, was coined in the 20th century. This records a change in the understanding of a person (a curator) for a project (a curatorship), which today is seen as "an activity in itself" (Obrist, 2014, p. 36).

* * *

This diachronic study of the catalogues presented a high correlation with the three eras of the classification system. However, some inconsistencies were also identified. For instance, BSP 14, to a certain extent, already had a curatorial project (although it can only be read in its catalogue, as its plans are not available in the AHWS/FBSP). Also, the first two eras proposed by Alambert and Canhête (2004), the Museum and the Matarazzo era (BSP 1-15), have no significant distinctions when understood from the point of view of catalogues, suggesting that the institutions that organized the event, MAM-SP and FBSP, shared similar values. Another interesting point is that the last era, BSP 24-31, of the international professional curators, also coincides with the beginning of a period marked by a strong emphasis on the name of the artists (although still classified based on a curatorial project).

This catalogue classification system also supports the discussion of how these texts were translated into spatial discourses. Even though an in-depth description of each catalogue requires a much more detailed study, observing them together, based on the way they classify their works, artists, and themes, allowed us to identify that the three periods of the classification system find great correspondence with the patterns observed in these publications. That is, BSP 1-15 present similar publications, as do BSP 27-33, although the former emphasizes countries, and the latter emphasize contemporary themes and the names of artists. BSP 16-26, on the other hand, present a great diversity of classification, as well as a large number of publications, which suggests that their discourses are, to a certain extent, more complex. These findings raise the question of whether or how such differences can be observed in the layout of these exhibitions. For example, whether a greater volume and stratification of publications can represent a greater convex partition or deeper spatial systems, or whether the classification system in general, or the emphasis given to particular themes or artists, can be identified in their spatial arrangements, as discussed in the following section.

4.2 From curatorial discourse to spatial configuration

This topic investigates how the elements discussed in the previous topic, which characterize the prescriptive text of the exhibitions, are spatialized. Therefore, it is divided into two parts: the first discusses some issues that emerged from the redrawing of the plans (4.2.1), which was the methodological procedure used to document and study how such texts were structured in the form of a spatial discourse; the second identifies some correlations and contradictions between such prescriptive texts and spatial structures (4.2.2), based on graphic illustrations of some spatial patterns.

Together, these two topics provide an overview of the relationship between the texts contained in the catalogues and the architecture of these exhibitions, as well as to anticipate some points about the relationship between the building layout and the exhibition layouts, fundamental aspect for choosing the cases to be analyzed posteriorly.

4.2.1 The redrawing process as a research device

Before discussing the idea of redrawing as a research device, it is important to return to one of the practical reasons that lead the BSP to be chosen as the empirical object of this research, which is the existence of the Arquivo Histórico Wanda Svevo. Installed in the Pavilhão Bienal, the AHWS is one of the most important documentary repositories on modern and contemporary art production in Latin America, which gathers more than a million documents[133] of the BSP exhibitions and their developments in history of art.

The discussion is structured in two steps: the first discusses the potential and identifies some limitations of the data obtained from the Arquivo Histórico Wanda Svevo (AHWS/FBSP), mostly plans (4.2.1.1); and the second makes methodological considerations about the redrawing process, as well as presents the adopted conventions in the new drawings (4.2.1.2).

[133] Part of this collection, about 250 thousand documents, is also available for online consultation (http://arquivo.bienal.org.br/pawtucket/).

4.2.1.1 Potential and limitations of the original data

The Arquivo Histórico Wanda Svevo (AHWS/FBSP) is a fundamental source of research for the fields of art, architecture, history etc. However, its most recent data is still in the process of classification and availability to the public[134]. This was decisive in defining plans, catalogues, and photographs as the main sources for the development of the research, since these are available for the entire period.

The AHWS consists of three funds: 1) Francisco Matarazzo Sobrinho (1880-1981) – personal and administrative documentation relating to his activities in cultural institutions; 2) MAM (1948-1965) – creation and activities developed by the Museu de Arte Moderna de São Paulo (MAM-SP) in its early years, including the organization of the first six BSP and the creation of the Fundação Bienal de São Paulo; 3) Fundação Bienal de São Paulo (1962-nowadays) – documents from the exhibitions and other events promoted by the foundation, including artists registration forms, photographs, plans, posters and administrative documentation[135] (Figure 63).

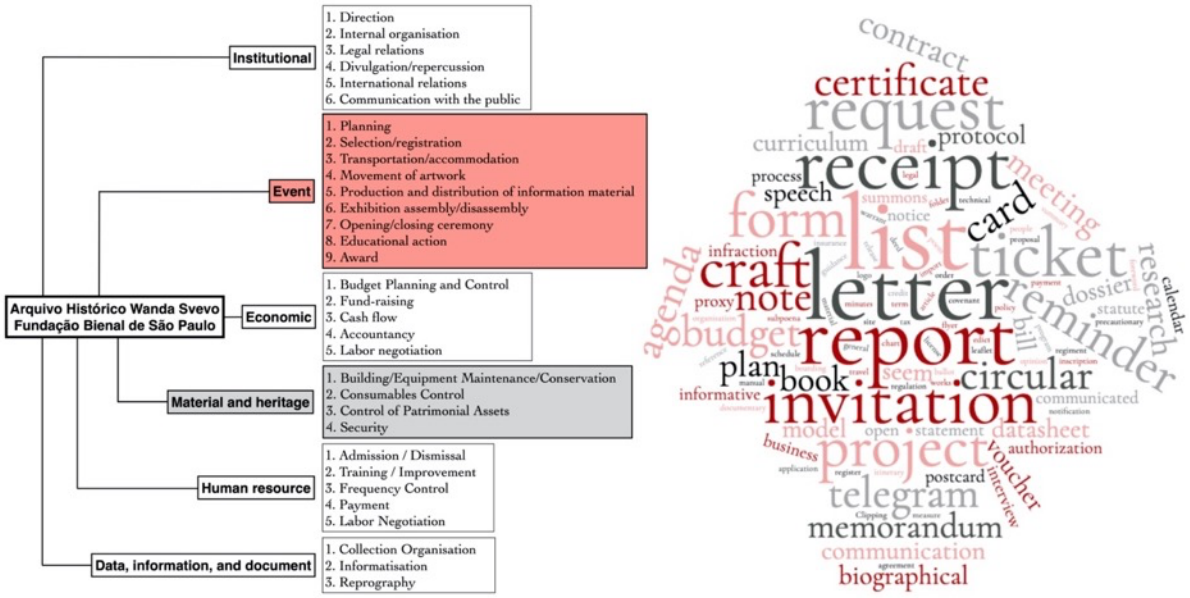


Figure 63. Classification structure and word cloud of the types of documents available at AHWS/FBSP.

[134] In July 2019, date of the last visit to the archive, the material available referred to the BSP 26 (2004). The most recent editions were not yet available for public consultation.
[135] According to the document classification plan provided by the AHWS/FBSP in one of the research visits.

These funds are distributed in three collections: 1) Dossier of Artists (documentation related to artists, architects, curators, critics, and art historians); 2) Dossier on Art Themes (documentation related to topics on art in general, cultural institutions, galleries, etc.); 3) Library (collection formed from curatorial research of the Art and Architecture BSP, in addition to exchanges and donations from other institutions). It also includes titles on art history and criticism, art education, artists' monographies, as well as catalogues of art biennials and large national and international exhibitions).

These funds and collections are divided into six classes of management: 1) Institutional; 2) Event; 3) Economic; 4) Material and Heritage; 5) Human Resource; 6); 7). Each of these classes presents several document types, where the most recurring are list (of artworks and artists), letter, report, receipt, and invitation.

The class that most presents documents that help to understand the architectural dimension of these exhibitions is Event (highlighted in pink), as it gathers documentation related to the planning, selection, and registration of artists and artworks, assembly and disassembly of exhibitions, opening and closing ceremonies, information materials, educational actions, and awards[136]. The Material and Heritage class (in grey) is also important as it refers to the documentation of the FBSP's patrimony, which includes the Ciccillo Matarazzo Pavilion. Its subclasses demonstrate that this documentation is related to maintenance, control, and security activities of the pavilion and other foundation assets.

Other classes can provide important data for architectural research, however, in this research, only the classes that already gathered documents of an architectural nature (mainly plans) or directly related to it (such as photos and catalogues) were considered. Although visits to the archive were of fundamental importance for a general understanding of the event and the building, most of the data used in the research is also available for consultation on the FBSP website.

Having clarified these aspects about the AHWS/FBSP, a specific discussion about the redrawing of the plans needs to be done. In principle, images of all BSP plans were collected and arranged side by side for a first round of examinations[137]. This first joining of the entire sample, available in larger size and better resolution in the appendices, provided

[136] That took place until the BSP 14 (1977).
[137] Except BSP 14, missing from the archive.

a good overview of the general spatial aspects of the event, as well as highlighted some limitations regarding the use of the plans in their original format.

Such plans allow us to understand how these exhibitions vary in terms of geometry, density, clustering systems, location of entrances and exits etc. However, some aspects of these images make a more accurate analysis unfeasible. Most evident of all is that to generate translations of spatial systems (for example, into convex maps and justified graphs), the drawings need to be in specific digital format[138]. This would justify redrawing only the cases selected for the configurational analysis, since there are no records in these formats available in the AHWS[139].

Aspects that make the images difficult to read and interpret are poor legibility (especially in drawings between 1950 and 1970), lack of information (such as missing labels or entire parts of the plans), and the various forms of representation (some closer to a technical language and others more schematic and abstract). The original plans are gathered in Figures 64, 65 and 66, as well as in the appendices of the thesis.

Together, these aspects make a simple comparative reading difficult and led to the decision to redraw all exhibition plans, including BSP 1-3 (as presented in the previous chapter), to provide a standardized and complete record of the material, available in the appendices of this thesis. In addition to contributing to the documentation of the architectural dimension of these exhibitions, such record can be an important contribution to the development of future investigations.

The redrawing process made it possible to correct some issues identified during the analysis of the plans, in addition to improving the comparison between them by adopting a similar language for all cases. Thus, it constitutes not only a methodological step, but a research device (Lury and Wakeford, 2013), from which it was possible to understand more clearly some of the mechanisms that characterize the relationship of interdependence between building layout and exhibition layout, discussed in the subsection 4.2.2 (different discourses, similar spatial arrangements) of this chapter.

---

138 More precisely in vector graphic format, such as .DWG, .DXF, .SVG and .PDF, so that these plans can be analyzed using specific software.

139 In one of the AHWS searches, a .DWG file from 2008 was obtained with the Pavilhão Bienal plans and sections, which was a huge contribution to the redrawing of the plans.



Figure 64. Original plans – BSP 1-8 (AHWS/FBSP).

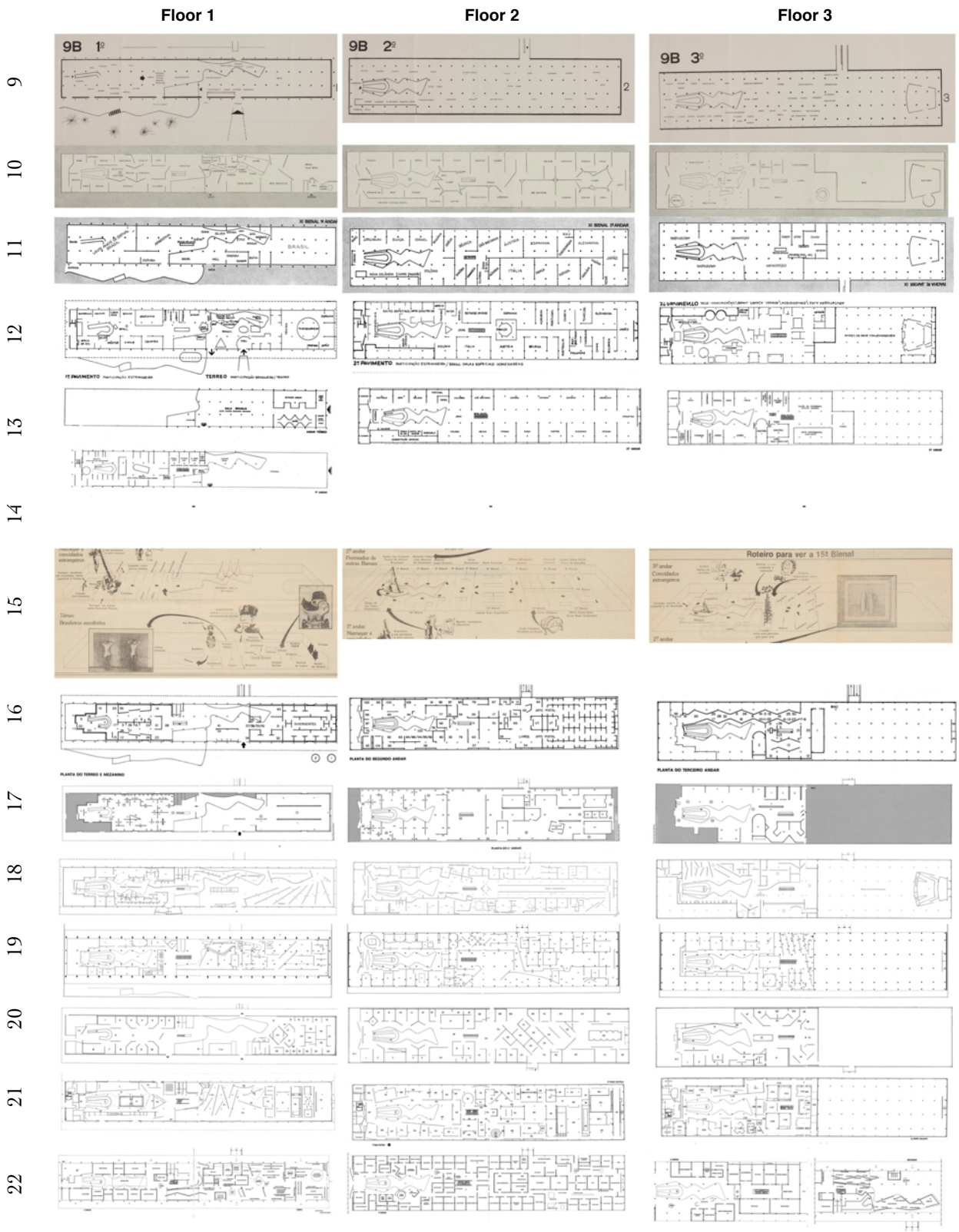


Figure 65. Original plans – BSP 9-22 (AHWS/FBSP).

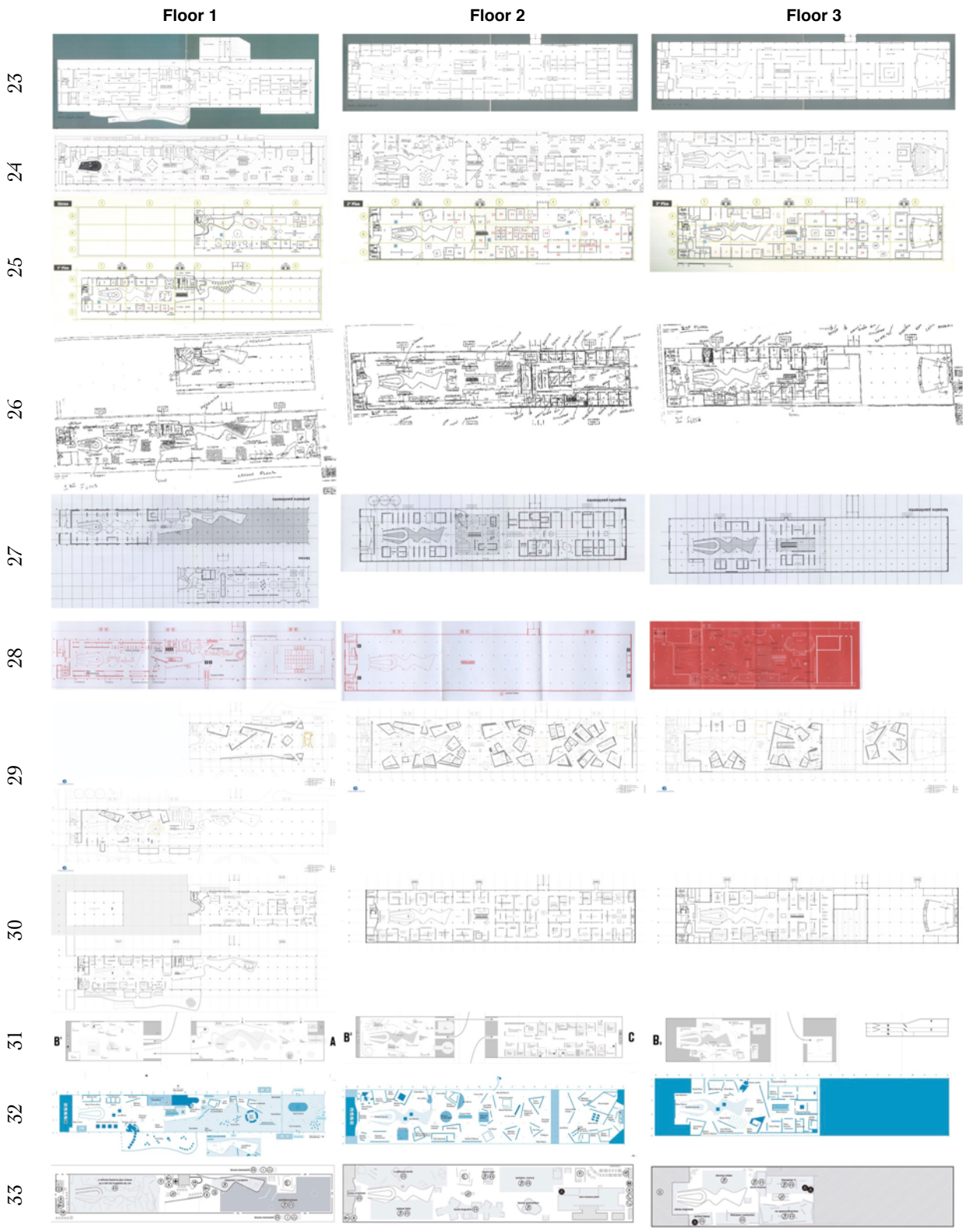


Figure 66. Original plans – BSP 23-33 (AHWS/FBSP).

4.2.1.2 Methodological considerations and adopted conventions

From a conceptual point of view, architectural redrawing is constituted not only as a knowledge reproduction tool, but also as a knowledge construction tool (Lima and Vieira, 2017; Lury and Wakeford, 2013; Vázquez Ramos, 2016). Some authors also reflect on the pedagogical dimension of this construction of knowledge that the redrawing allows, that is, on its didactic role in the teaching of architecture (Medeiros and Chaim, 2019; Vásquez Ramos et al., 2016).

The redrawing also stimulates an analytical reflection on architectural practice (Vásquez Ramos et al., 2016) and works as a tool for learning design processes and for understanding specific historical periods (Stinco, 2015), for instance, through the redrawing of iconic and paradigmatic buildings of modern architecture (Camisassa and Portugal, 2013; Caúla et al., 2016).

This last point in particular is very close to this investigation, not only because of the relevance of the empirical object, but because the redrawing of the exhibition plans (and their respective buildings, as discussed below) allowed a better understanding of the "spatial condition", as a mark of identity and as traces of its historical lineage (Lima and Vieira, 2017, p. 43). Therefore, the redrawing process allows us to understand how this object is historically situated in relation to the expographic and architectural thought it materialize (Lima and Vieira, 2017).

Some aspects that were adjusted through the redrawing process can be observed, for example, in the plans of BSP 15 (which presents a technical language, but different from the others – isometric perspective), BSP 26 (poor legibility, with sketches and freehand notes), and BSP 32 and 33 (non-technical language) (Figure 4.19).

With regard to incomplete information, all BSP 18-24 plans have a gap in the central part, which could be filled by consulting the physical catalogues in the AHWS. This gap is due to the fact that these drawings were scanned from their printed version in the physical catalogue and in this process the information was lost (since they are printed on a double page) (Figure 67).

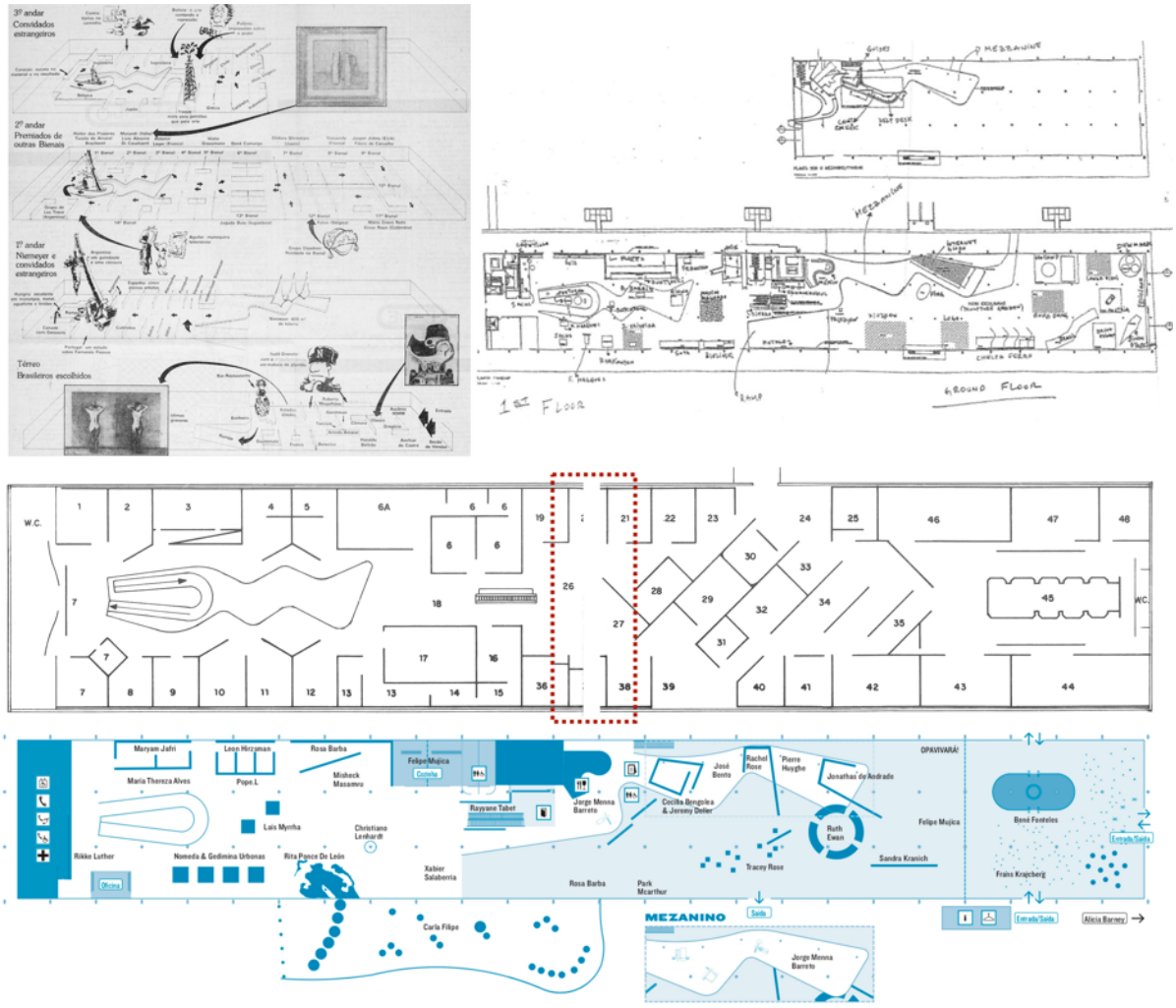


Figure 67. Examples of situations identified in the original plans (BSP 15, 26, 20 and 32) (AHWS/FBSP).

Another important aspect adjusted during the redrawing process was the separation of floors 1 and 2, which in many of the original plans were represented in a unified way. From the point of view of communication of the exhibited contents, this representation does not seem to compromise its understanding, since: the overlapping area between these floors is small (about 650 square meters), this region of the floor 1 often does not contain artistic contents (frequently housing auxiliary uses such as bar, restaurant, and bookstore – as in BSP 5-10, 12, 28, 31 and 33), or that some cases represented this small area separately (as in BSP 18, 21, 22 and 32).

In this context, from an architectural point of view, this representation compromises the understanding of the building, as it suggests that the building has 3 and not 4 floors. For this reason, in the redrawing process, floors plans 1 and 2 were represented separately – as in the original plans of BSP 4, 25, 27 and 30, as illustrated in Figure 68.

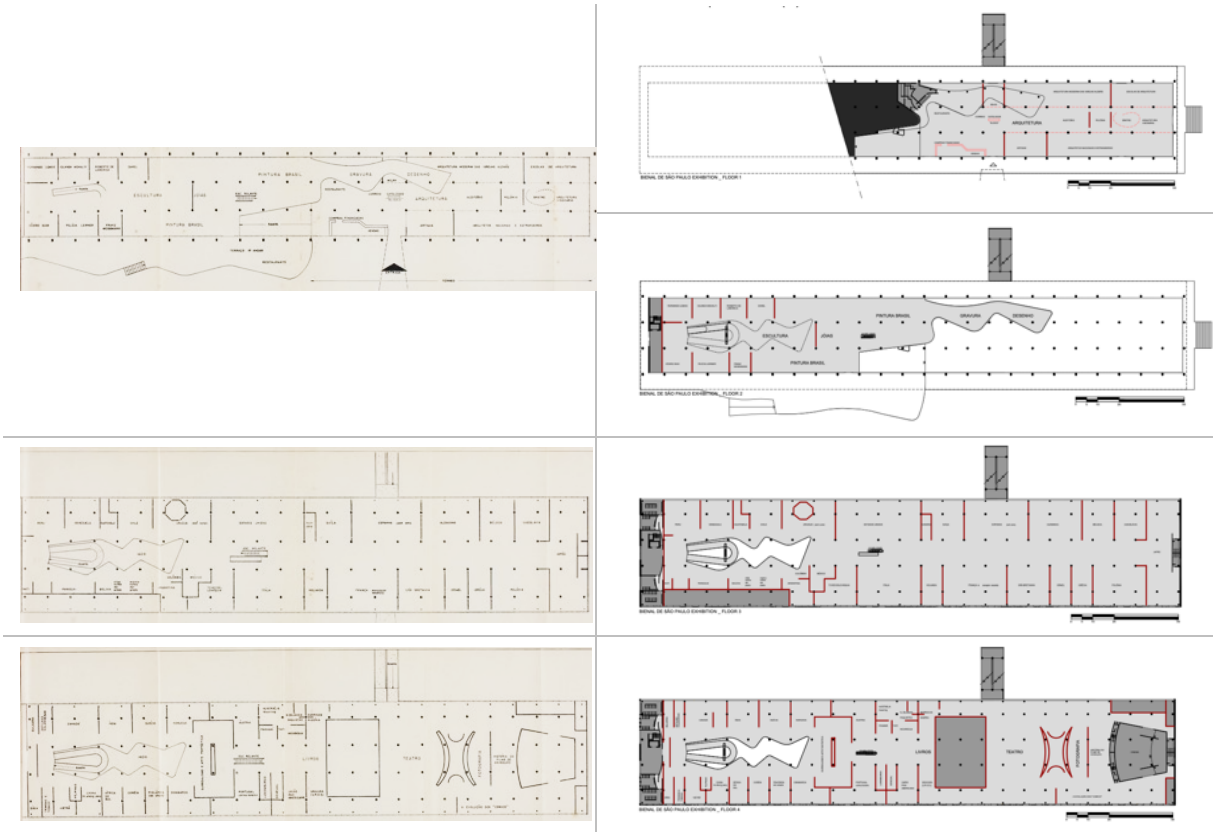


Figure 68. Original and redrew plans – separation of floors 1 and 2 (BSP 8).

This decision also considered that most plans contained information regarding the occupation of this overlapping area. Besides that, although the levels are continuous, the visual continuity between them is partial, both due to the unevenness between the floors, and the longitudinal extension of the building (250 meters), whose repetition of pillars (with 0.8 meters of section on this floor) decreases long-distance visual range.

With this procedure, the number of exhibition plans, that initially was 91 (excluding the 7 plans referring to the first three BSP), increased to 116 plans (29 editions with 4 plans each). One of the first and perhaps most important conclusions that the redrawing of the exhibition plans made possible was that the Pavilhão Bienal has also undergone significant spatial transformations over the years.

Although these spatial transformations are addressed in the following chapter, they are studied based on data that were elaborated in the process of redrawing the exhibition plans, which was the reconstitution of the building plans. This reconstitution was carried out through the detachment between the exhibition layout and the building layout, reconstituting the building's spatial configuration as it was in the year of each biennial.

In this redrawing process, some conventions needed to be defined, in addition to the decision to represent floors 1 and 2 separately. These decisions are mainly aimed at differentiating the layout of the exhibition from the layout of the building (represented in dark red and black, respectively), as well as highlighting the boundaries between exhibition areas and non-exhibition areas (demarcated in light and dark grey).

In addition to increasing the readability of the plans, this differentiation between exhibition and non-exhibition areas was essential to deal with the entire sample in a homogeneous way. Not all cases had the layout of the non-exhibition areas, that is, the internal partition of areas not accessible to the public (such as FBSP facilities). However, in all of them it was possible to define the boundaries between exhibition and non-exhibition areas, and with that define both the proportion and the geometry of the interface between them, aspects that are of interest to the study.

This differentiation between exhibition and non-exhibition areas also considered, in addition to morphological aspects, aspects of social order, such as the activities take place in each of these areas and which groups of people participate in them. Therefore, the idea of the generic function of space (Hillier, 1996b) deserves to be taken up since it refers to:

> properties of spatial arrangements which all, or at least most, 'well-formed' buildings and built environments have in common, because they arise not from specific functional requirement, that is, specific forms of *occupation* and specific patterns of *movement* but from what makes it possible for a complex to support any complex of occupation or any pattern of movement (Hillier, 1996, p. 245).

According to this definition, generic function is the ability of buildings to promote *movement through* and *occupation of* its interiors. In this context, the movement attribute was associated with people and the occupation attribute with things. Therefore, these attributes were combined to characterize four situations: 1) areas with absence of movement (of people) and occupation (of things); 2) areas with presence of movement, absence of occupation; 3) areas with absence of movement, presence of occupation; 4) areas with presence of movement (of people) and occupation (of things) (described in Figure 4.21)..

Exhibition areas correspond to situation 4, where there is an overlap between the *occupation* of *things* (mostly artistic artifacts, but also functions related to the exhibition – bar, restaurant, bookshop, store, etc.) and the *movement* of *people* (ramps and stairs belonging to the main circulation path[140]) (Figure 69).

[140] The definition of the minimum circulation distance, which is elaborated and discussed in chapter 5, can be provisionally described by the route comprised by the stairs and internal ramps, therefore excluding the elevator and the external ramp.

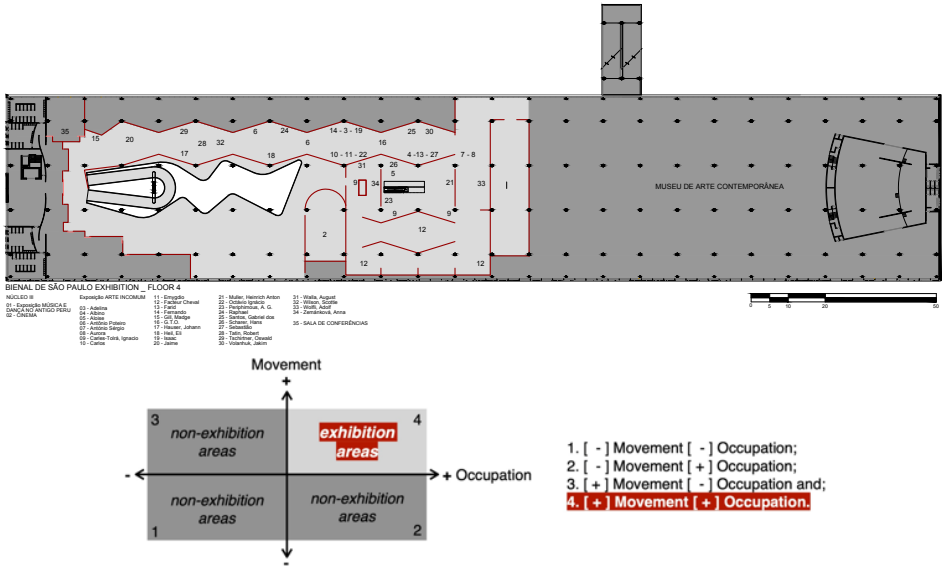


Figure 69. Definition of exhibition and non-exhibition areas.

According to this scheme, only the fourth situation characterize an exhibition space, since all the other three situations present restrictions on the movement of visitors and/or occupation by artistic content. It recognizes that the movement attribute can also be linked to artworks (performances, for example) and occupation can be linked to people (by observing the areas that people tend to stay, rest, and socialize in the building). However, in this context, these are secondary associations[141], as the main objective was to formulate a comprehensive definition to be used in the entire sample. Moreover, in the exhibition spaces, with regard to the movement of people, the distinction between inhabitants and visitors (Hillier, 1996b) is not considered, since both can circulate freely through it[142].

Some examples of the other three situations are the areas occupied by the FBSP facilities (on the third and fourth floors of the pavilion), the café (which now operates on the second floor, close to the avenue and with no internal connection to the pavilion) and collection area of the Museu de Arte Contemporânea of the Universidade de São Paulo (MAC-USP) (which intermittently occupied large portion of the fourth floor, as discussed in chapter 5).

Therefore, the redrawing, initially thought of as a methodological procedure to be applied only to exhibition plans for specific cases, proved to be a useful investigative tool, mainly because it allows the reconstruction of the different stages of the pavilion. Thus, for each set of exhibition plans there is also a set of building plans increasing the total number of

[141] Since this investigation does not use observations as a methodological procedure (which could be used to address the occupation of people) and that the idea of movement seems not to be useful for the description of most artworks (which are mostly partially or totally static).
[142] And that it is not the scope of this research to distinguish the differences in navigation between visitors and inhabitants.

plans from 116 to 232[143]. In Figure 70, available in larger size in the appendices of this thesis, it is possible to see, for example, that the non-exhibition areas of the building increase or decrease according to the year in question (i.e., on its fourth floor).

Although the redrawing was not a procedure foreseen at the beginning of the research, but a necessity imposed by the conditions of the data found, the redrawing process proved to be of special importance not only to know the object in depth, but also to facilitate the visualization of spatial recurrences between the exhibitions (as discussed in the next topic) and variations between the buildings (theme of Chapter 5).

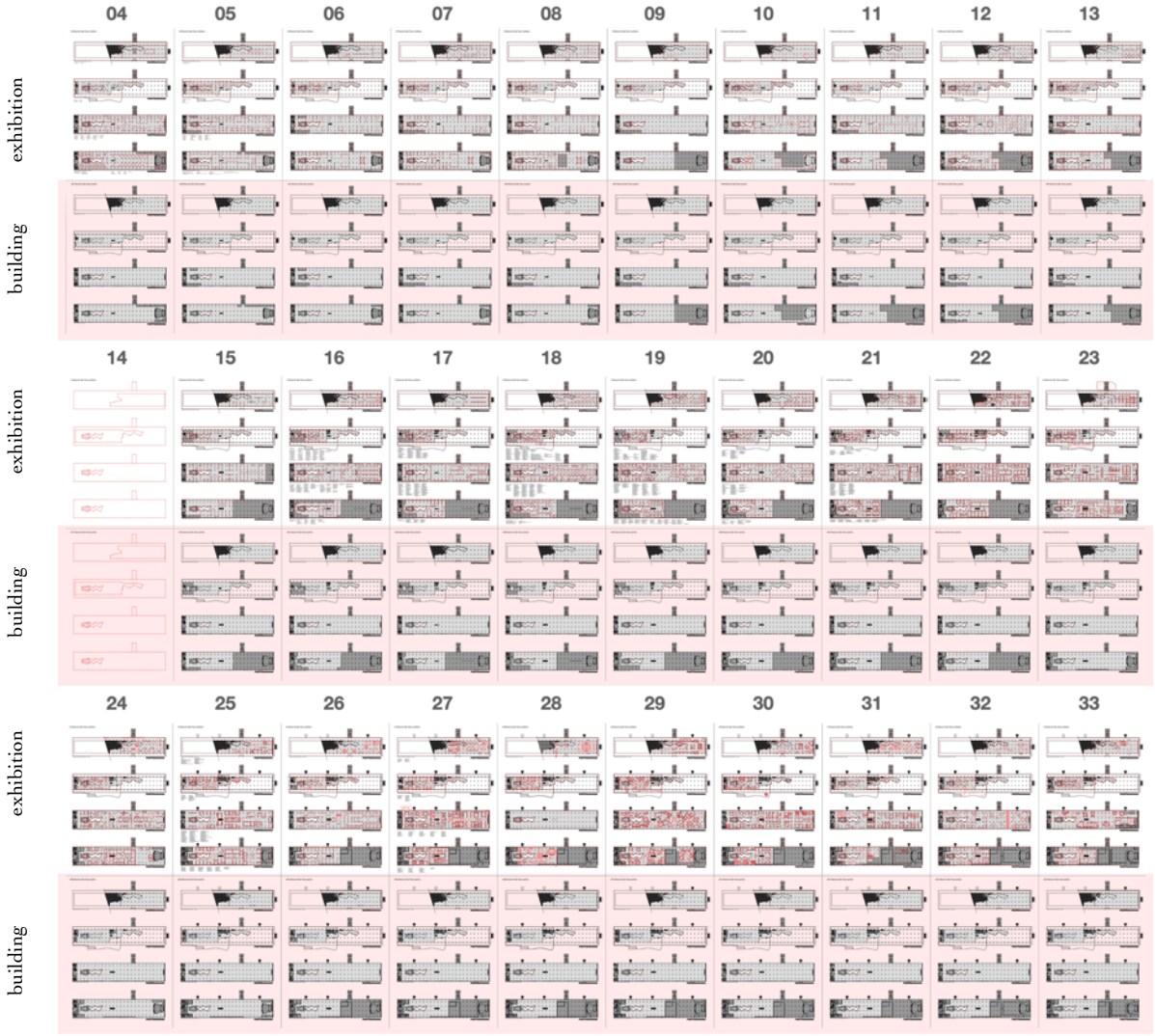


Figure 70. Exhibition plans and plans of their respective buildings.

4.2.2 Different discourses, similar arrangements

[143] Which can be found in the appendices of this work in a larger format and better resolution.

The exploratory studies carried out in this chapter so far allowed a diachronic understanding of BSP exhibitions, both from the point of view of the elements that constitute their prescriptive text, and the means through which the different curatorial discourses can be inferred. This examination resulted in a preliminary identification of common spatial arrangements, as well as correlations and contradictions between the layout of these exhibitions and their curatorial discourses.

Such arrangements refer to morphological recurrences identified on a global and local scale, that is, whether they characterize entire exhibitions or are systematically repeated in parts of the building. Even in the face of the multiplicity of layouts and the uniqueness of each exhibition (Figure 71), a spatial gaze makes points in common among them emerge.



Figure 71. Overview of some BSP exhibitions and its pavilion (AHWS/FBSP).

These recurrences concern the way in which the exhibition layout is arranged, which, although largely arising from the demands of artwork display, seem to simultaneously reflect the periods of classification and the particularities of its underlying building. They were identified through the redrawing process, which made it possible to dissociate the boundaries between building layout and exhibition layout, as illustrated in Figure 72.

Taking the BSP 4 as an example, this relationship of the exhibition layout with the underlying building (which is object of study of Chapters 5 and 7), and, especially, with the curatorial discourse, can be easily addressed. In this example, some different arrangements can be identified, that is, characteristic parts of the layout located in specific areas of the building. In the case of BSP 4, such local arrangements are evident in the orthogonal partitions that define the occupation of the entire floor 3 (and part of the floor 2), in the parallel and very close displays that surround the void on the fourth floor, and in the fish-bone layout on the opposite portion of this floor. These three arrangements correspond to the sectors that displayed works by countries (floors 2 and 3), and to the architecture and theater biennials (floor 4) (FBSP, 1957).

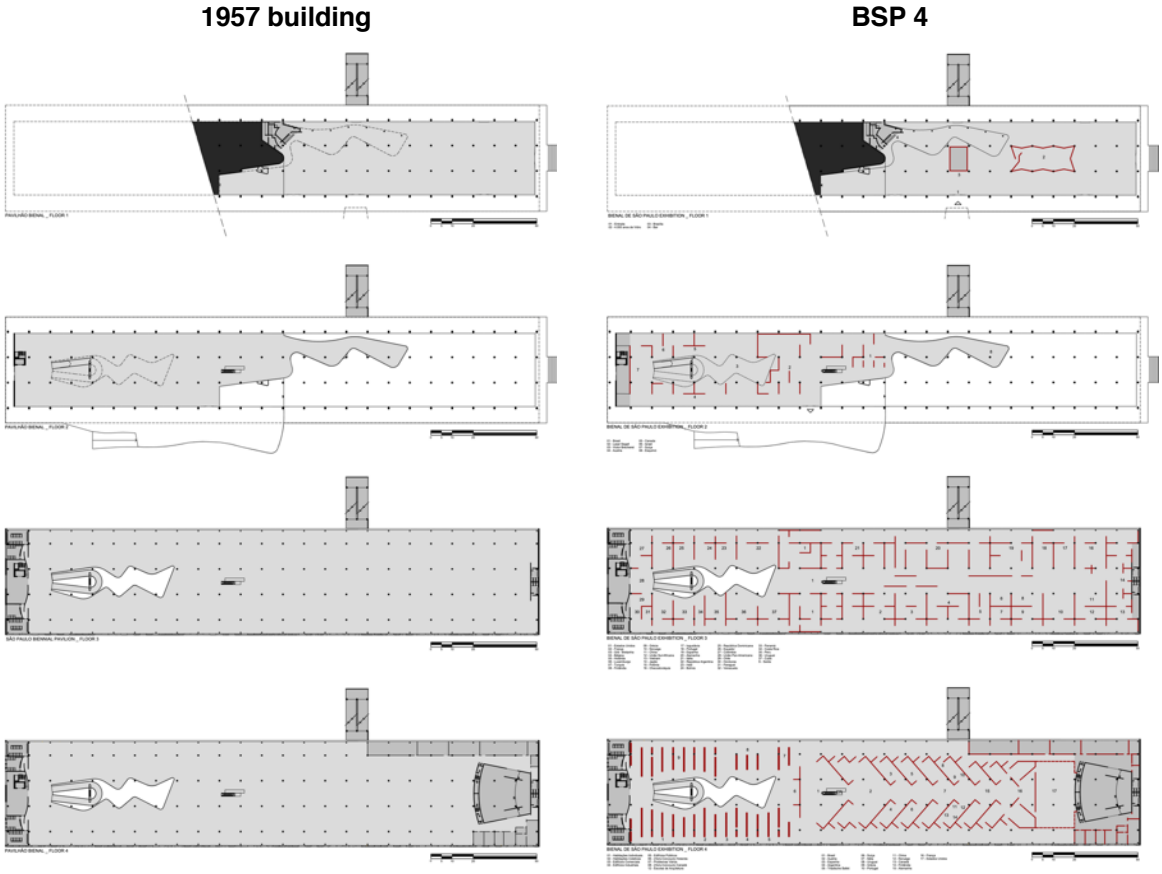


Figure 72. Redrew plans – 1957 building and BSP 4.

Therefore, the arrangements identified in BSP 4 are of a local nature, that is, they constitute only part of the spatial system of this exhibition, aspect that is addressed through other examples in subsection 4.2.2.2. In other cases, however, these arrangements seem to permeate all floors, and therefore are characterized as global arrangements, that is, they can be identified throughout the entire spatial system, as discussed in the following subsection (4.2.2.1).

4.2.2.1 Global arrangements – similarities with museums, fairs, and markets

With regard to global patterns, at least two very characteristic and distinct arrangements were identified. These arrangements were related to museum and market buildings, as their layouts resembles, to a certain extent, the characteristic layout of these building types (Markus, 1993). On the other hand, it is also a mention of the characteristics that permeate the Bienal de São Paulo, both as an event and as a building. The idea that the BSP (event) should find a place between the market, the art fair, and the museum, was proposed by the curator of BSP 30, Luis Pérez-Oramas, and mentioned at the beginning of this thesis (Oramas, 2012). The association between museum and market in the Pavilhão Bienal, in turn, was suggested in Chapter 3 (section 3.2), in the discussion buildings as commodities, through the image of the work of artists Bruno Moreschi and Gabriel Pereira, displayed in BSP 33, whose void was read by an AI as a museum, retail, shopping mall and outlet.

BSP 7(1963) and BSP 22 (1994) illustrate both situations. Possibly the most elucidative cases in this regard, in them the idea of market and museum is present throughout the four floors of the building. It is important to highlight that, in this context, the idea of building type refers only to the aspect of its layout, that is, to the spatial arrangement of the system of barriers and permeabilities that constitute the building's internal spaces (Figure 73).

Because they are so characteristic and recurrent, some buildings are described as a type (i.e., house, church, school, hospital, prison, etc.), and are therefore useful to shed light on this discussion, but it is recognized that the idea of type encompasses other aspects, of syntactic and semantic order, which are not considered in this comparison (Markus, 1993; Nascimento, 2010). That is, aspects such as the volume of the building or the composition of its facades, or even its symbolic character, are not considered in this comparison, as these are precisely the elements that have remained relatively constant over the decades.

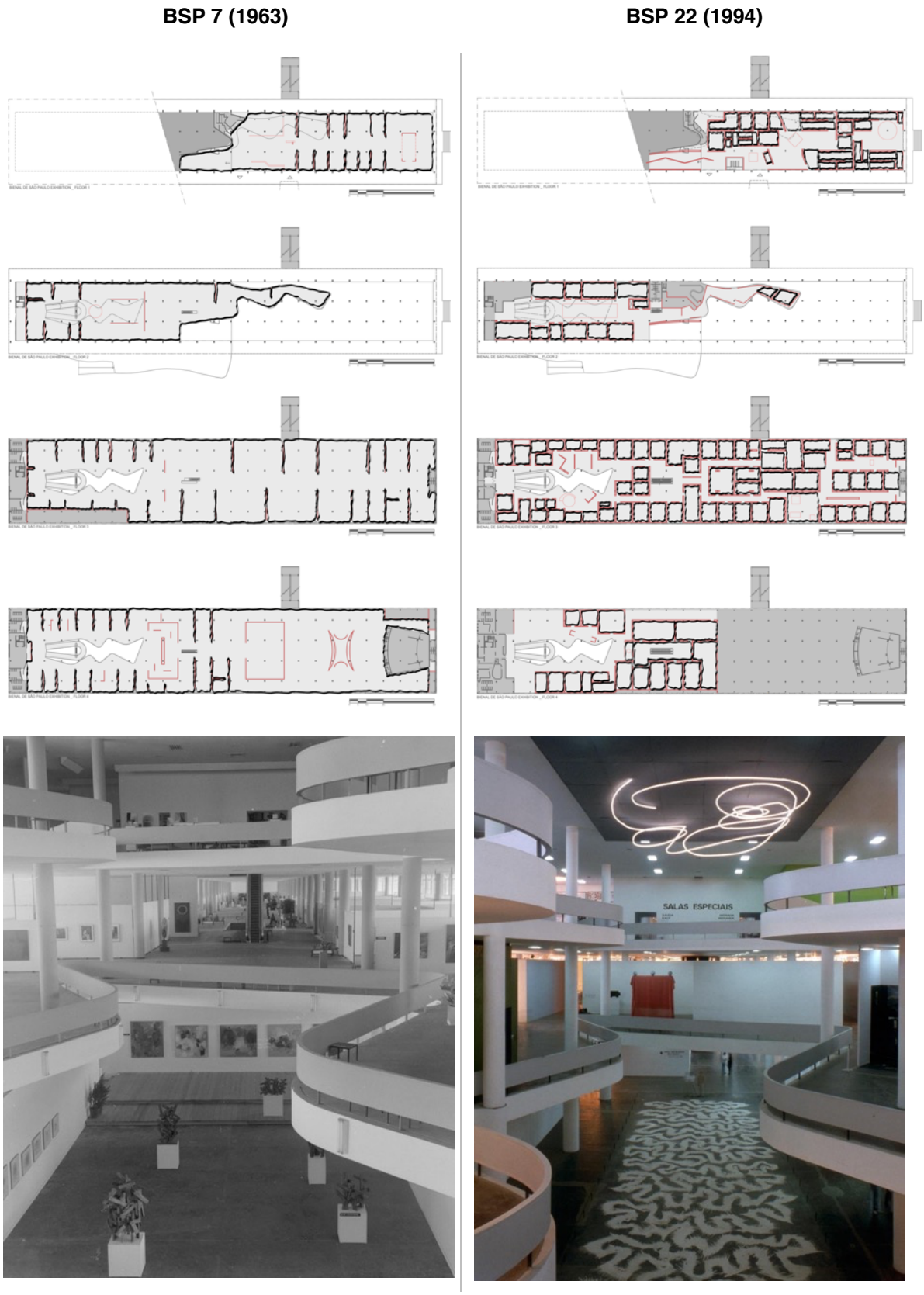


Figure 73. Global arrangements – Market and museum modes of occupation (author's illustrations and photos from AHWS/FBSP).

The case of BSP *7* was associated with a market, or a fair, because its layout resembles that found in pavilion building with relatively open plans that house artifacts for exhibition and/or sale, such as the pavilions of historic world fairs or universal exhibitions (as illustrated in chapter 2). That is, this type of layout resembles a market in that it has partitions (which can either be vertical dividers or horizontal platforms) that support the display of artifacts and delineate the paths of people while not compromising the perception of internal boundaries of the building.

Boundaries, in this context, refers to the horizontal (that is, between different areas) and vertical (between floors) spatial variations, or interfaces, that characterize the building's spatiality[144], both in physical terms, as well as from the point of view of their meanings (Hillier and Hanson, 1984; Koch, 2013; Markus, 1993). Such variations are marked precisely by their vertical elements (stairs, ramps, balconies, and void), in contrast with the regularity of their horizontal planes, whose reading after the introduction of BSP *7* layout is not compromised. That is, in this arrangement, it is still possible to identify the constituent elements of the underlying building.

In BSP *7*, light and detached partitions from the ceiling, floor, and columns, were placed in the outer perimeter of the building, defining an occupation predominantly in the peripheral portions of each floor and keeping the central areas mostly free. In this biennial, the cases that escape this pattern are precisely the special rooms in this exhibition. These exceptions are located on the first (special room of the architecture biennial), second (Brazilian sculpture room) and fourth floors of the building (II Book Biennial/Biennial poster exhibition, Pre-Columbian Exhibition and IV Theater Biennial) (FBSP, 1957).

In contrast, the layout of BSP 22 (1994) resembles a certain type of museum with sequences of rooms arranged in rows with clearly defined boundaries that, in many cases, delimit corridors – although it is recognized the existence of museums with numerous spatial organizations (Montaner, 2003). Together, these elements (rooms and corridors) form a structure that suggests a spatial distinction between areas of occupation and areas of movement (distinction that is not so evident in the market type layout). That is, even knowing that the exhibition is experienced in motion and that content can also be displayed in the circulation areas, in this type of layout there seems to be a greater differentiation between these functions, especially when observed in relation to the market type layout.

[144] Not in a configurational sense, but in the way the space is perceived by visitors.

The museum type layout (BSP 22) obstructs the building's vertical and horizontal limits, by positioning the rooms in practically all its periphery and also in its central areas. These rooms are configured by robust partitions (walls) that go to the ceiling height (or close to it) and often embrace the structure of concrete pillars. This occupation of central and peripheral rooms delimits long spaces between them, which also form circulation rings.

These spatial mechanisms of distinction and the main differences between layouts were illustrated through sketches that highlight the main barriers of both spatial systems and photos from the same angle of the two exhibitions (as illustrated in Figure 4.25). However, two exceptions to this pattern (BSP 22) were identified. One is the absence of well-defined rooms in spaces adjacent to the void (on floors 3 and 4), where their limits are defined by rooms created adjacent to the building's façade in this region. These rooms do not occupy all the space available between the façade and the void, leaving some areas less structured and more diffuse in terms of movement and occupation (which, to a certain extent, is also observed in the central areas of floors 2 and 1).

The other exception is the occupation of spaces adjacent to the stairs on the fourth floor, which, despite also being characterized by a set of peripheral rooms that delimit a central circulation space, are segregated from the others by an antechamber that controls their access. This area, which became known as museological space[145], differs from the others in that it concentrates its access in just two points (antechamber and stairs), thus housing works with greater control and security requirements, as seems to be the case with works by Diego Rivera, Joan Mitchell, Malevich, Piet Mondrian, etc.

From these sketches and photos, it is possible to see that the occupation of the market type (BSP 7) results in a less dense layout than the museum type (BSP 22), even though the former exhibited much more artworks than the latter (4131 vs. 975). In this context, it is important to emphasize that such density refers to the amount of barriers introduced by the architectural project of the exhibition, disregarding artworks that may also constitute barriers to movement and vision, or partition works (Rangel, 2018)[146].

This kind of artwork is not considered as a barrier in this research for three reasons. Two of them refer to the degree of information present in the plans and catalogues, which in many cases makes it impossible to distinguish between barriers at knee-level and at eye-

[145] Which corresponds to the only air-conditioned area of the building.

[146] Even though in the redrawing of the exhibition plans these partition works are represented with a thin pink line,

level[147]. And the third and main one is that a general examination of the plans makes it possible to identify that such artworks can constitute a secondary ordering system of these layouts, but that the primary ordering system is defined by the overlap of the existing barriers in the building with those added to support the works of the exhibitions.

This apparent contradiction between the volume of artworks and the density of partitions can be attributed to the fact that in the more recent biennials the diversity of formats exhibited is much greater than in the older biennials (where paintings and sculptures predominated). These new formats, such as site-specific artworks, performances, videos and installations, can be related to a sensory turn in the conception of artworks and exhibitions, which, in turn, "suggest stimulating developments in spatial typology of museums" (Tzortzi, 2017, p. 491).

One of these stimulating developments in the architecture of exhibition spaces can be illustrated precisely as the coexistence between these museum-like and market-like modes of occupation, as mentioned in chapter 3, in the passage on the cases of the Tate Modern and the Centre Pompidou (where both are characterized by the presence of more open (less constituted) and closed (more spatially delimited) sectors.

These contemporary artistic developments, which are often associated with an 'aesthetic of experience' (Jones, 2016), certainly have an impact on the spatial configuration of such exhibitions, as these works often require specific conditions of lighting, sound, and temperature for their display. These modes of occupation also considers that events such as world fairs, biennials and triennials exhibitions are the places that contemporary art emerged (Gardner and Green, 2016; Jones, 2016), and therefore its spatiality must reflect this period of intense artistic transformations.

That is, if in BSP 7 a single wall could display dozens of paintings (and a single room held all the artworks of a country), in BSP 22 an entire room is dedicated to a single artist (most cases in this exhibition) or even for single work. Although this is more evident from the 2000s, it was probably possible to observe its emergence in previous exhibitions (such as the biennials of the 1980s and 1990s).

This aspect highlights the relationship between prescriptive text (especially between system of organization and classification), and spatial configuration. Regarding the

[147] In more recent exhibitions, this type of work occurs more frequently. However, when looking at the photos, it was found that even in the oldest biennials they were already present, although they were not represented in their plans.

organization system, the biennial that is spatially similar to a museum building (BSP 22) is associated with the exhibitions of the curators' era, whereas BSP *7*, which belongs to the Matarazzo era (due to the strong influence of its patron, which gave it a museological character), resembles a market in its spatial arrangements (Alambert and Canhête, 2004).

Regarding the classification system, BSP *7* adopts the national representation system (by countries) and BSP 22 is part of the period in which the curatorial project and national representations coexisted. In BSP 22 the selection of artists was made both by international commissioners and by curators, although all spaces are described with the names of the artists. This was also the third BSP to have a title[148], *Ruptura com o suporte* (Rupture with the support), which took place after a three-year hiatus. Its catalogs are divided into three: Bienal Brasil 20th Century, International Books, and Special Rooms.

This division reflects the diverse criteria that characterize its classification system, where part of the exhibition seeks to provide an overview of Brazilian art, and part shows an international panorama (including in its index the names of the countries next to the name of the artists) and the special rooms mixed Brazilian artists (namely Hélio Oiticica, Lygia Clark and Mira Schendel) with invited artists from China and Hong Kong.

Although these aspects are very informative, they are not sufficient to fully understand the layout of these exhibitions since the role of the building configuration is not addressed. That is, the ideas of market and museum as related building types, although very enlightening, cannot fully describe the spatial dimension of these exhibitions, which evidently mix aspects associated with these two types.

However, these arrangements can be identified in many other cases, if not in the entire system, in parts of it. Therefore, examining layouts according to their local properties can help to discuss this relationship more clearly, as it allows comparing these layouts both longitudinally (i.e., a between floors of different exhibitions) and transversally (between similar building areas, such as the spaces adjacent to the void or the stairs).

148 The previous ones were BSP 18 and 19 (1985, 1987), curated by Sheila Leirner.

4.2.2.2 Local arrangements – on similar floors and areas of the building

Local arrangements can be especially instructive as they allow the observation of spatial recurrences in relation to a specific area of the building. In studying the layouts of BSP exhibitions, these arrangements occur both horizontally (i.e., on the same floor) and vertically (in the same area of different floors) of the building.

The longitudinal arrangements can be summarized as: 1) fluid and sparse, composed of few barriers on the first floor (also on the second floor); 2) dense (on floors 3 and 4) – with layouts that are structured both along a central corridor (with peripheral occupation) or configuring large circulation rings (with peripheral or central occupation). Regarding transversal arrangements, these are identified in three regions[149]: adjacent to the void (floors 2-4), the stairs (floors 2-4) and the mezzanine/pillars (floors 1-4). Even if these arrangements vary greatly from one case to another, their limits often overlap.

To illustrate and discuss these arrangements, graphical schemes were developed. The following figures (74, 75, 76 and 77) refer to longitudinal arrangements, that is, on the same floor. These arrangements refer to the sparse and fluid occupation identified on the first floor of several cases, and to the spatial arrangements of the third floor, either around a central corridor (Figure 76) or defining (at least) two large circulation rings (Figure 77).

The sparse occupation identified on the first floor was described by highlighting (in dark red) the barriers introduced in the building in each case (BSP 4, 5, 6, 8, 11, 15, 24, 25, 26, 27, 28, 31 and 32). The occupation of this floor is characterized by few displays, often because the artworks do not require additional support (described in pink, especially in more recent biennials). Even when some cases have clearly enclosed rooms (as in BSP 5, 11 and 25), they appear in much smaller numbers than on other floors.

This low occupancy can be attributed, in part, to the morphology and symbolic character of this floor. The former for favoring the exhibition of large artworks and the latter for constituting a foyer or entrance hall for the entire building (both due to the double-height ceilings and the visual permeability between the first floor and the mezzanine). Regarding the occupation of the first floor, it was also identified, especially in exhibitions with many displays, that the mezzanine seems to play a role in these arrangements, often defining two different regions on this same floor – as in the BSP 21, 23, 30, 31, 32 and 33.

[149] Which constitute configurational sectors that are delimited and discussed in chapter 5.

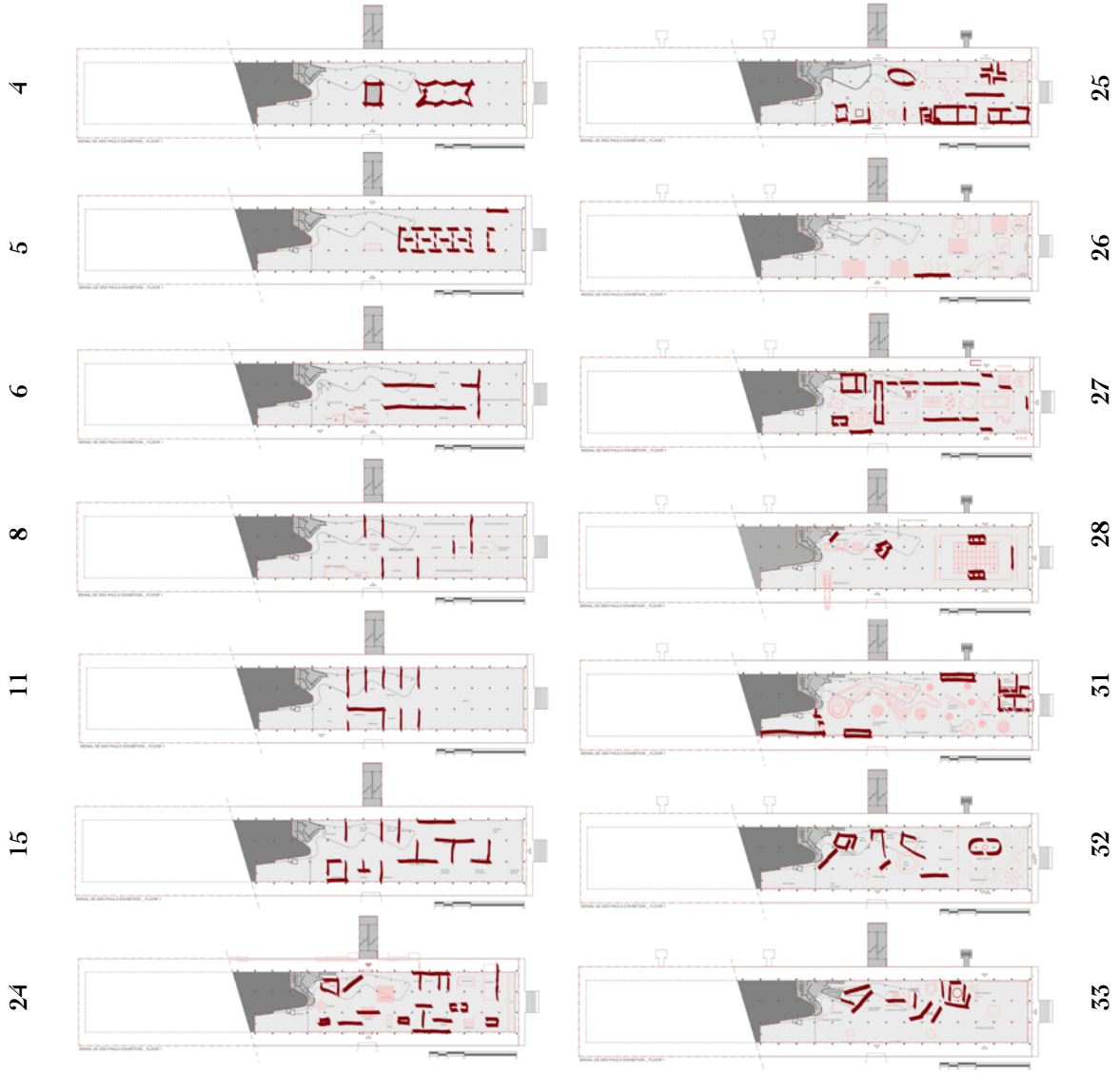


Figure 74. Local arrangements (longitudinal) – Sparse occupation (floor 1).

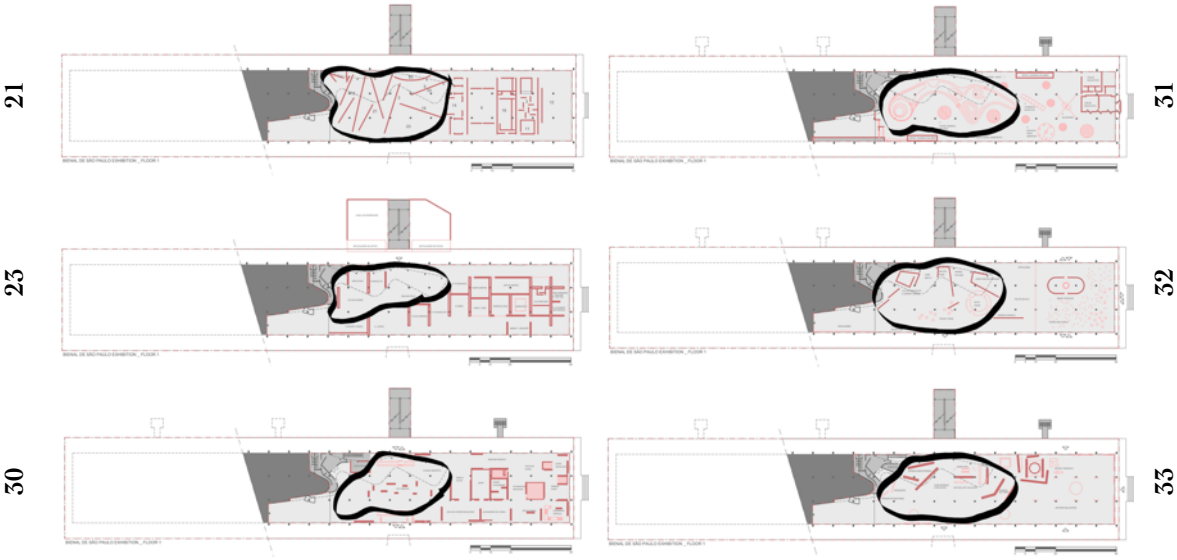


Figure 75. Local arrangements (longitudinal) – Mezzanine (floor 1).

This sectorization of the first floor (Figure *74*) can be attributed to the limits defined by the projection of the mezzanine (since this area has a lower ceiling height – favoring, for instance, the display of small-scale artworks or the creation of spaces for social interaction). In addition, the positioning of the entrance/exit of the exhibition (which often occurs on the façade opposite the mezzanine) also seems to play a role in this regard, as it tends to define more open and less confined areas around it (Figure *75*).

The local arrangements of the third floor are mostly linear (along a central corridor) or in circulation rings (both in the area of the columns and adjacent to the void). Regarding the central corridor (as in BSP *4*, *5*, *6*, *7*, 8, 13, 18, *27*, 31 and *33*), in most cases it extends from the void (left) to the restrooms (right), passing adjacent to the stairs, whose width follows the structural module of the building (12 meters). In the last biennials, the perception of this corridor is not always as clear as in BSP *4*-13 (since in these recent cases the displays advance over the corridor or artworks are placed in it). However, to some extent, these recent cases are also characterized by this linear space that remains free and structures the occupation and movement around it (Figures *76* and *77*).

Other cases (BSP 10, 11, 12, 15, 20, 22, 26, 30), presented a layout that configure large circulation rings, which are structured to the left (void) or to the right (columns) of the stairs. In the area around the void this occupation goes in the same direction as its configuration, which naturally suggests the existence of a circulation ring around the void (although other layouts are possible).

In the longer and more repetitive area of the building (columns), this arrangement in rings seems to subvert the layout suggested by the underlying building, as explored by the previous cases (of occupation along a corridor). The existence of such rings suggests the intention to define more controlled paths, as they offer less navigation possibilities for visitors, and thus make the movement more spatially dictated and less guided or random (Choi, 1999; Peponis et al., 2004) – sometimes offering no choice to the visitor other than moving forward or back once navigation has started (as in BSP 10-12).

This is a very relevant aspect for understanding the interaction between the curatorial discourse and the configuration of the underlying building, since such arrangements seem to be precisely the result of an intention for the visitor to navigate through an entire sector in a pre-established order, which at the same time it takes advantage of the narrow and deep configuration of this portion of the building.

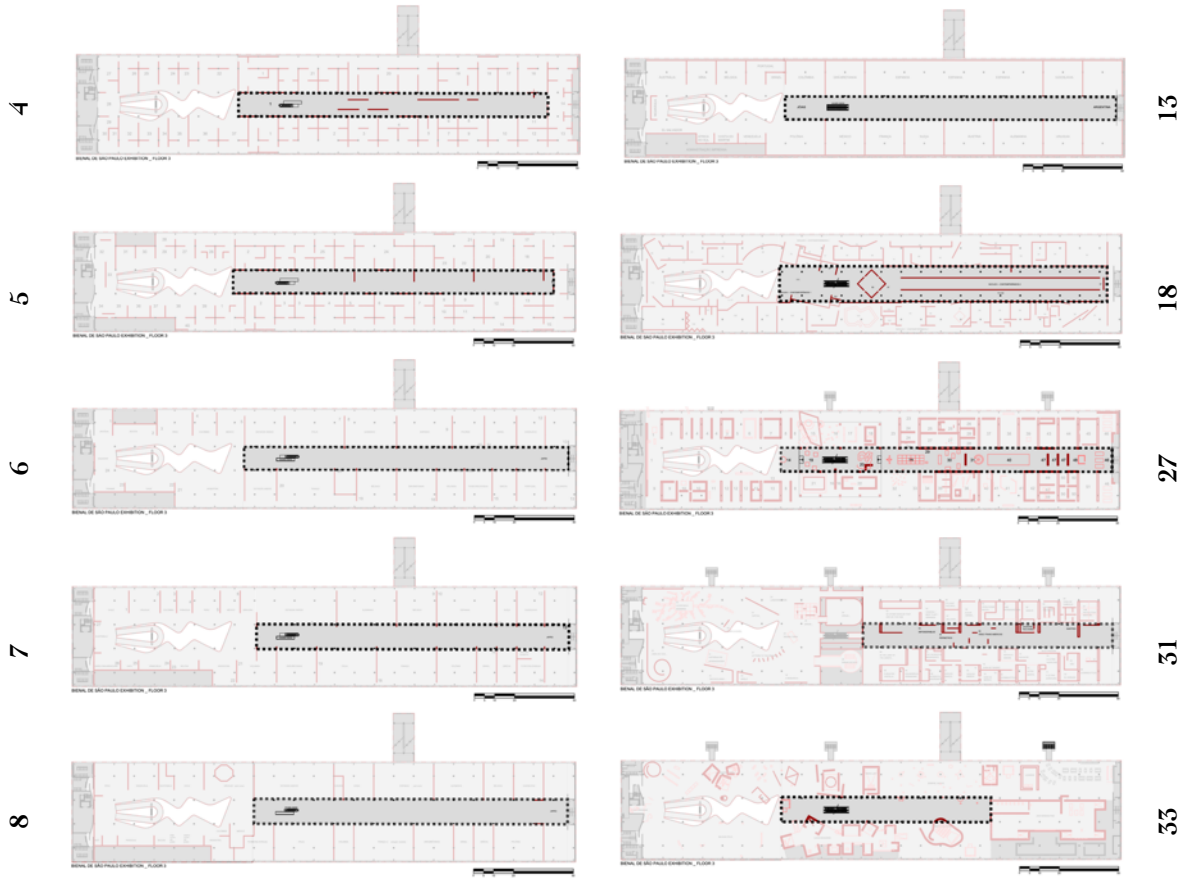


Figure 76. Local arrangements (longitudinal) – Central corridor (floor 3).

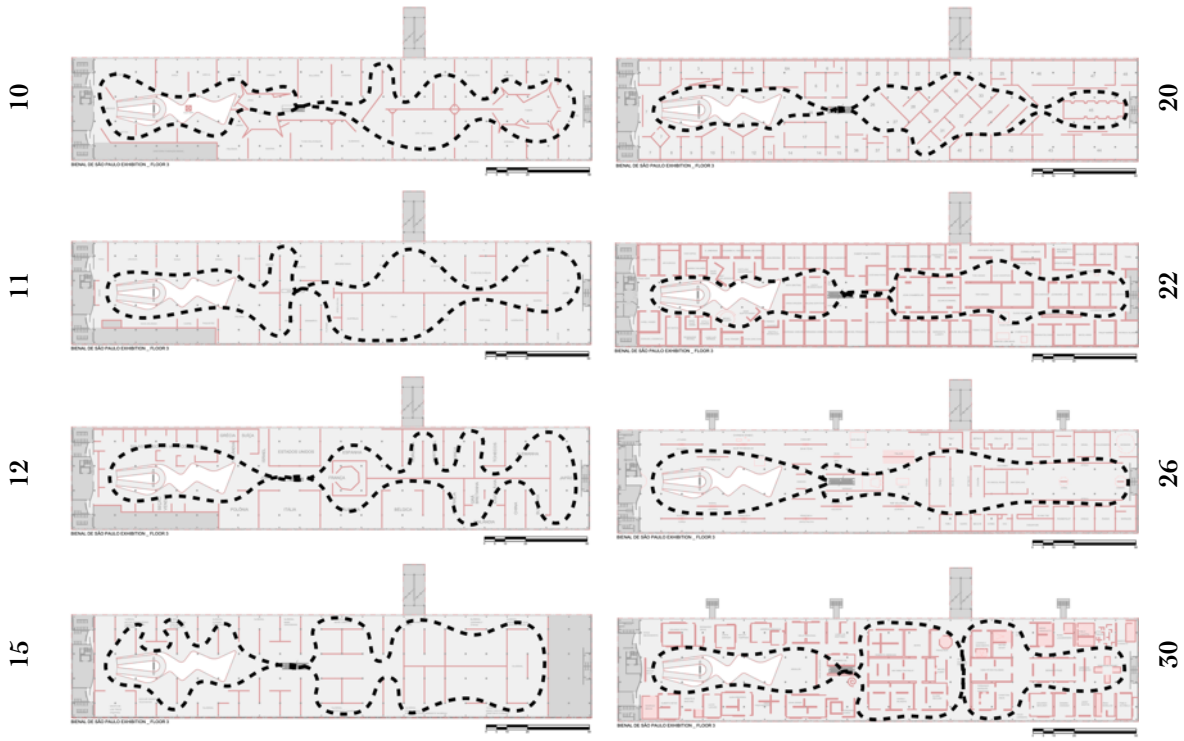


Figure 77. Local arrangements (longitudinal) – Circulation rings (floor 3).

With regard to the arrangements identified vertically in the building, the occupation of floors 3 and 4 is probably the one that most highlights the role of the building in structuring the layouts of the exhibitions. This apparent sectorization is due to the fact that, when observed diachronically, floors 3 and 4 present in their central portion (adjacent to the stairs), an area that seems to make the transition between the occupation that develops adjacent to the void and the one in the longest and most regular area of the building (when applicable[150]) – as in BSP 4, 6, 7, 8, 17, 23, 27, 29, 30, 31, 32 and 33. Although this occupation around the stairs takes on quite different configurations, it is often a transition between neighboring occupations (Figure 78).

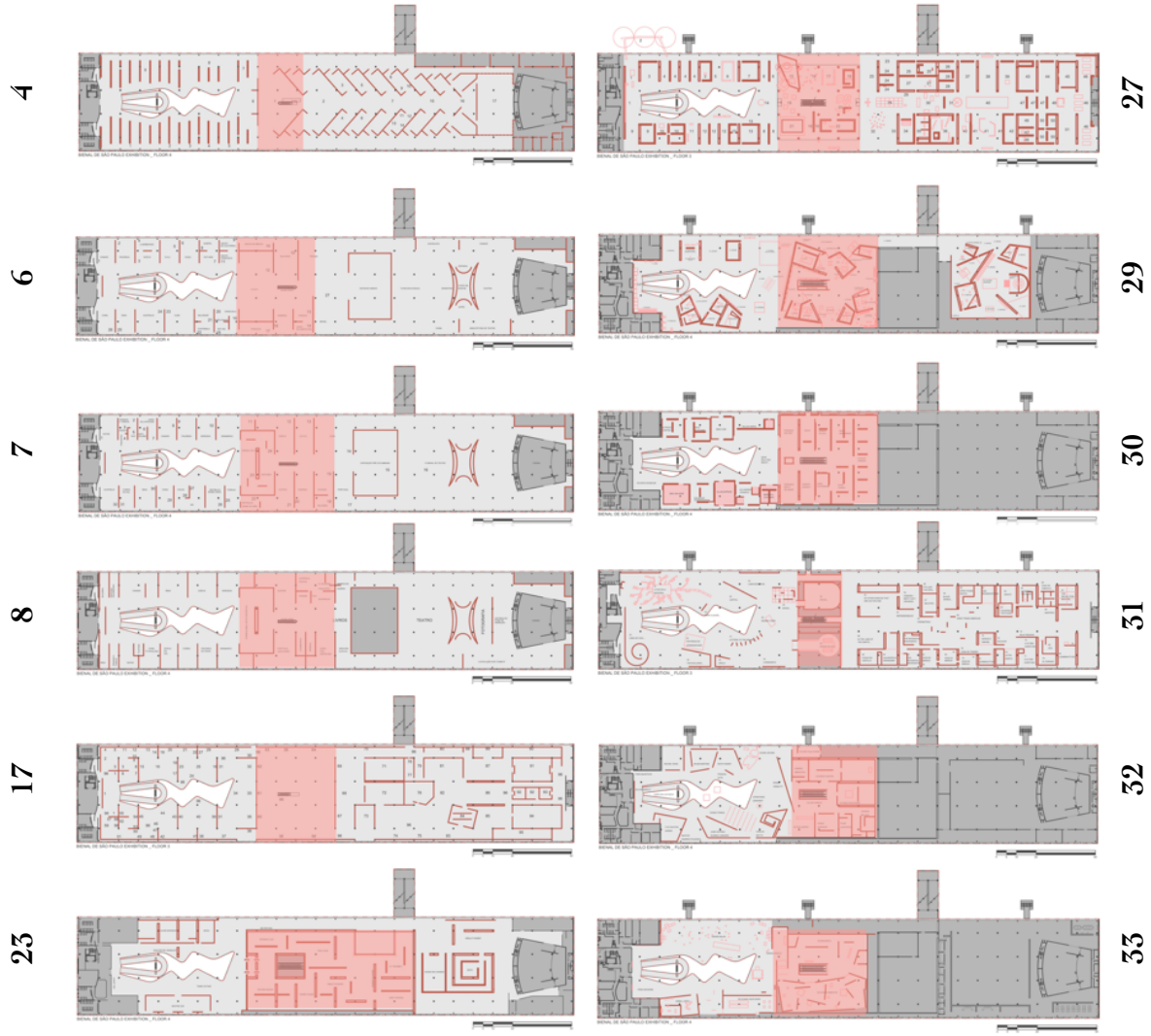


Figure 78. Local arrangements (transversal) – Transition sector (floors 3 and 4).

[150] Since the fourth floor has its exhibition areas reduced in many years (as in BSP 30, 32 and 33), as discussed in chapter 5.

For instance, in BSP 4, 6, 7, 8 and 17, the few partitions added in this central area contrast both with highly partitioned areas (void) and areas with almost no partitions (columns), as in BSP 6, 7 and 8. The examples of BSP 23, 29, 20, 32 and 33 illustrate the occupation of the fourth floor. In these cases, the arrangement of this central area is related to the installation of the air-conditioners, which lead to the definition of enclosed spaces. However, in more recent examples that illustrate the third floor of the building, as in BSP 27 and 31, it is also possible a similar arrangement, whether in a more fluid (BSP 27) or more enclosed way (BSP 31).

These arrangements of the central area of floors 3 and 4, in turn, highlight the importance of the staircase as a structuring element of these exhibitions - since it connects the building not only vertically, but also marks an important transition between two very different morphological areas of the building.

* * *

These examples of spatial arrangements of a global and local nature are just a few recurrences identified from a visual examination of the plans. Although described in a simple way, they illustrate some contradictions between such spatial solutions and the organization system[151] of these exhibitions (Alambert and Canhête, 2004; Di Carlo, 2016), as well as raise new associations between these arrangements and the classification system as extracted from the description of these exhibitions by the FBSP[152].

On the relationship between these arrangements and the system of organization, the main contradiction was that the exhibitions associated with the first two eras (BSP 1-15), which were organized by a museum (the MAM-SP, in the case of BSP 1-6) and described as having a strong museological character (BSP 7-15, organized by the newly created FBSP, with a strong influence from its president, Ciccillo Matarazzo) actually presented spatial arrangements that were more reminiscent of fairs and universal exhibitions (Alambert and Canhête, 2004; Birnbaum and Wallenstein, 2019). Therefore, the ideas of the museum as an institution that governs the principles of selection and arrangement of works and the museum as a spatial structure do not find correspondence in these cases. On

[151] Museum Era, Matarazzo Era, Curators' Era and International Professional Curators' Era.
[152] National representations (NR), NR + CP, Curatorial project (CP).

the contrary, the biennials whose spatial arrangements go back to the classic structures of museum buildings – with corridors and rooms in sequence, are precisely those after that period, largely situated between the 1980s and 2000s, whereas open and fluid arrangements resemble the spatial structures of fairs and markets.

This aspect, in turn, leads us to understand the relationship between the arrangements and the classification system. Such arrangements, when observed as a whole (whether they are similar throughout the building, as illustrated by BSP *7* and 22, or combinations of different arrangements in the same layout – which is what happens in most cases) seem to facilitate the understanding of the relationship between prescriptive text, curatorial discourse, and exhibition layout.

Returning to the example of BSP *4* made at the beginning of this discussion (Figure *4.24*), the observation of its entire arrangement allowed us to identify the different sectors that constitute the occupation proposed by this exhibition, therefore structuring its discourse, as well as the navigation possibilities for visitors, which in this case are numerous, since its layout is structured along central and peripheral corridors that allow multiple paths. On the other hand, approaching these arrangements in parts, that is, by floors or specific areas of the building, seems to allow a deeper understanding of how such layouts relate to the configuration of the underlying building. This is evident, for instance, in the spatial recurrences identified around the void, the stairs and the wide area constituted solely by columns.

Finally, this initial understanding of aspects that, ultimately, are configurational in nature (identified from the knowledge obtained from the redrawing of the plans), highlights the need to better understand the layout of the building, since it has peculiar spatial characteristics that interact in the constitution of these arrangements, as well as suffers spatial changes over time (as discussed in Chapter 5).

* * *

This chapter discussed the dimension of the Bienal de São Paulo as an event comprised of a set of exhibitions (with emphasis on those held at the Pavilhão Bienal, BSP *4-33*, between 1957 and 2018). The discussion was carried out in the light of the first facet of the bisociative approach, that is, through the ideas of text, discourse and narrative that characterize it (as presented in chapter 2). This discussion was structured around two main points: the understanding of the prescriptive text of these exhibitions, which support the formulation of different curatorial discourses, and the study of how such discourses are spatialized by means of arrangements of local and global incidence in the building.

In the first section, which sought to provide an overview of the prescriptive texts, the main existing data about the event were gathered (such as numbers of works, artists, and participating countries), whose changes and continuities allow us to observe the relationship of such numbers with the existing systems of organization and classification, as well as proposing an operating system in which the curation (as both practice and a discipline) is the key. Such a look allows this set of exhibitions to be classified into two major moments: 1) pre-curatorship (classified according to the national representations and organized by international commissioners, or pre-curators, BSP 1-15); 2) post-curatorship (classified partially or totally by the principles of a curatorial project and organized partially or totally by curators, BSP 16-33).

This operating system, in turn, is clearly observed through the study of the catalogues, which work as instruments for a first spatial approach to such curatorial discourses. That is, from the examination not only of their quantitative variation, but also qualitative (i.e., in the way they structure and present their artworks and artists) over time, it is possible to identify some particularities of certain curatorial discourses that, in turn, are reflected in the layout of these exhibitions. In this way, catalogues are sources of information both about the prescriptions and descriptions that characterize each exhibition., since they bring both information about how they were conceived and records of how it actually happened. This second aspect can be difficult to infer from the catalogues, which hardly bring records of the artworks in space[153].

[153] An exception to this pattern was the BSP 23 (1996), whose adaptation of the building, by the Brazilian architect Paulo Mendes da Rocha, and its three huge catalogues were "delivered to the artists a month before the opening of the exhibition, […], a practically unprecedent event in the history of the Bienal, always marked by delays and of montage invariably entering the period of the exhibition" (Farias, 2001, p. 248).

The second section is dedicated to the study of data of a spatial nature. This study is also developed in two parts. the first gathers the plans of all the exhibitions and discusses the issues embedded in their redrawing process – which allowed not only the standardization and in-depth knowledge of the exhibition plans, but also the reconstitution of all the building plans in the year of each biennial (this second aspect being the subject of a specific study in Chapter 5).

The joint visualization of the exhibition layouts, in turn, allowed the identification of some spatial arrangements that affect the building globally (that is, on the entire spatial system, resembling the arrangements of museums, fairs, and markets) or locally (on floors and specific areas, through more linear or ring arrangements). From this study it was concluded that these arrangements, whether local or global, when observed as a whole facilitate the understanding of the curatorial discourse (since it is possible to identify the different sectors that constitute the exhibition), and when observed partially seem to facilitate the understanding of how the underlying building interact with the exhibition layout (as the relationship of the latter with elements such as ramps, void, stairs and columns becomes latent).

Finally, both sections seek to offer a diachronic understanding of these exhibitions, from the lens proposed by this thesis, the understanding of exhibitions as spatial discourses and their buildings as commodities, architectural aspects under which the Bienal de São Paulo was not addressed (or was addressed punctually) by previous studies. The understanding of its building, whose studies developed in this chapter have shown to be of great importance, is the specific object of study of the following chapter (5).

5 BUILDINGS AS SPATIAL COMMODITIES: THE BIENAL DE SÃO PAULO PAVILION

This chapter discusses, in a diachronic and exploratory way, the dimension of the Bienal de São Paulo as a building, which since 1957 (BSP 4) houses the event of the same name. This dimension of the empirical object was associated with the idea of commodity as it is argued that in the structuring the exhibitions, it performs as such, whether in its common sense (as a primary good that has an exchange value), or as an object that, through the changes undertaken in its spatial configuration, is commodified (that is, is modified to alter its exchange value) (Appadurai, 1988; Shepherd, 2002).

However, just as the idea of a commodity has a broader meaning, which includes not only primary goods but any good or service that is commodified, the understanding of the Pavilhão Bienal cannot be reduced to an open plan and inert building. In this context, the notion of commodity is being considered both in its strict economic perspective (where commodities are primary goods of commercial value and without differentiation) and in its broader social sense (where every object or service can be turned into a commodity, through a process of commodification) (Appadurai, 1988; Heller, 2010; Shepherd, 2002).

Both notions are relevant for this discussion since, in principle, the Pavilhão Bienal can be understood as a primary good that is spatially transformed with each event that it hosts, not just by the BSP. However, careful examination of the building plans reveals that it underwent significant spatial changes over time, while some of its most iconic elements remain unchanged (ramps, mezzanine, void, balconies, and stairs), aspects that seem to play a key role in structuring exhibition layouts.

The Pavilhão Bienal also has the particularity of being both a regular and an exceptional building. That is, although much of its configuration is characterized by the systematic repetition of a single structural module measuring 10x12x5 meters (or 10x6x5 in its outer perimeter), its most striking features are precisely those that break this regularity – such as the curved mezzanine, ramp and balconies that delimit the void. Those are the architectural elements thar are frequently referred in the literature (Farias, 2001; Fraga, 2006; Herbst, 2011; Matos, 2009; Villela, 2019) as the ones that give the unique character to the building itself, but, as will be discussed, are also fundamental in the definition of its spatial configuration. In other words, the referred elements, in addition to imprinting a syntactic mark on the spatial system, also carry a symbolic meaning that informs the context in which it was designed and represents Oscar Niemeyer's unique signature.

It is this overlap between syntactic and semantics that gave rise to the interest of describing the building as an architectural commodity. Although the emphasis of this study is the spatial dimension of the object, it is recognized that such spatiality (particularly of these exceptional elements of the building) embeds aspects related to its shape, materiality and visuality that are important for this characterization of the building. This chapter describes and analyzes the morphology of the Pavilhão Bienal along three axes: 5.1) changes and continuities in the building morphology; 5.2) complexity and genericity in the Pavilhão Bienal; 5.3) from complex to specific spatial systems.

The first axis makes a comparative study between the original and built versions of the pavilion (from 1954), as well as analyzing the configurational implications of the changes the building has undergone. The second, approaches the building as a system of multiple routes and as a system of origins and destinations, concepts drawn from the notion of cities as movement economies (Hillier, 1996a), delimiting configurational sectors, circulation paths and developing representation models to analyze these dimensions of the building. And the third axis comparatively discusses the results obtained in the analysis of the two previous axes based on the two models of representation developed.

In addition to a configurational analysis of the Pavilhão Bienal and its transformations, this chapter also develops and tests analytical procedures to be used in the analysis of specific cases in chapter 7. The findings of this chapter, together with those of chapter 4, support the selection of these specific cases (discussed in chapter 6), which support the discussion of the two facets of this object (narrative and capital).

5.1 Changes and continuities in the morphology of the Pavilhão Bienal

This topic configurationally addresses the spatial changes and continuities identified during the study and redrawing the BSP exhibition plans (as discussed in chapter 4). If, on the one hand, BSP was chosen as the empirical object of this thesis precisely because of the repetition of the exhibitions in the same building, on the other hand, it was found that the building is not always the same from a spatial point of view.

However, just as it is essential to map and discuss the impact of such spatial changes, it is also important to understand the intrinsic characteristics of the pavilion morphology. The ambiguity of its morphology, simultaneously characterized by open plan areas, as well as by areas of very restricted boundaries, provides an intriguing territory for the investigation of how such ambiguous concepts can characterize a single object.

This ambiguity can be summarized in the notions of fully open and fully close possibilities of movement (Hillier, 1996b), the conservative and generative modes of space (Hillier, 2005), the notion of closed and open works (Psarra, 2009), the spatial types of movement in museums/galleries (Hillier and Tzortzi, 2006), and the spatially random/dictated/guided structures of movement (Choi, 1999; Wineman and Peponis, 2010), discussed in chapter 3, and which to a greater or lesser extent appear to be observed in this object. In other words, if the building can be understood as a blank sheet that supports a multitude of different layouts, it also presents very iconic and well-defined elements that, to some extent, structure the possibilities of performance of its generic functions, of movement and occupation (Hillier, 1996b).

The description and analysis of the building is done in two steps: a) through a comparative study between its original design and as built (both from 1954) – which allows us to understand its intrinsic morphological characteristics; b) and through the mapping of all spatial changes that occurred between 1957 and 2018 and configurational analyzes of five key versions (1957, 1969, 1981, 1996 and 2018) – to assess the configurational impact of such transformations.

5.1.1 Comparative study between the original design and its built version

To characterize the spatial configuration of the Pavilhão Bienal, a comparative study of its version built in 1954 with an earlier version of this same year is carried out. These versions were introduced in chapter 3 (section 3.2), in the discussion of the different buildings that housed the BSP exhibitions since 1951. Although the Pavilhão Bienal had a first design version (of elliptical volumetry), the versions compared here refer to a second and definitive design proposal for the building, both with rectangular and orthogonal volumetry, very similar to each other.

BSP 4 took place in 1957 (the first to be held at the Pavilhão Bienal), the building was inaugurated in 1954, in the occasion of the 400th anniversary of the city of São Paulo. This little-known previous version of the building was published two years after its construction, in the book Modern Architecture in Brazil (Mindlin, 1956).

Although the built project is the version taken as reference for subsequent analytical studies (Chapter 7), understanding it from a comparison with its previous version can shed light on the prescriptive text of the building (Markus, 1993) and its intrinsic values. In this context, from now on, the expressions 'original project' (OP) and built project' (BP) are used to designate these two versions from 1954 (since the first version in practice constituted another proposal that was not carried forward).

Both versions of this second proposal were redrawn and their exhibition and non-exhibition areas were highlighted (and dark grey), as shown in Figure 79 and synthesized in Table 5. Through a comparison of the plans of these two versions of the building, it is possible to verify that, although similar, the built project alters some significant characteristics of the original project.

It is important to highlight that the building has a basement (as illustrated in the first-floor plan of both versions in dark grey) that is not considered in the subsequent analytical studies due to the following reasons: 1) it does not have an internal connection with the exhibition areas; 2) this area was not used for exhibition purposes through all the biennials held in this building[154]; 3) it is not possible to analyze it diachronically, since this area is not represented in most of the catalogues and guides.

[154] Except for BSP 30 (2012) which occupied this area of approximately 2.000 square meters, with the 'basement of the arts", represented in the exhibition plans but not mentioned in its catalogue, list of works and educational material.

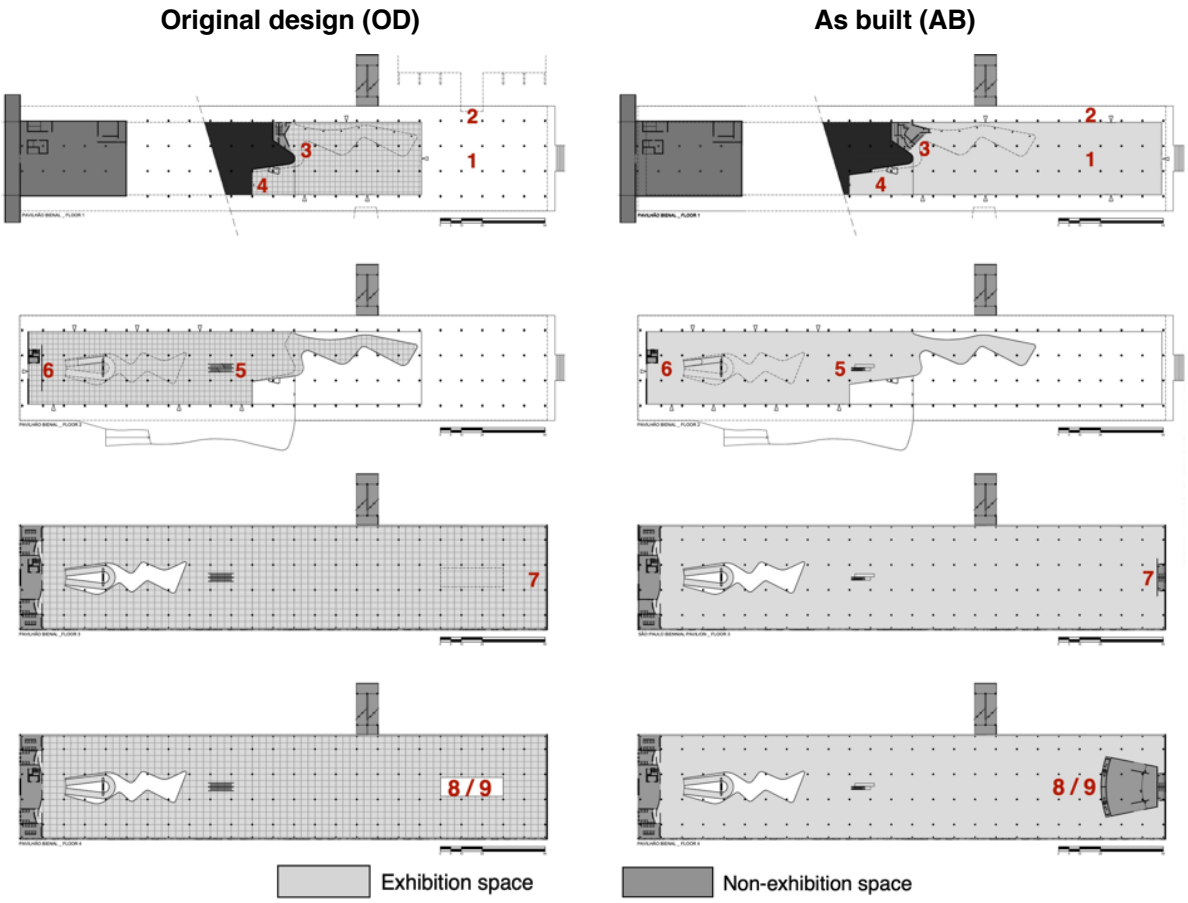


Figure 79. Pavilhão Bienal – Original design (OD) and as built (AB), with indications of changes.

Floor		Description
1	1	Expansion of the closed exhibition area on floor 1 – in the original project, the first floor had half of its exhibition area. This created a covered terrace that preceded the entrance to the building (the glass frames were aligned with the end of the mezzanine).
	2	A possible expansion area of the building (the projection located next to the *pilotis* of the first version) was eliminated.
	3	Expansion of the toilet area, which in the built project was added with a bar.
	4	Increase in extension of the ramp that connects floors 1-2, from 20 to 30 meters.
2	5	Displacement of the stairs to the right, which in the original project were 10 meters close to the void.
	6	Elimination of the septum that separated the central void area from the vertical circulation volume (elevator and staircase) and the entrance door located on the avenue level (floor 2).
3	7	Addition of a set of toilets on the third floor.
4	8	Elimination of the second void (which measured 30x10 meters), located on the opposite side to the existing one, which visually connected floors 3 and 4.
	9	Addition of an auditorium and another set of toilets on the fourth floor (in place of the void in the original project). Each part of this set of toilets is accessed from one side of the auditorium (i.e., there is no connection between the toilets, behind the auditorium).

Table 5. Description of changes between the original and built project.

Although externally the built version has practically maintained the same characteristics of its original design, from a spatial point of view these changes imply significant changes in its configuration. Configurational analyzes that approach the spatial system of the building both in a partial and total way (that is, that analyze its floors separately, as well as interconnected), were developed to capture the distinctions between these versions. This procedure is justified by the need to understand how the movement system on each floor is structured in order to develop a reading of the spatial narrative and, in another sense, to analyze the global articulation of spaces as receptacles of information and values.

The partial analyzes made for this object include isovists (and path isovists) and visual graph analyzes (VGAs), done directly on its plans (that is, without the need to translate the spatial system into another language), just adjusting the plans to represent only the perimeter of exhibition spaces, as well as the perimeter of internal barriers (such as the volumes of pillars, ramps, and stairs) (Benedikt, 1979; Turner, 2001).

Total analyses, in turn, mainly include convex maps and justified permeability graphs (j-graphs), which consider the system as a whole, that is, with its four floors connected to each other. Both analyzes are based on the translation of the building plans into a system of convex spaces, as they enable co-presence and co-awareness between people, fundamental aspects for the use and occupation of space. Justified graphs differ from convex maps in that they describe the relationships between spatial units, in this case represented as nodes (spaces) and edges (connections), thus, abstracting the geometrical properties of these units. After preparing the bases, the analyzes are performed using the Jass (Koch, 2004) and Depthmap (Turner, 2007, 2004, 2001) software, which analyze attributes that help to understand the spatial and social meaning of these networks.

Considering the more than 20 attributes that can be calculated through these software[155], seven were selected as fundamental for this discussion. Of these seven attributes, six are calculated directly by the software (integration, connectivity, mean depth, choice, control, and controllability) and the seventh (intelligibility), also described as a second order measure, is the result of the correlation between two other attributes (connectivity and integration, a local and a global measure). Their definition is gathered in Table 6.

[155] All of them discussed in Dephmap 4: A researcher's handbook (Turner, 2004).

Attribute	Definition
1 Integration	A normalized measure of distance from any a space of origin to all others in a system. In general, it calculates how close to the origin space is to all other spaces and can be seen as the measure of relative asymmetry (or relative depth).
2 Connectivity	Measures the number of spaces immediately connecting a space of origin.
3 Mean Depth	It is calculated by assigning a depth value to each space according to how many spaces it is away from the original space, summing these values and dividing by the number of spaces in the system less one (the original space).
4 Choice	Measures how likely an axial line or a street segment is to be passed through on all shortest routes from all spaces to all other spaces in the entire system or within a predetermined distance (radius) from each segment, also called as betweenness in other fields/software.
5 Control	Measures how visually dominant an area is. That is, the degree of choice each space represents for its immediate neighbors as a space to mote to. Each space therefore gives to each of its immediate neighbors 1/k, and these are then summed for each receiving space to give the control values of that space. Spaces which have a control value greater than 1 will have strong control, those below will be weak control spaces. A typical example is a hospital corridor, which his connected to many one-connected offices.
6 Controllability	Measures how easily visually dominated an area is. That is, a space that is seen from many other spaces.
7 Intelligibility	A second order measure that results from the correlation between connectivity and integration, that is, between a local and a global measure. It measures how apprehensible the entire system is through by navigating its parts.

Table 6. Attributes to be analyzed and their definitions.

These space attributes were chosen because they can help to understand the general behavior of the building's spatial network and how it relates to the exhibition layout, since the design of an exhibition involves decisions about: conceiving more or less integrated spaces, connecting or disconnecting certain stretches of the path, placing objects in deeper or shallower areas of the system, balancing between giving visitors more or less choice about their paths, defining the degree of control that one intends to exert over their movements, awareness of the most controllable spaces, and how these decisions impact the intelligibility of the spatial system. That is, these attributes can help to describe how curatorial discourses were structured in space and its relationship with the underlying building.

After the introduction of these general notions, the comparative analysis is carried out and discussed in two parts: analyzes that approach the system in a partial way, that is, floor by floor (5.1.1.1), which are made directly on the building plans; and analyzes that approach the building as an entire system (5.1.1.2), and that require the translation of the spatial system into specific languages).

5.1.1.1 System analysis – VGAs and isovists

The local analyzes that are carried out for the two versions of the building (original and built) are visual graph analysis and isovists/path isovists. The visual graph analysis (VGA) is based on translating the spatial system into a visibility graph[156], that is, the graph of mutually visible locations in a spatial layout, that can be applied to two levels, eye-level (for what people can see) and knee-level (for how people can move) (Turner et al., 2001). In this case, eye-level analyzes were performed, as movement aspects can be captured by other analyzes (such as convex maps and justified permeability graphs).

These eye-level analyzes imply that the visual permeability offered by the building void on floors 3 and 4 is described, which provides a good overview of how the building layout is structured. These graphs represent the most integrated and connected areas of the system, for instance, in warm colors, as well as the less integrated/connected spaces of the system in cool colors.

Isovists, in turn, were generated for the two versions of the building from the definition of key points in the visitors' path. The isovists obtained from these key points are represented in isolation and also superimposed, describing path isovists (Benedikt and McElhinney, 2019; Benedikt, 1979), that is all possible spaces to be seen from those points together. Three key points were defined for each floor, where: on floor 1 they correspond to the beginning/middle/end of the path between the main entrance[157] and the ramp leading to floor 2; on the other floors the isovists were taken from the circular ramp and the stairs (left and right side). The isovists were generated for an angle of 180 degrees, considering that the peripheral vision also contributes to the apprehension of spaces and plays a role in the choice of the paths to be covered.

The graphical results of these first analyzes (VGAs and isovists/path isovists), which were initially performed only for the integration and connectivity attributes, are gathered in the following figures (80, 81 and 82). Although numerical results, as well as the analysis of other attributes, can also be obtained for VGAs (and are considered in the analyses of the entire system), at this point what is wanted is to have an overview of the local distribution of these attributes along the floors just to better understand their differences.

[156] Automatically generated by Depthmap whose grid spacing is defined by the user – being 1 meter in this case.
[157] This entrance was defined as the main one based on observations made at the site, as well as from the study of the exhibition plans, which allow us to conclude that this is the most used entrance in the building.

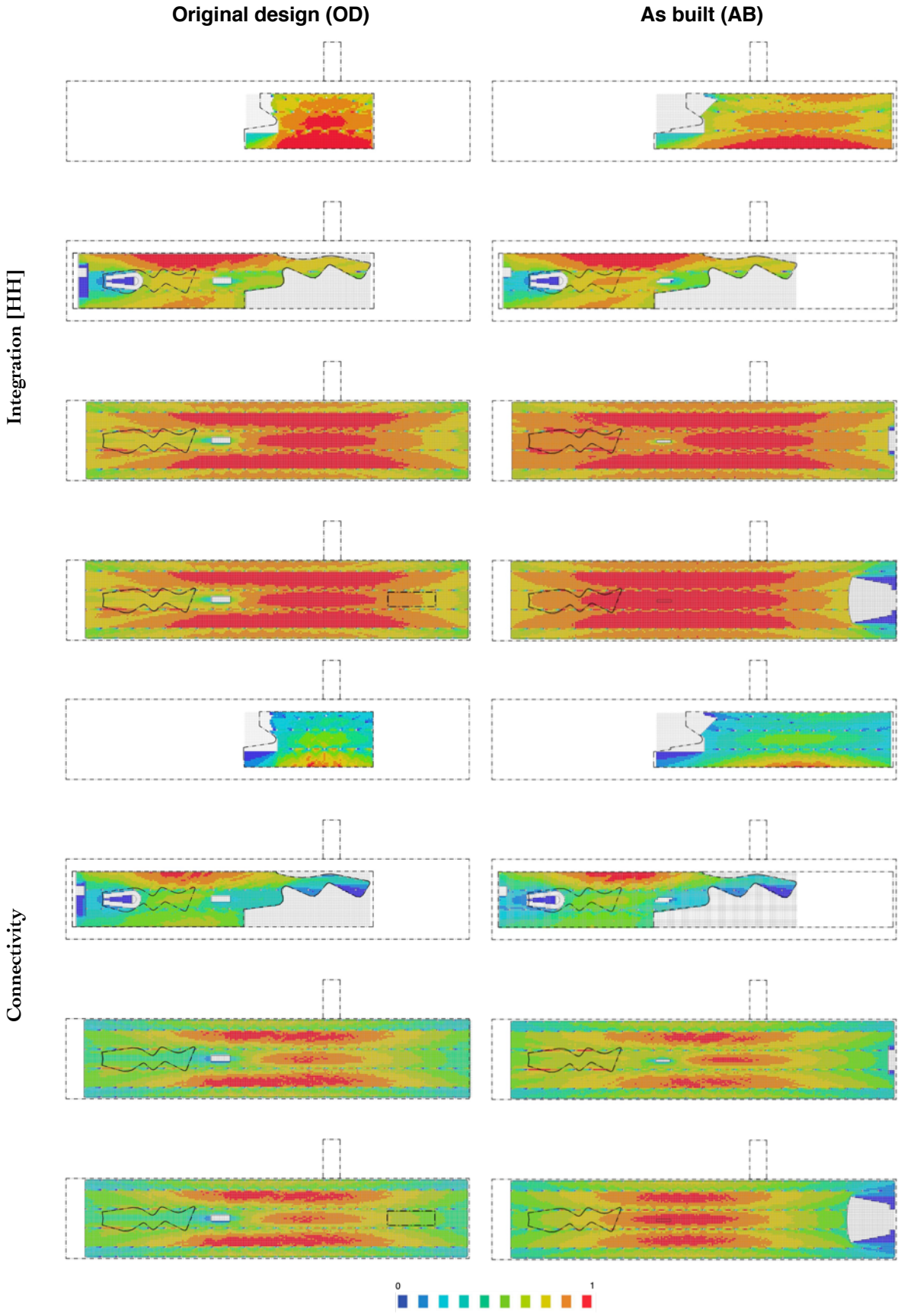


Figure 80. OD and AB – Visual graph analysis (integration and connectivity).

For both analyses, decisions regarding the delimitation of their plans were taken. They refer essentially to the definition of the mezzanine boundaries as visually permeable (since from the stairs it is possible to view of this area), as well as the voids on floors 3 and 4 of both versions. In addition, these analyses consider the floors separately, so they are restricted to the characteristics of each floor and not the entire system.

The VGA analysis distinguishes three central areas with high integration and connectivity levels on floors 3 and 4 of both versions, as a function of the boundaries of the floorplan and the set of columns. In fact, this differentiation of the space attributes are a function of the columns' distribution, which, although do not constitute barriers in the same way as walls (because they are much closer to a point than to a surface), when they are repeated over a large extension, limit possibilities of movement and occupation.

On floor 1 a similar result is also observed, although with variations. The lengthening of the first floor on the built version makes the more integrated and connected areas move to the structural module adjacent to the ramp that leads to the second floor. And a similar, but inverse effect occurs on floor 2, whose more integrated and connected spaces are in the upper structural axis, close to the void projection, due to the mezzanine, which extends the plan on the opposite face, creating a symmetrical balance between the two plans.

As far as less integrated and connected areas are concerned, spatial changes between versions also had an effect. In the case of the original design, the areas less visually integrated are all concentrated on the second floor, as this had a septum that segregated the elevator areas from the circular ramp. With the removal of this wall, in the built project (BP), this low connectivity area shifts to the back of the third and fourth floors (terminal spaces where bathrooms and auditorium were added, respectively).

Connectivity also varies similarly to integration in this regard. That is, the less connected areas are in the same places than the less integrated areas in the two versions. However, the mezzanine also stands out as an area that is poorly connected in both versions (because it is a large area that can only be accessed from one point), as well as the ramp connecting floors 1 and 2, as it has only two connections. In general, it can be concluded that all floors of both versions of the building are highly integrated and well connected. However, such integration and connectivity is distributed in a slightly different way, not only between versions, but between different areas on the same floor, which can be more or less strategic for defining the layout of the exhibitions.

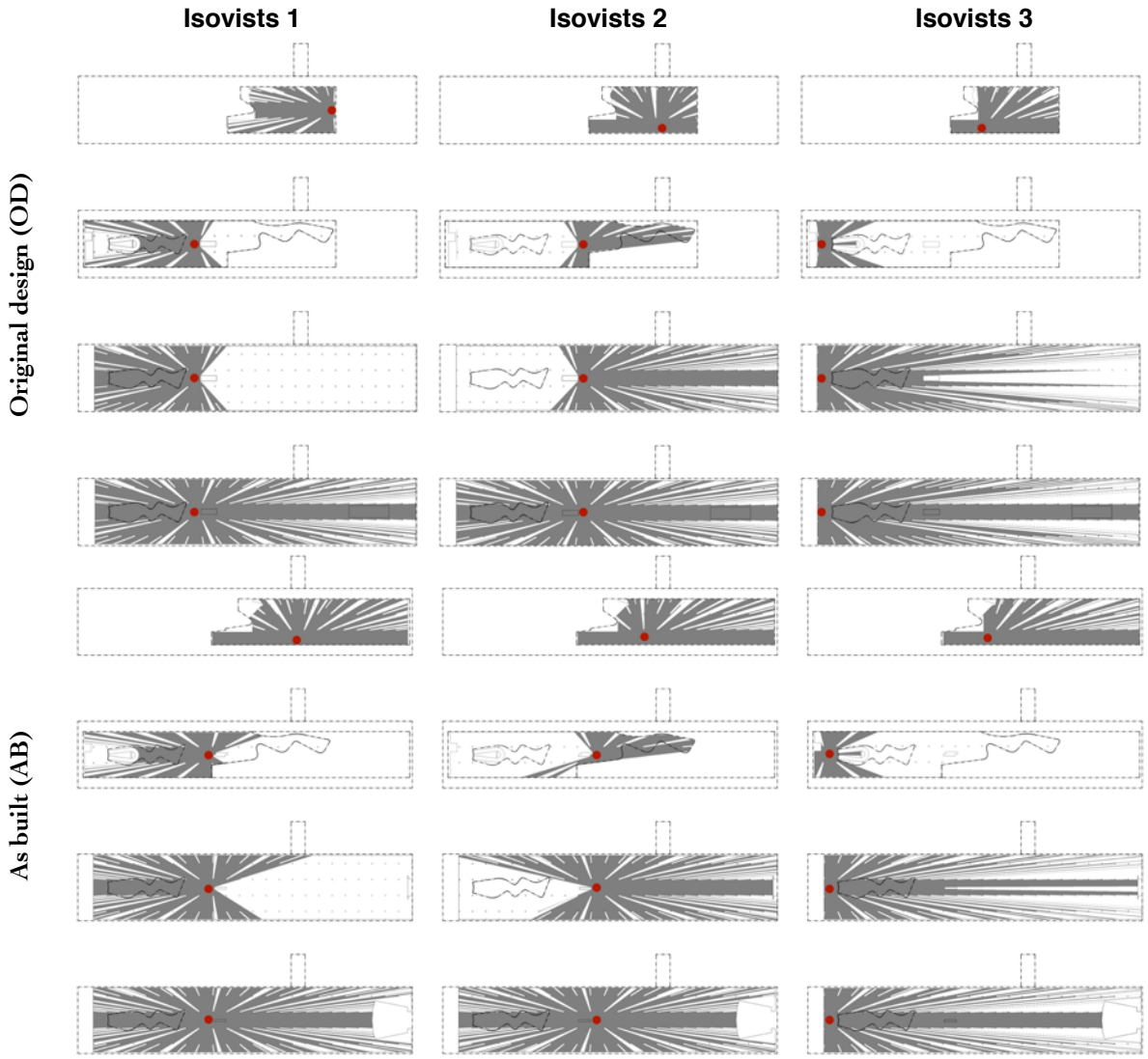


Figure 81. OD and AB – Isovists from 3 points per floor.

With regard to isovists, three key location were defined on each floor of the building, namely: 1) isovists on the path between the main access and the ramp (floor 1); 2) isovists from both sides of the stairs and the ramp (floors 2, 3 and 4). Even when analyzed separately (Figure 81), from these isovists it is possible to have an overview of the building, even though it was not necessary to go through it in its entirety.

In both versions, the spatial changes between versions do not seem to have a relevant impact, except for the first floor of the built version, which, being longer, has some areas with less visibility due to the cumulative effect of the columns (which also occurs on the third and fourth floors). These aspects become more evident when these isovists are superimposed, constituting path isovists (Figure 82).

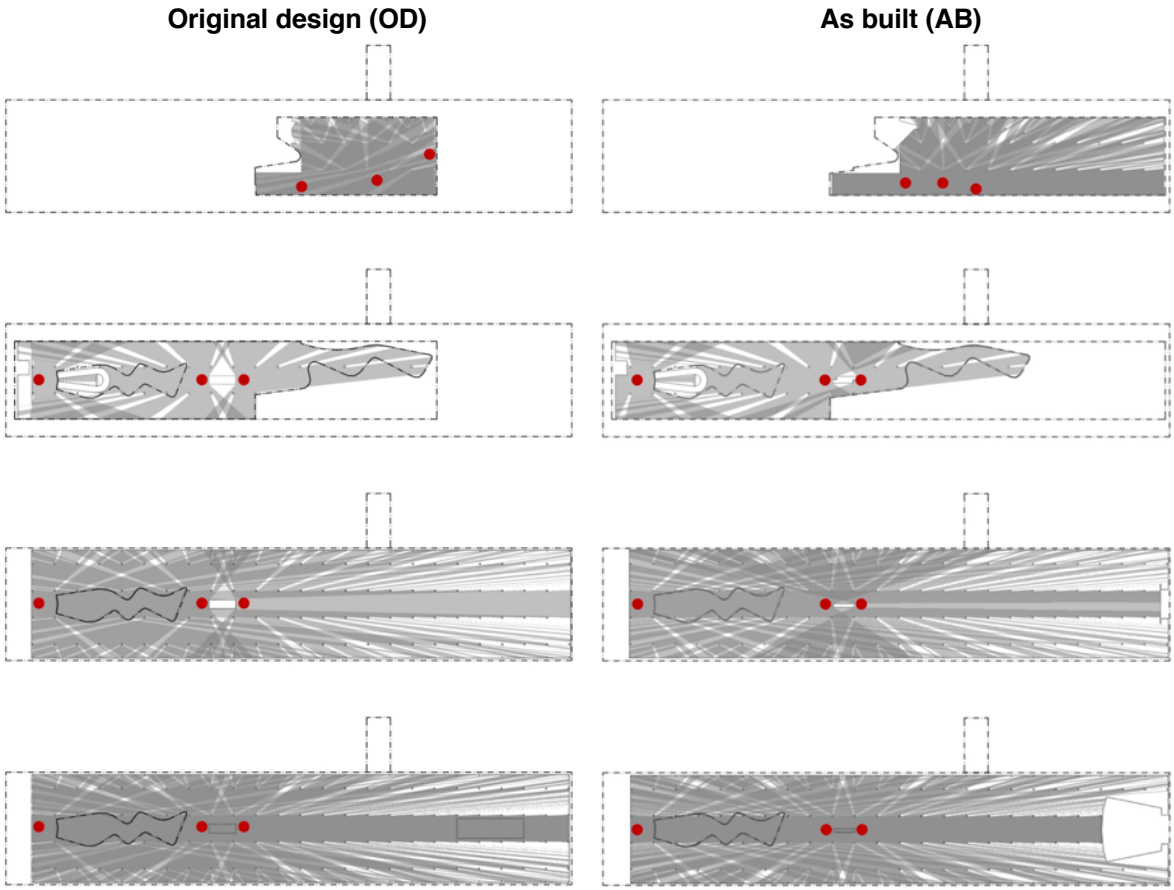


Figure 82. OD and AB – Path isovists.

In these path isovists it is observed that practically the entire building can be visually apprehended from these locations. This seems to be an important aspect to consider when analyzing how exhibition layouts are structured, as the visitor can easily avoid navigating certain areas of the building, as these can be visually apprehended from the elements of vertical circulation.

While these analyzes are interesting to provide an initial understanding of the morphology of the Pavilhão Bienal, as well as to highlight the configurational differences that exist between its floors and versions, they do not provide a description of the building as a single spatial system (as they consider each floor at a time). In this context, the description of the building's spatial complex is important to assess, for instance, whether and how the transformations undertaken in a given area can impact the configuration of the building, aspect which is addressed in the next topic.

5.1.1.2 System analysis – convex maps and justified graphs

Unlike the previous analyzes, which were performed directly on the building plans, the analyzes covered in this topic require that the plans be represented in a specific language which uses convex polygons as the basic spatial unit. These convex maps only consider the exhibition spaces as an analytical object, i.e., the convex partition did not consider the non-exhibition spaces, namely: bar/restrooms (floor 1); external ramp (floors 1-4); elevator, enclosed stairs, restrooms, and warehouses (floors 2-4); auditorium and restrooms (floor 4), as these are spaces that are not always accessible to visitors.

Of all these elements, the external ramp and the auditorium are worth mentioning. Although they seem to be part of the exhibition route, the study of all the exhibition plans, as well as the observations carried out at the site[158], justify their framing as non-exhibition spaces, since: 1) access to the external ramp is often closed (or restricted to inhabitants – such as mediators or FBSP employees), in addition to the fact that this ramp has an independent access to the outside of the building (and does not connect to the floor 2); 2) the auditorium, although it hosts events that are part of the BSP, does not have its spatial structure altered to receive exhibition content (that is, it does not receive displays).

After these definitions, the convex maps for the two versions of the building are drawn. Although discussed in Chapter 2, is worth noting that a convex map is the "least (minimal) set of fattest spaces that covers the system" (Hillier and Hanson, 1984, p. 92) which "depicts the least number of convex spaces that fully cover a layout and the connections between them" (Klarqvist, 1993, p. 11).

Therefore, these convex maps considered all barriers at knee level, which capture the way people can move through space. That is, all the columns were considered as barriers, while the influence of three-dimensional elements in this definition, such as the mezzanine and void projections, were provisionally disregarded. The floors are connected by both internal ramps and stairs. That is, they do not consider the external ramp and elevator as part of the building's vertical circulation system. This decision, also based on the observations made at the site, considers that the external ramp is often closed for security reasons (since it leads directly to the outside) and the elevator is mostly used for specific purposes (i.e., transportation of works, FBSP staff, or people with limited mobility) (Figure 83).

158 During BSP 33 (2018), as well as in field visits to the building carried out in 2017 and 2019.

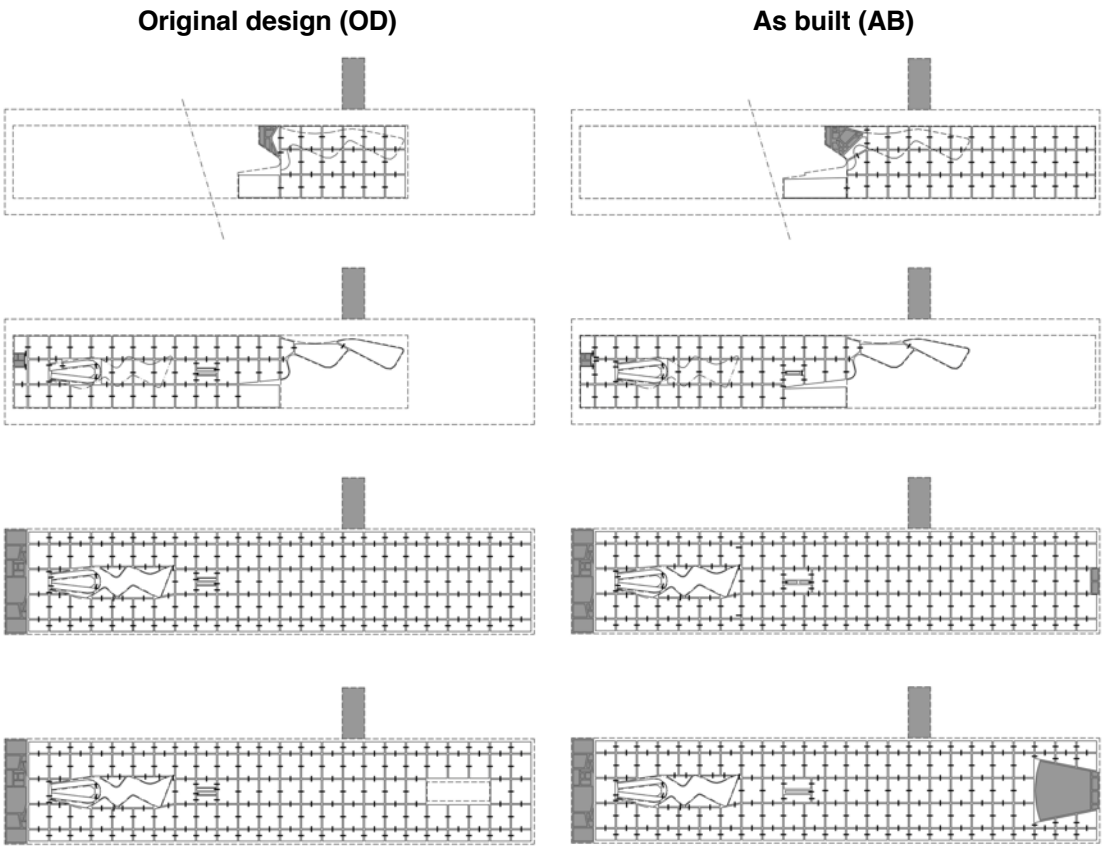


Figure 83. OD and AB – Convex maps.

The convex maps of both versions depict the 10x12 meter structural mesh and its variations that makes up most of the pavilion. These maps are the basis for the analysis of the attributes[159] that characterize the spatial configuration of the building (described below), as well as for the generation of justified graphs (which, in turn, allow inferring other attributes, such as the number of topological levels, convex spaces, and connections).

In the case of global analyses, it was considered important to infer all attributes, graphically and numerically, as these analyzes demonstrate how the entire spatial system behaves. Analyzes are grouped in Figure 84, which represents the convex maps of each pair of buildings (OD and AB) for each analyzed attribute (integration, connectivity, mean depth, choice, control, and controllability). The numerical results of these analyses[160], as well as the number of convex spaces, connections, and exhibition and non-exhibition areas, are gathered in the charts in the inner part of the figure.

[159] Although intelligibility is obtained from the correlation between the numerical results of integration and connectivity, and therefore does not have a graphical representation.
[160] Normalized to compare them with each other. For all attributes, average values were considered, except for control and controllability (maximum and minimum values, respectively, due to the complementary and opposite nature of these attributes).

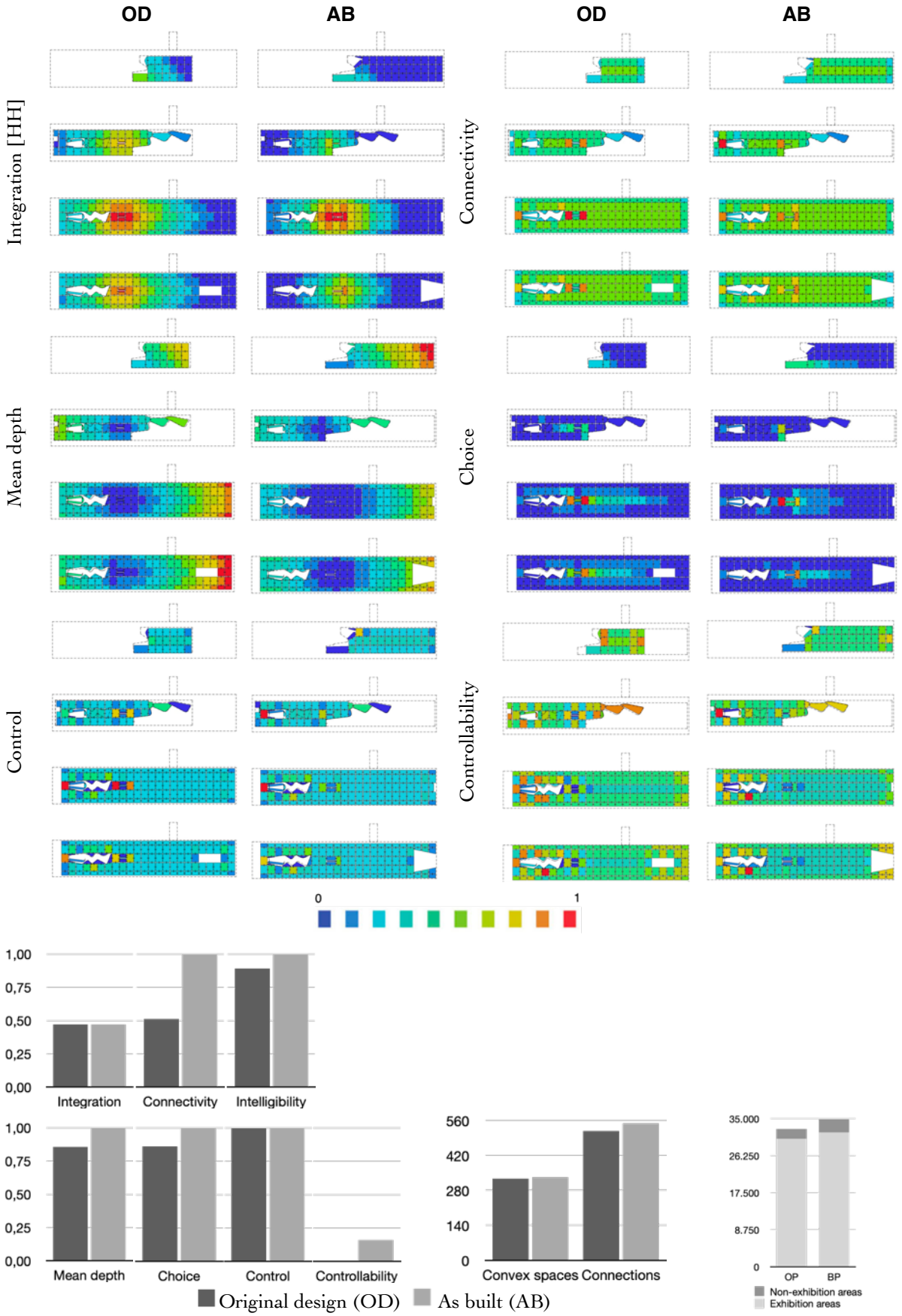


Figure 84. OD and AB – Convex analysis (seven attributes).

Through these analyzes, it is possible to conclude that, in general, both versions are configurationally very similar in global terms (that is, with regard to the numerical results of each analyzed attribute). However, the spatial changes undertaken in the built version contribute to increase most of its attributes, namely connectivity, intelligibility, mean depth, choice, and controllability. Such increase is due to the increase of the spatial system, in terms of area, number of convex spaces, and, consequently, number of connections (especially on the ground floor).

Regarding the local distribution of these attributes across systems, some significant changes can be pointed out. In terms of integration, the spatial changes between the two versions of the building contributed to concentrating the more integrated spaces of the system around the stairs in the built version, causing the ends of the floors present a greater number of spaces with low integration (since the entire system becomes longer). That is, in local terms, the original design was more integrated. Regarding connectivity, in the AB, the removal of the wall that separated the elevator from the ramp contributed to the increase in connectivity to the space adjacent to the ramp on the second floor. The less connected spaces of the two systems are represented by the mezzanine in the two versions.

On the mean depth attribute, the spatial changes between the two systems make their deeper spaces move from the right portion of floors 3 and 4 (OD) to the same portion of floor 1 (AB), which in this second version floor is much longer. Whereas the shallower spaces are concentrated around the stairs in both versions. The attribute of choice, in turn, seems to be the one in which spatial changes between the versions had the greatest impact in local terms. This is observed on the third and fourth floors of both versions, which in the OD seemed to define more clearly a possible configuration of a central corridor and local galleries – although this is still observed, to a lesser extent, in the AB (especially on floor 4). The spaces with the highest choice value are the same in both versions, spaces adjacent to the stairs, that do not change between versions (except for the fact that in the OD the stairs were 10 meters closed to the void). Some of these spaces are illustrated in Figure 85.

Control and controllability attributes, in turn, show opposite results at some points, such as spaces adjacent to the stairs (areas of high control and low controllability – due to the barrier constituted by the stairs). And coincide in others, such as the space adjacent to the ramp, which presents control and controllability values from medium to high in both cases.

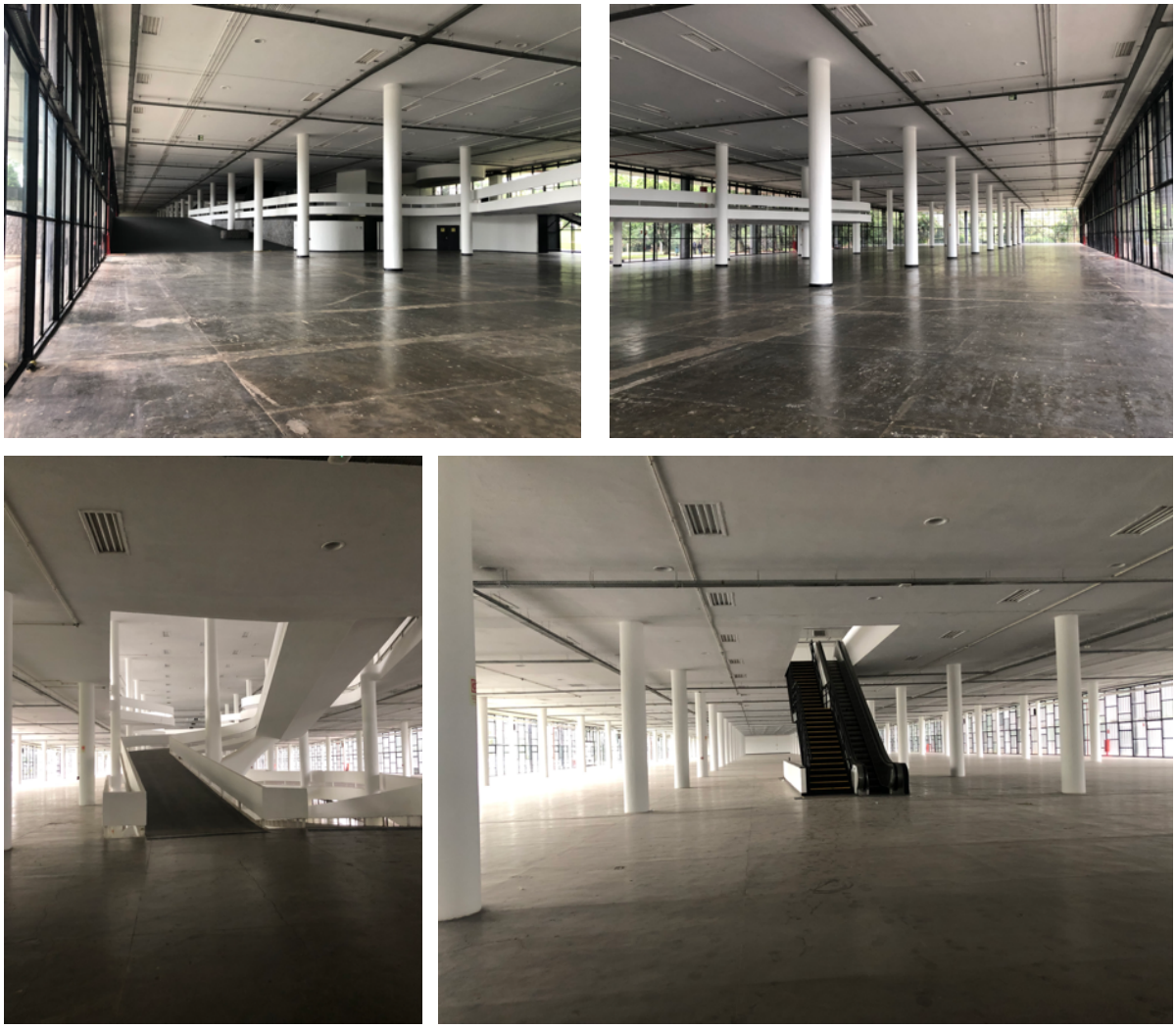


Figure 85. Views from the most used entrance to the building and key spaces in terms of choice and control of the spatial system (Luiz Amorim, 2019).

Finally, AB is more intelligible than OD, because its spatial system, as it gets longer, makes the system more segregated, which, in turn, balances the number of spaces with low integration and connectivity.

* * *

The Pavilhão Bienal, although frequently described as an open plan building, in fact embeds several spatial nuances in its layout, whose comparison with its original project helped to understand. Such nuances refer to the fact that this is a largely regular but also significantly exceptional building. The understanding of this aspect, and the possible configurational implications for the structuring of the exhibitions, can be deepened with the study of the versions that hosted exhibitions between 1957 and 2018, developed next.

5.1.2 Spatial changes, configurational implications

To better understand the architecture of the Pavilhão Bienal from a configurational point of view, new analyzes are developed, based on the building versions between 1957 and 2018, when BSP 4 to 33 occurs. All these versions are variations of the built version, which, throughout these six decades, have undergone slight changes.

This spatial history of the building (Carter and Malouf, 1989; White, 2010) is mapped through the reconstitution of the building's layout at the time of each BSP (whose plans are included in the appendices of this work). Such mapping, in addition to documenting the building's history, is also based on the argument that space should be considered an object of preservation (Amorim et al., 2007; Loureiro and Amorim, 2005). In this context, this survey it can contribute to overcoming the disjunction between the concept of space and architectural and conservation theories, which require specific methodological procedures to capture the morphological properties of space so that it can be "included to the architectural conservation consolidated practices" (Amorim et al., 2007, p. 1).

Therefore, even if the building externally maintains much of its integrity, as the wholeness and intactness of a heritage attributes (Jokilehto, 2006; Peixoto et al., 2020; Vieira, 2008), its spatial dimension does not seem to have been properly addressed as part of such attributes and its changes over time were considered in previous studies on these exhibitions (Alambert and Canhête, 2004; Farias, 2001; Matos, 2009; Villela, 2019). Thus, this mapping, in addition to providing the basis for comparative analytical studies between building and exhibitions, can also support the elaboration of conservation plans and guide future occupation and preservation actions for the pavilion.

In this context, the first methodological step was to reconstitute the building plans at the time of each BSP. This reconstitution was carried out by detaching the exhibition layout from the building layout (as discussed and illustrated in chapter 4), since the former is clearly identifiable in all cases[161]. This procedure allowed to identify the main spatial changes that the building underwent from 1957 to 2018 and were crossed with textual information present in the main publications about the exhibitions (Alambert and Canhête, 2004; Farias, 2001), as well as their catalogues, which also tell the spatial history of this building.

[161] Except for BSP 5 (because the plan of its fourth floor presents the partitions but does not demarcate the accesses to the rooms), 9 (which presents the labels of the contents displayed, but not their supports) and 14 (whose plans could not be located).

Exhibition plans, in general, do not provide detailed information about the spatial structure of the non-exhibition areas (only indications of where the restrooms, bar/restaurant and other uses are located). That is why the focus of this study is on the configuration of exhibition spaces and their interface with the non-exhibition ones.

From a quantitative point of view, these spatial changes result in the increase or decrease of exhibition areas, depending on the year in question. However, it is important to understand how such changes affected the building from a configurational point of view, as well as changed its programme (by adding or subtracting uses and functions from it) [162].

The Figure 86 illustrates a timeline with the indication of the main changes identified (indicating in which year they occurred and whether they resulted in a decrease or increase in exhibition areas), as well as a chart showing the variation in exhibition and non-exhibition areas between 1957 and 2018. BSP 14 is blank as their plans could not be located in the Arquivo Histórico Wanda Svevo (AHWS/FBSP), as highlighted previously.

In addition to this figure, the spatial changes are also grouped according to their similarity and summarized in Table 7. In this table, five types of alterations that interfered with the building's spatial configuration are identified, namely: 1) Fundação Bienal de São Paulo facilities (1, 2, 4, 6); 2) introduction or removal of the Museum of Contemporary Art of the University of São Paulo (MAC-USP) storage (3, 9 12); 3) introduction of internal and external stairs (4, 10, 11); 4) introduction of new program items (5, 7, 13); 5) introduction of an air-conditioned area.

On the one hand, some of them, although they change the spatial configuration of the building (as is the case of 4, 10 and 11), do not seem to change the overall functioning of the building and possibly have little impact on the layout of the exhibitions (since these stairs, especially the external and the mezzanine ones, are not part of the main circulation route of the building). On the other hand, there are changes that, in principle, may appear to have little or no spatial impact – as is the case with the installation of air conditioners on the ceiling of the top floor, but which can substantially alter the layout and dynamics of the exhibitions (as seen in the plans of the BSP 22 onwards).

[162] Such as the facilities of the FBSP, created in 1962, and the introduction of a storage of the MAC-USP on the fourth floor, as well as a café, bar, restaurant, and restrooms.

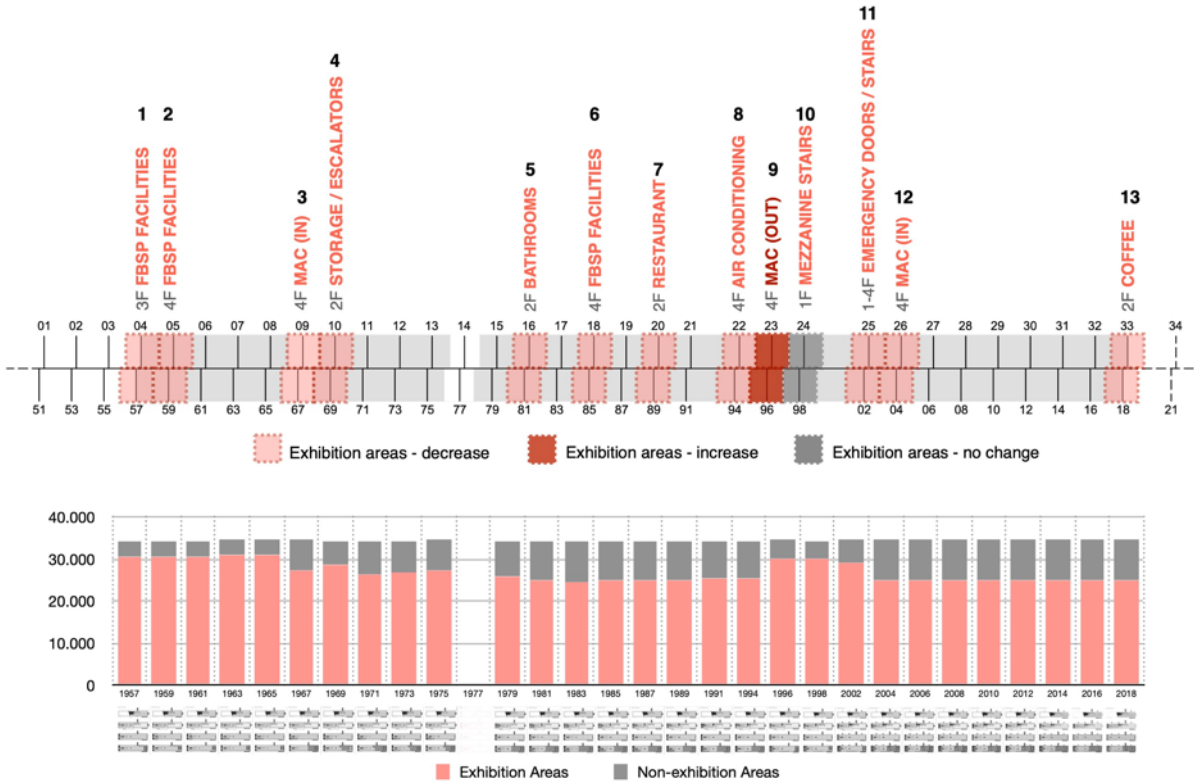


Figure 86. BSP spatial changes – Timeline with the main changes and variation in exhibition/non-exhibition areas.

	Description	Floor
1, 2, 4, 6	Creation (1 and 2) and expansion (6) of the facilities of the FBSP, which include the Arquivo Histórico Wanda Svevo, as well as areas to support the assembly of exhibitions.	**2, 3, 4**
3, 9, 12	Insertion, removal, and reinsertion, respectively, of the MAC-USP storage (the institution no longer officially occupies the space; however, the area remains inaccessible for exhibitions).	**4**
4, 10, 11	Changes in the building's vertical circulation system, namely: the installation of descending escalators (from 4 to 2 floors)[163]; stairs connecting the mezzanine directly to the first floor (1-2 floors); and the introduction of emergency doors and stairs in the southeast façade of the building (1-4 floors).	**1-4**
5, 7, 13	Inclusion of new items to the building's program, namely restrooms, facilities for a bar/restaurant operation (adjacent to these bathrooms) and a coffee, all of them on the 2nd floor (the former close to the stairs and the latter in the portion of the floor closest to the avenue and vehicle access).	**2**
8	Installation of an air conditioning system around the escalators[164]. The installation takes place on the last slab of the building, without the inclusion of new walls.	**4**

Table 7. BSP spatial changes – Description and identification of floors.

[163] The original project shows the existence of 2 central escalators, the description of the building in the Revista Acrópole (1954) mentions the presence of 3 escalators, but until the BSP 19 only one escalator could be identified in the building plans, date when a second one was added.

[164] In addition to meet increasingly demanding insurance requirements, this installation also sought to "to make it possible to receive artworks with conservation requirements. The machines were installed next to the north façade creating a large technical area closed by floor-to ceiling panels that block the windows." (Villela, 2019, p. 62).

Although 14 spatial changes were identified in 13 different years, which is a significant number for an apparently inert building, five cases stand out and are selected to be analyzed configurationally, namely: 1957, 1969, 1981, 1996, 2018 (which correspond to BSP 4, 10, 16, 24 and 33, respectively[165]). This selection considered that these building versions incorporate the main changes that occurred in the intermediate years, as they are often cumulative. The cases are illustrated in the Figure 87.

This selection also seeks cases distributed throughout the entire period studied, as well as basing its choice on situations that are quite evident from the examination of their plans. The cases of 1957 and 2018, while presenting substantial changes in relation to the BP, frame the entire period studied. Whereas the intermediate cases, 1969, 1981 and 1996, describe even more evident changes. All these cases capture moments when the exhibition areas declined (1957, 1981 and 2018) and increased (1969 and 1996) in relation to the built project (1954).

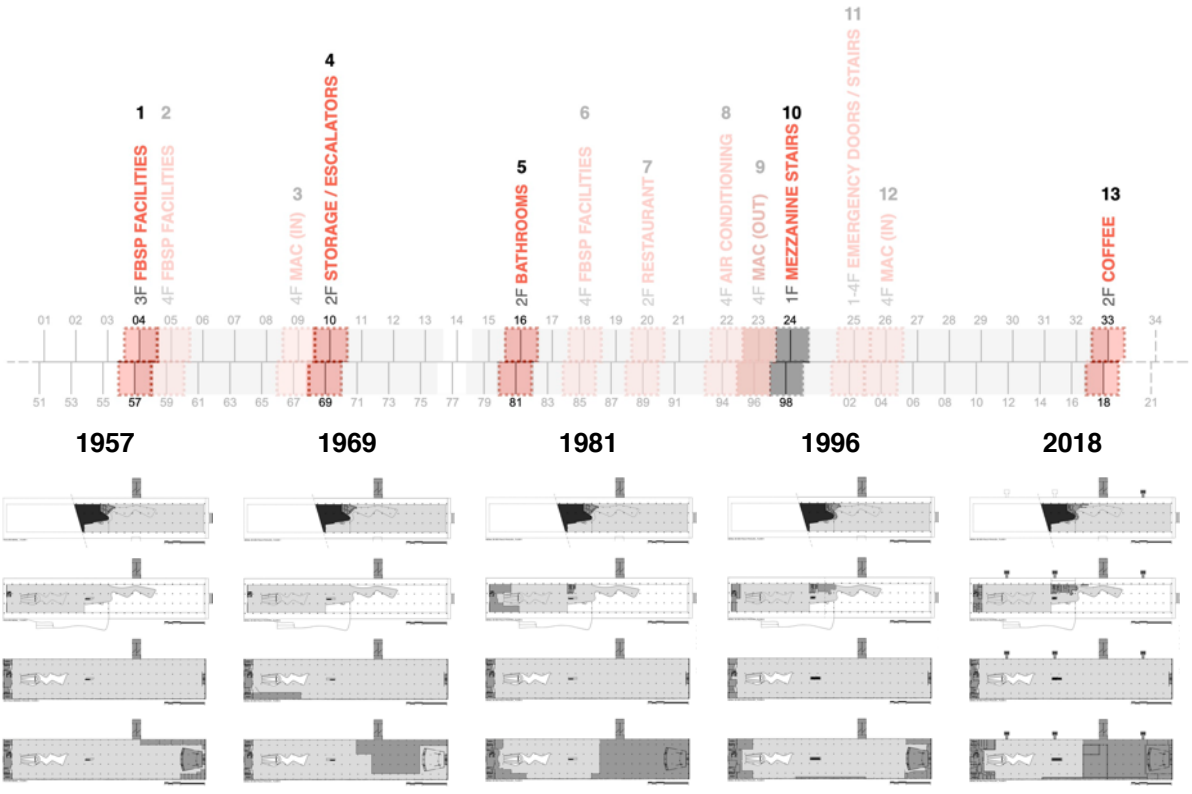


Figure 87. BSP spatial changes – Key cases (1957, 1969, 1981, 1996, 2018).

[165] It is important to emphasize that these cases were selected exclusively based on the spatial arrangement of the building. Although most of them coincide with cases to be analyzed in chapters 7 and 8 (except for the 1969 building/BSP 10), this was not a criterion for their selection. That is, the 1969 building is not analyzed in part 3 of this thesis, as well as other cases are included in accordance with the proposed discussion.

The main alterations of the intermediate cases, 1969, 1981 and 1996, are:

- 1969 – introduction of MAC-USP storage (which happened in 1967 and significantly reduced the exhibition areas on the fourth floor) and escalators (parallel to the existing stairs);
- 1981 - installation of toilets on floor 2, next to the stairs, which narrowed the path between the void area and the mezzanine;
- 1996 – construction of stairs that connect the mezzanine directly to floor 1, as well as all the cumulative changes that took place between 1983 and 1994.

After introducing the main changes and the discussion of the selection criteria of the cases, configurational analyzes are performed for the same seven attributes observed in the previous study (integration, connectivity, intelligibility, mean depth, choice, control, and controllability). For that, the convex maps of each case were made following the same criteria adopted for the preparation of convex maps of the OD and AB versions.

These analyzes are presented and discussed in pairs, namely: 1) integration and connectivity (and intelligibility); 2) mean depth and choice; 3) control and controllability (grouped according to the complementarity between the attributes). This presentation includes the convex maps obtained for each attribute (which allow discussing their local distribution throughout the systems), as well as graphs describing their global values. Their numerical results were also normalized for comparison purposes. The number of exhibition and non-exhibition areas, as well as the number of convex spaces and connections, are also presented so that the results obtained for the attributes can be correlated with the increase or decrease of exhibition areas (as illustrated in Figures 88, 89, 90 and 91).

From this set of analyses, some general conclusions can be drawn. The first is that the global variation of attributes (numerical value) is largely related to the increase or decrease of exhibition/non-exhibition areas (represented together with the chart of each attribute). And the second is that, despite being significant in terms of area, these spatial changes in general produce few changes in the local distribution of these attributes. That is, the spaces with the highest/lowest values of the system tend to be the same across all versions. That said, some exceptions and specifics of these spatial configurations can be pointed out.

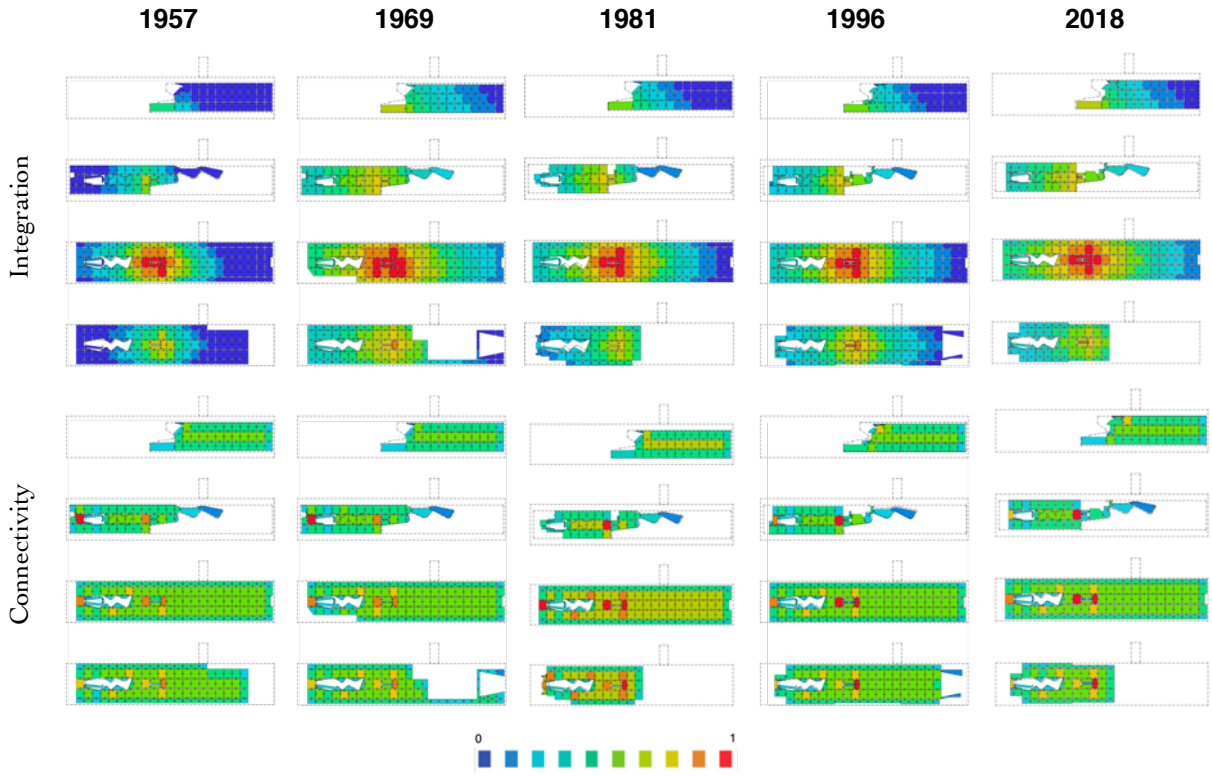


Figure 88. Five cases – Configurational changes (integration and connectivity).

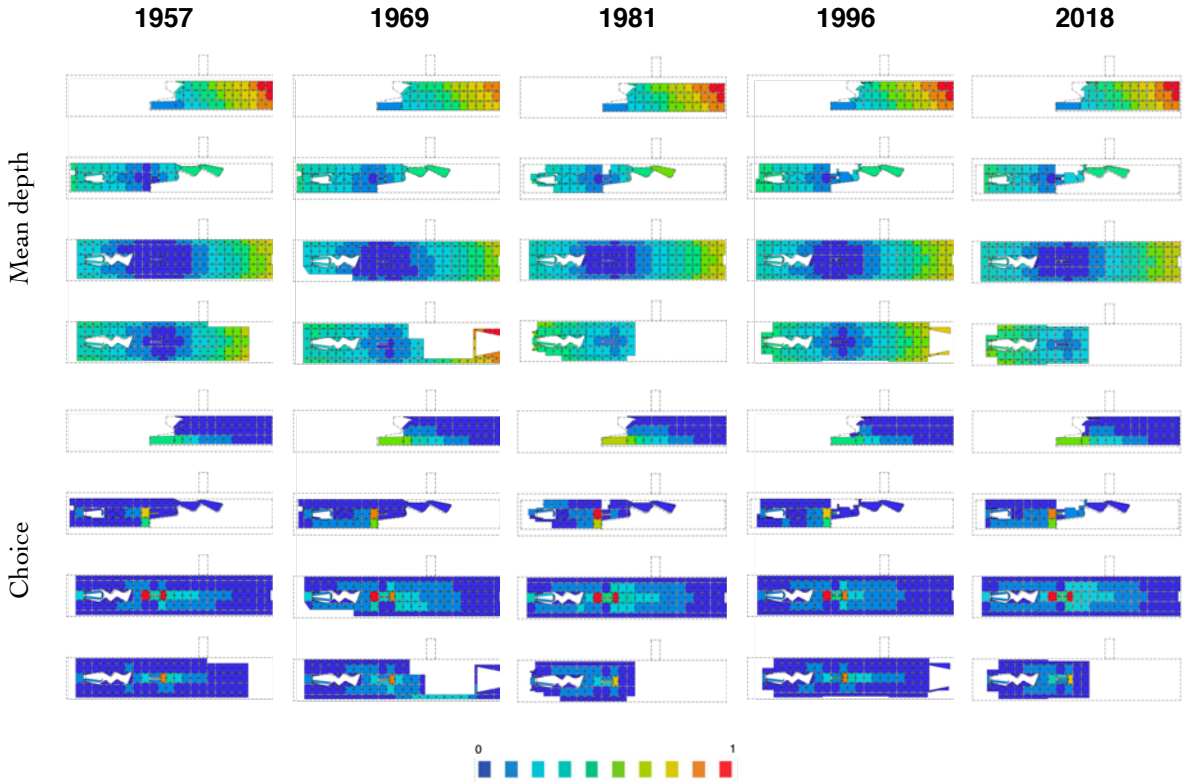


Figure 89. Five cases – Configurational changes (mean depth and choice).

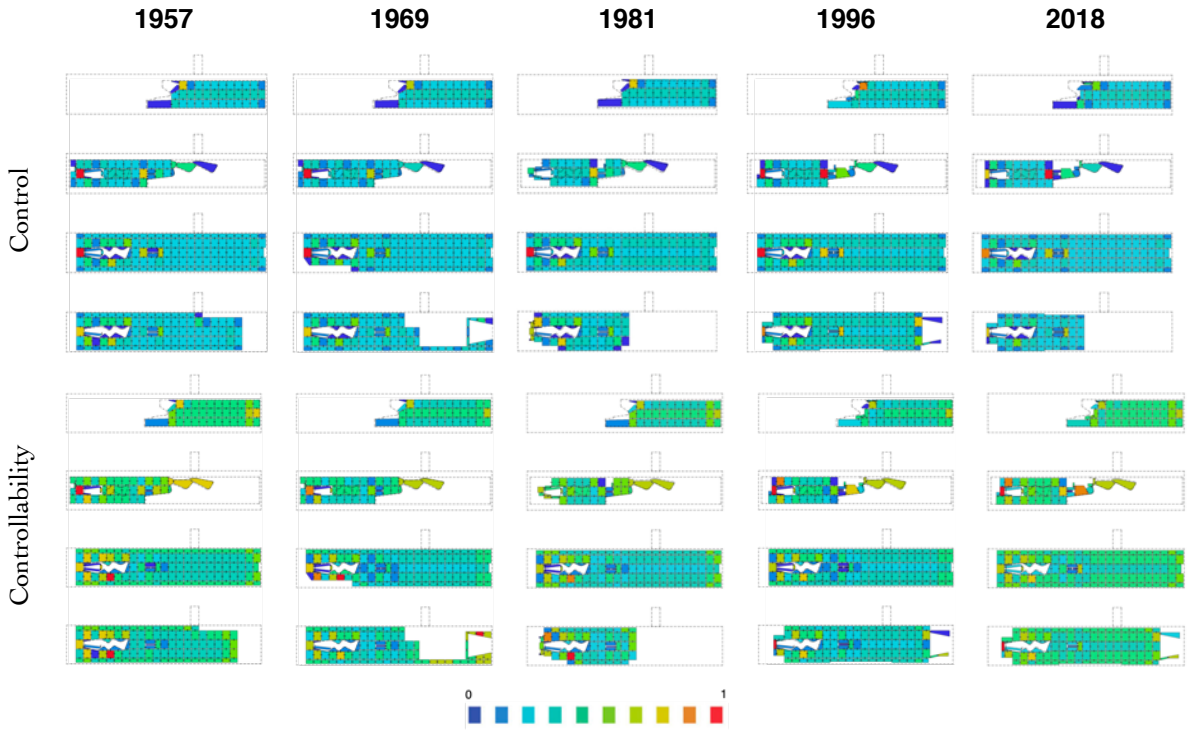


Figure 90. Five cases – Configurational changes (control and controllability).

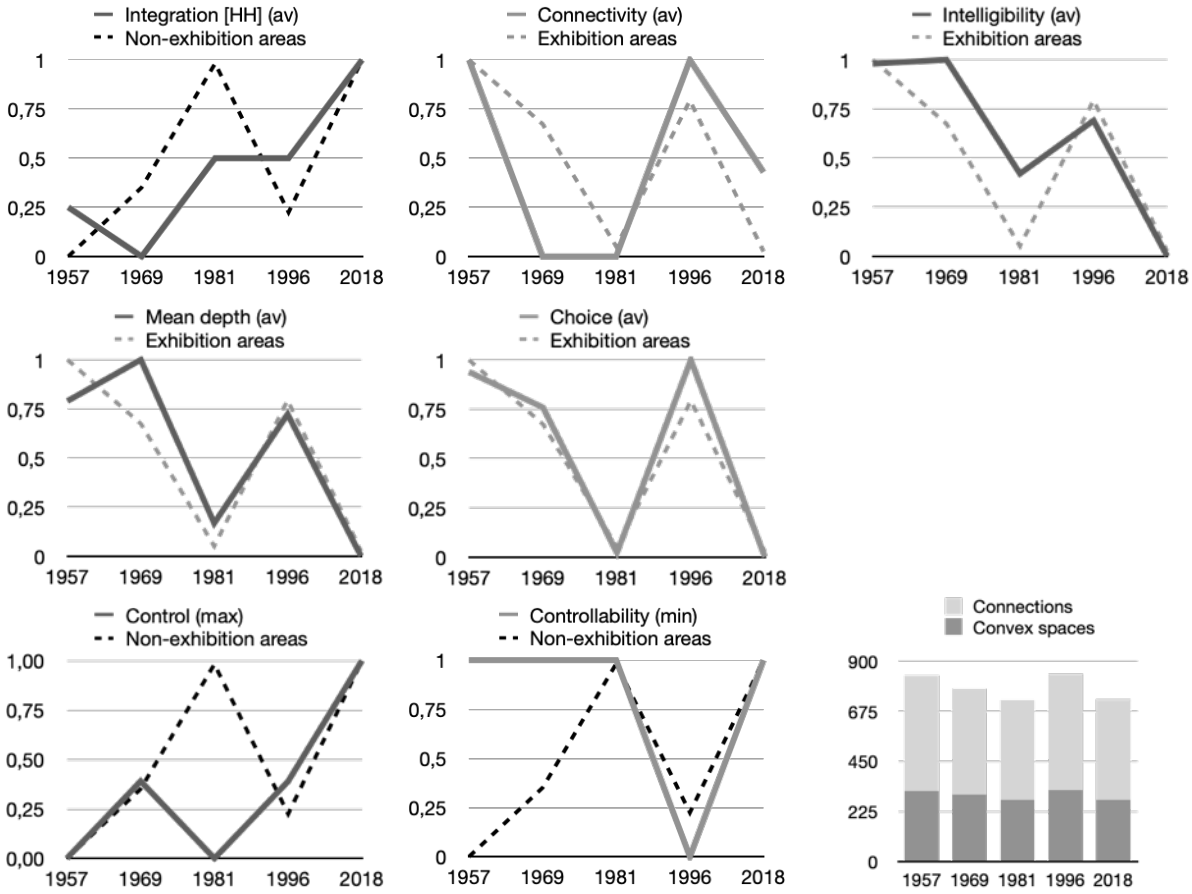


Figure 91. Five cases – Configurational changes (summary of global values).

On the integration attribute, in general, it tends to increase, as the building becomes shorter, as the mean and total depth are reduced. The 2018 case is the most integrated of all as a staircase connecting floors 1 and 2 was introduced in the mezzanine region (although this is not used in the exhibitions circuit, but to support non-exhibition spaces). In local terms, it is observed that in the five versions, the most integrated spaces of the system are concentrated around the stairs, in the central portion of the building. In the years when the building is longer (1957, 1969 and 1996), there are more convex spaces with low integration, most of them concentrated on the right ends of floors 1, 3 and 4.

However, in 1957, there are also spaces with low integration in the left portion (result similar to the AB version, with which this building most resembles). Although long, this version is more compact and has less fragmented perimeter than the others (1969 and 1996), which could explain this distribution.

About the attribute of connectivity, it is observed that this increases or decreases as these exhibition spaces increase or decrease. the only exception is the 1969 building, whose deepest portion of the fourth floor is also quite disconnected from the rest of it. This is due to the fact that, in the plans for this exhibition, access to the auditorium and bathrooms was maintained, although the MAC-USP storage was introduced between the stairs and the auditorium, which causes such disconnection. In all cases, the spaces with the highest connectivity in the system are those adjacent to the ramps and stairs, as they are both horizontally and vertically connected (which remain unchanged in all versions). The mezzanine, on the second floor, or the terminal spaces on the sides of the auditorium, on the fourth floor, are the ones with the lowest connectivity in all cases (when applicable).

The mean depth attribute also concentrates the shallowest spaces in the system around the stairs, as well as those deeper at the edge of floor 1 (and floor 4 in 1969). On floor 1, however, this depth can be relatively attenuated by the positioning of the access to the building (which in most cases happens on this floor).

The choice attribute in turn, presented the spaces with the highest system values in the same places in all versions (spaces adjacent to the stairs). In this attribute, the galleries suggested by the pillars that constitute the building are also evident. It is also noteworthy that the ramp connecting floors 1 and 2 also had a medium/high control value, which reverberates to some of its neighboring spaces. This effect is observed when visiting the building, since its most used entrance is close to this ramp and, when entering it, the visitor

can be attracted to the ramp on the left (and therefore may not visit the deeper portion of this floor, on the right side).

On the attributes of control and controllability, in general the building tends to present low control and high controllability, due to its very open spatiality. In the 1957, 1969 and 1981 versions, the spaces with the highest control value are the ramp access, especially on the second and third floors. However, in 1996 and 2018, the control of the stairway access space on the second floor also increases, which can be attributed to the decrease in exhibition areas in this region (with the addition of restrooms, which took place in 1981, and the expansion of the bar/kitchen/restaurant, in 1996), and the narrowing of the passage between the region of the void and the mezzanine. The spaces with lowest controllability, in turn, are the spaces adjacent to the stairs on the three floors (since this constitutes a barrier to vision). On the other hand, ramp access spaces have high controllability, which, together with their high control, make them strategic points in the system, as they constitute the most inert, rigid, or perennial points in the spatial systems.

* * *

From this first set of analyses, which compared two (OD and AB) and five (1957, 1969, 1981, 1996, 2018) versions of the building, while exploring different languages and attributes, it can be concluded that the Pavilhão Bienal presents a very hybrid spatial configuration. Such hybridity is characterized by the simultaneous presence of orthogonal spaces (repetitive and susceptible to shortening/stretching), as well as by fixed elements of singular geometry (ramps, stairs, balconies, and mezzanine) – which were associated with the notions of complexity and genericity, investigated as follows. These elements, in turn, seem to be fundamental for the structuring of the exhibitions, as they seem to present a kind of syntactic and semantic capital, making them attractive areas for the structuring of the exhibition layout (Bourdieu, 1986; Hillier, 1996a; Hillier et al., 1993; Marcus, 2010)[166]. That is, these areas are points of horizontal and vertical connection and in them is where the aesthetic characteristics of Niemeyer's work are most evident.

[166] Although the attributes that characterize the notion of spatial capital in the context of buildings, object of this investigation, are different from those that characterize it in the context of urban spaces (i.e., accessibility, density, and diversity).

5.2 Complexity and genericity in the Pavilhão Bienal

This second part of chapter 5, which also studies seven versions of the Pavilhão Bienal (OD, AB, 1957, 1969, 1981, 1996, 2018), addresses the apparently interplay between regularity and exceptionality that characterizes the building and that in this section are related with the notions of genericity and complexity.

If, on the one hand, the ideas of complex and generic, in the context of configurational studies, have already been discussed throughout chapter 3, in this chapter they are also the lenses that structure the approach to the empirical object. These notions of complex and generic are associated with the two main aspects that characterize the configuration of this building, namely: its potential to support complex spatial configurations (due to its high convex partitioning capacity and arrangement possibilities), as well as to be described in a broadly generic way, since many of these spaces can be unified (as they are mostly constituted by columns) and that the building has a very simple vertical circulation system (comprised of the internal ramps and the central stairs, which remain unchanged). Such interaction seems to be related with the poorly dictated structure of the building (despite its strong geometrical ordering), which offers spatial conditions for the distinction required by the exhibitions (at the points where the homogeneity of the plan is broken).

In this context, this discussion is structured in two parts: the first describes and analyzes the limits and possibilities that the building offers in terms of occupation (5.2.1) and the second, its limits and possibilities in terms of movement (5.2.2). Although it is known that in practice these two generic functions of space overlap, this distinction is intended to facilitate the development of the discussion in a structured way and is based on the languages used to describe each one of them. That is, in the first part the focus is on descriptions of these spatial systems through convex spaces (analyzed for the same seven attributes of the previous section, 5.1), that facilitate the understanding of how such spaces can be occupied (by representing them through convex polygons).

The second part, in turn, describes the possibilities of movement since it represents these spatial systems from justified permeability graphs. Due to their high degree of abstraction (by representing spaces as nodes and their connections as edges), these graphs facilitate the understanding of the general structure of these networks, which embed elements relating to occupation, but which favor the reading of the existing paths in these systems.

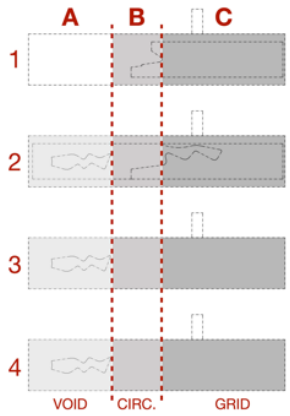
5.2.1 Limits and possibilities of occupation

The study of the limits and possibilities of occupation embedded in the different layouts of the Pavilhão Bienal is done according to the following steps: through the definition of configurational sectors that can contribute to the understanding of these limits and possibilities (5.2.1.1); and through the development of description models that capture such limits, namely complex and generic convex maps (5.2.1.2).

5.2.1.1 Configurational sectors of the Pavilhão Bienal

During the analyses carried out in the previous section (5.1), which compared seven different versions of the building, some constancies were identified. Such constants refer to the areas of the building in which the local distribution of its attributes presents greater or lesser variation, both in relation to a single case and when considering the seven cases together. These recurrences seem to delimit sectors that, although they do not have a distinction of use or function, are distinct in terms of their configuration. That is, their configuration does not emerge from a strong classification of people and functions.

However, in the configurational definition of sectors, as proposed by Amorim (1999), in addition to the social component (which includes use, occupation, and groups of people predicted for those spaces) there is also a spatial component, embedded in the configuration, that produces the necessary distinction to support such classifications – as in branched systems or consisting of several cut vertices, "a position that is likely to pull the configuration towards its boundaries" (p. 353). Such differentiation, which is described through the analysis of its attributes, is characterized according to the Figure 92.



	Name	Description
A	**A2, A3, A4**	Spaces adjacent to the void on floors 2, 3, and 4
B	**B1**	Ramp between floors 1 and 2
	B2, B3, B4	Spaces adjacent to the stairs on floors 2, 3 and 4
C	**C1**	Double-height ceiling area on floor 1
	C2	Mezzanine on floor 2
	C3, C4	Spaces predominantly configured by the structural grid

A – void; B – circulation; C – columns.

Figure 92. Configurational sectors of the Pavilhão Bienal.

Thus, these three configurational sectors are defined as follows:

A. Void – sector that extends vertically between floors 2 to 4, characterized by spaces adjacent to the void (A2, A3, A4);

B. Circulation – sector that crosses the building from floors 1 to 4, characterized by spaces adjacent to the stairs on floors 2, 3 and 4 (B2, B3, B4) and by the straight ramp between floors 1 and 2 (B1);

C. Columns – sector from floors 1 to 4, where the floors 3 and 4 are characterized by the repetitiveness of the structural grid (C3, C4), floor 2 corresponds to the mezzanine (C2), and floor 1 is the double-height area (C1, which is simultaneously characterized by the mezzanine and the structural grid).

To demonstrate how these sectors were defined, the convex maps of the seven versions of the building (OD, AB, 1957, 1969, 1981, 1996 and 2018) for the six attributes analyzed (integration, connectivity, mean depth, choice, control, and controllability) were gathered with the delimitation of these sectors (Figures 93 and 94). The colors of the convex maps were smoothed to increase the contrast between the map information and the delimitation of sectors, since the objective is to highlight where the areas of highest and lowest value for each analyzed attribute are concentrated.

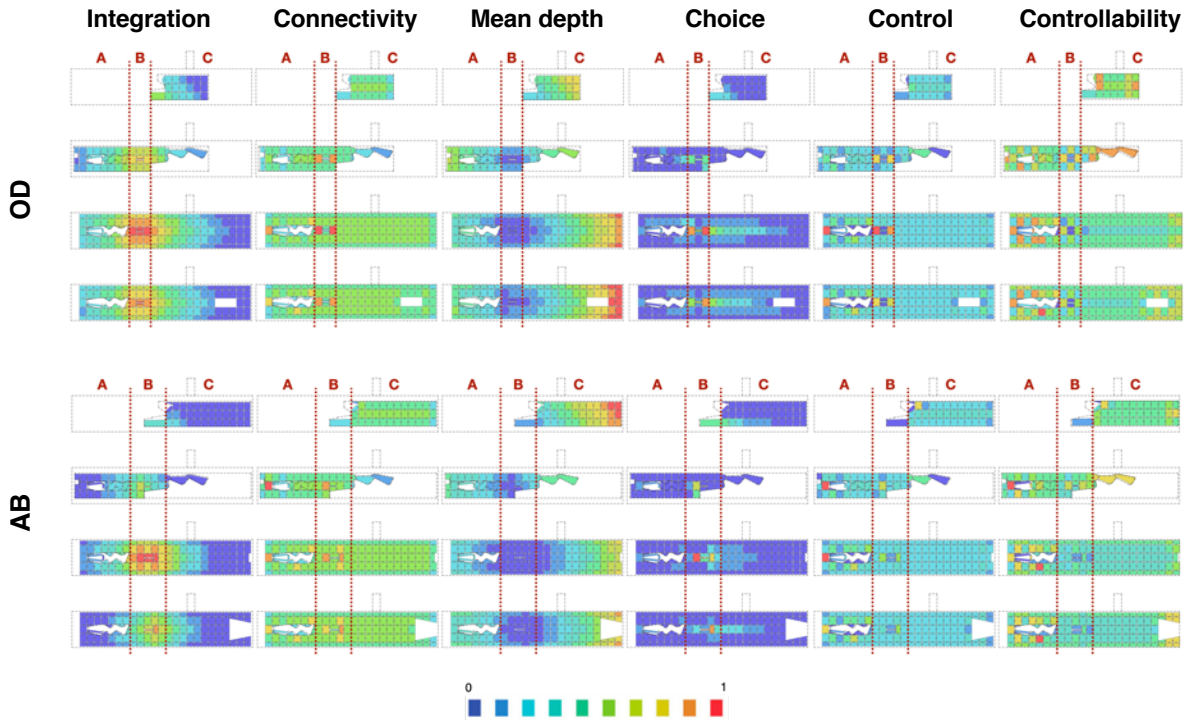


Figure 93. OD and AB – Variation of attributes and delimitation of configurational sectors.

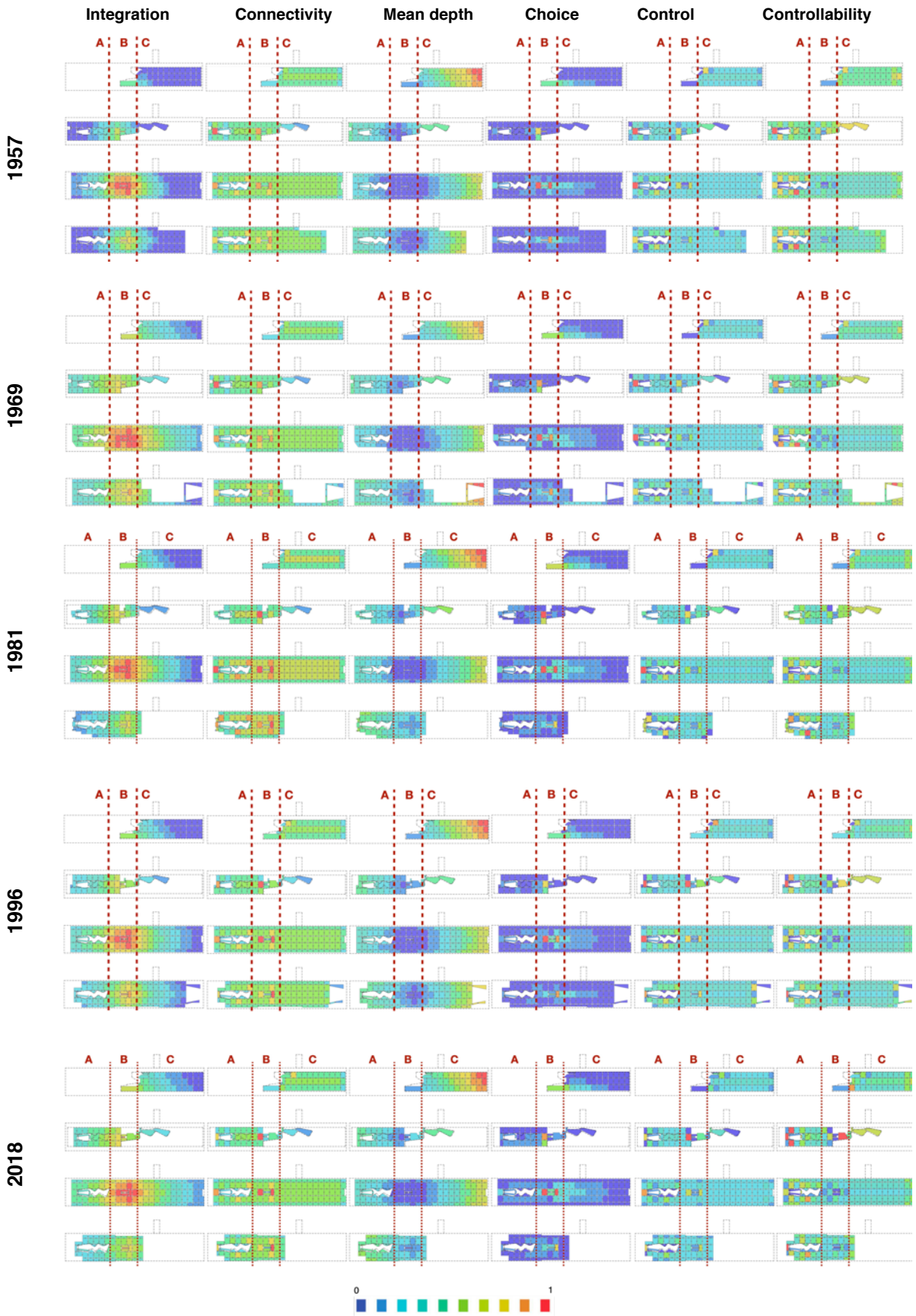


Figure 94. Five cases – Variation of attributes and delimitation of configurational sectors.

The delimitation of the sectors illustrated in Figures 93 and 94 defines the limits within these attributes tend to show some variation. Some attributes show a gradual distribution throughout the system (namely integration, mean depth, and choice), whereas others present more abrupt variations and in very specific spaces (i.e., connectivity, control, and controllability). However, in both situations it is observed that, whether they are punctual or gradual variations, they tend to occur within these limits.

When comparing the original design (OD) and the built version (AB), it is noted that the sector B of the former was slightly narrower than that of the latter. This is due to the fact that in this first version (OD) the ramp between floors 1 and 2 was shorter (with 20 instead of 30 meters) and the stairs were 10 meters closer to the void, making this central sector narrower in this version. That is, the spatial changes that occur between the OD and AB result in an increase in the sector B, which in this version (AB) also includes the ramp between floors 1-2.

The other five versions of the building (1957, 1969, 1981, 1996, 2018) helps to characterize the sectors and guide the understanding of these buildings and, later, their exhibitions, by constituting a criterion that allows them to be compared in parts without losing sight of the whole.

In the case of integration and mean depth attributes, the more integrated and shallower regions of the building are located predominantly in sector B (pillars, mostly on floor 3). However, it is recognized that sector A, due to the wide permeability it creates between floors 2 and 4, is also a sector of great attraction for setting up exhibitions. In all cases, however, the least integrated sector and the deepest area of the building, is situated on floors 1 and 2 of the sector C (mezzanine and columns area, respectively).

Regarding the attributes of connectivity, control, and controllability, the distribution of spaces with highest/low values is not gradual as in the previous attributes, but rather punctual. However, spaces with higher values are concentrated in sectors A and B, adjacent to the ramp and stairs on floors 2 and 3, whereas sector C is characterized by the presence of spaces with low values (especially on the second floor, mezzanine). Finally, the attribute of choice presents a distribution that is simultaneously punctual (spaces with greater choice value located in front of ramps and stairs) and gradual (longitudinal galleries of the building configurationally differentiated from each other by different values of choice), but that also falls withing these boundaries.

These configurational recurrences suggest that the building, although it does not present any distinction of functions and activities in its plans[167], incorporates spatial characteristics that enable or restrict certain occupations and activities. Therefore, the idea of sector, as "groups of activities and categories of household users [are] bound together by means of continuous networks of spaces" (Amorim, 1999, p. 185), has only partial correspondence in this case, since the pavilion does not strongly classify its users and activities.

When added to the exhibition layout, the definition of different uses (in addition to the display of artifacts) as well as a certain classification of people can happen. That is, the exhibition morphology, by taking advantage of the building's morphology and symbology, can also end up resulting in a classification of people through the distribution of contents and activities which may end up facilitating or hindering access of certain groups of people, according to different levels of cultural capital, for example (Bourdieu, 1986; Bourdieu et al., 1991; Bourgeon-Renault et al., 2006). However, this is not something that originally appeared in the design of the building, but that could be explored by its exhibitions.

On the other hand, certain sectors seem more favorable to occupation, namely sector C, due to its extension and repeatability. Others to movement, as sector B, whose spaces are structured around the elements of vertical circulation. And sector A seems to incorporate these two functions in a balanced way, as it has spaces that are favorable to occupation around the void, as well as is marked by the functional and iconic presence of balconies and ramps. This sector also seems to favor the exhibition of large artworks and installations that occupy its three floors, as well as the first floor (sector C), which, due to its double height, can exhibit large artistic formats or activities that explore its continuity with the park. In addition, sector A and the floors 1 and 2 of sector C (mezzanine) are areas that seem to favor socialization during the visit, due to the wide fields of vision they provide, not only on the same floor, but between floors. Also on sector C, especially on floors 3 and 4, it seems to favor the introduction of new partitions and rooms and the exhibition of smaller formats, due to the repetitiveness that spatially characterizes this sector.

Finally, this sectorization, in addition to consider all the spatial changes that the building underwent from 1954 to 2018, also seeks to constitute a reference so that the building and its ambiguous condition of complexity and genericity can be addressed.

---

167 As described in Fraga (2006) and Mindlin (1956). In fact, the only named elements are fixed ones (such as stairs, ramps, void), as well as non-exhibition spaces (i.e., warehouses, restaurants, and engine rooms).

5.2.1.2 Complex and generic models of description

The delimitation of sectors, as discussed in the previous section, sheds light on the possibility of representing the spatial system of the building in a simplified way to highlight its areas of variation from those where there is greater repetition of its attributes. such thinking gave rise to two models of description of the building's spatial systems, called complex and generic, initially developed for their convex maps.

To a certain extent, this proposition is based on the sector graphs, as developed by Amorim (1999), an unfolding of the convex maps of the dwellings he analyzed (discussed in Chapter 3). In his case, the criterion for this simplification, which is the representation of a sector consisting of n convex spaces in the form of a single node, was the continuity between spaces with the same function and users' classification. In the case of the Pavilhão Bienal, the only criterion observed for the description of its spatial system is the structuring of the generic functions of movement and occupation (Hillier, 1996b). Thus, its configuration is represented by: A) spaces predominantly associated with occupation; B) sets of spaces that are associated with the effects of vertical circulation systems.

The convex maps of the building, as they were drawn in previous studies, that is, considering all barriers at knee level, made it possible to compare different attributes of the spatial configuration of both versions of the building. Although such representation was able to establish a rich comparative picture, it does not seem to reflect the perception that one has of the building when navigating it, of a fluid and integrated space. In other words, from these convex maps, the building appears to be composed of a grid of rooms in sequences, which, although effective in analyzing its attributes, capturing its variations in detail, does not seem to be the only possible representation of its spatiality. This impression is due to the treatment given to the columns, which were considered as barriers (vertices) in the definition of the grid of convex spaces which covers most of the system.

However, the columns are an element of great ambiguity, since, although fundamental in the definition of convex spaces, it is understood that these act as guides, and not necessarily as barriers, in this definition. In fact, the exhibition plans show that the way in which this architectural element is considered by the design of distinct exhibitions varies significantly. In some cases, they are completely hidden by barriers, in others they serve as an axis of continuity between adjacent barriers, and there are also situations that they are left independent of the exhibition layout.

These findings add to the questions to be investigated, which refer to the understanding of the building as an independent object as well as the interdependent relationships between building layout and exhibition layout. In other words, it is understood that it is necessary to develop a description model that translates these nuances of the spatial system, of complexity and genericity, to appropriately describe the layout of the building and its exhibitions. These descriptive models, in turn, can contribute to delimit the apparent minimum and maximum configurational limits of the building, in terms of occupation and movement, on which these exhibitions are based.

In this context, a second convex map model was elaborated, based on the two first versions of the building (OD, AB), and the five cases of major spatial changes (1957, 1969, 1981, 1996, 2018). Therefore, convex maps that consider all knee-level barriers are called complex convex maps (as they represent the building in all its configurational complexity), just as generic convex maps designate convex maps that unify groups of spaces based contained within the same sector based on their configurational similarities (thus representing the building in a more generic way), as presented in Figure 96.

These generic convex maps continue to represent the barriers to movement (at the knee level). However, they do not consider all of them (as in the case of complex convex maps). In this model, in general, the pillars are disregarded, unless they coincide with the sector boundaries, are located in the projection of vertical elements (such as void and mezzanine, considered in this version), or are the only delimiting element of a space that cannot be joined to its neighboring spaces.

In short, the pillars can be: A) fully considered; B) partially considered – when located on the sector boundaries, aligned with some element of the building (i.e., stairs, ramps, and void) or when they are necessary for the decision on how to join several convex spaces (when there are similar possibilities); C) disregarded – when they have no influence in the definition of convex spaces (as in the case of ramps, stairs, and mezzanine) (Figure 95).

These situations, as well as the general difference from the complex convex map to the generic convex map, are illustrated in Figures 95 and 96. In these figures, it is possible to observe the points where the spatial system was simplified, as well as those that kept its original partition, either because they took as a reference the boundaries of the sectors, the influence of vertical elements (such as the projection of the void) or simple issues of geometric order.

The term complex convex map describes how this map was prepared (i.e., considering the spatial system in all its complexity in terms of barriers and permeabilities) and is also a reference to related building types (i.e., museums, galleries, and pavilions), which in the field of morphological studies are often framed as complex buildings (along with hospitals, schools, and others).



Figure 95. Spatial situations in which columns were fully or partially considered (lateral galleries and projection of the void, above) or disregarded (mezzanine, below) (Photos Luiz Amorim, 2019).

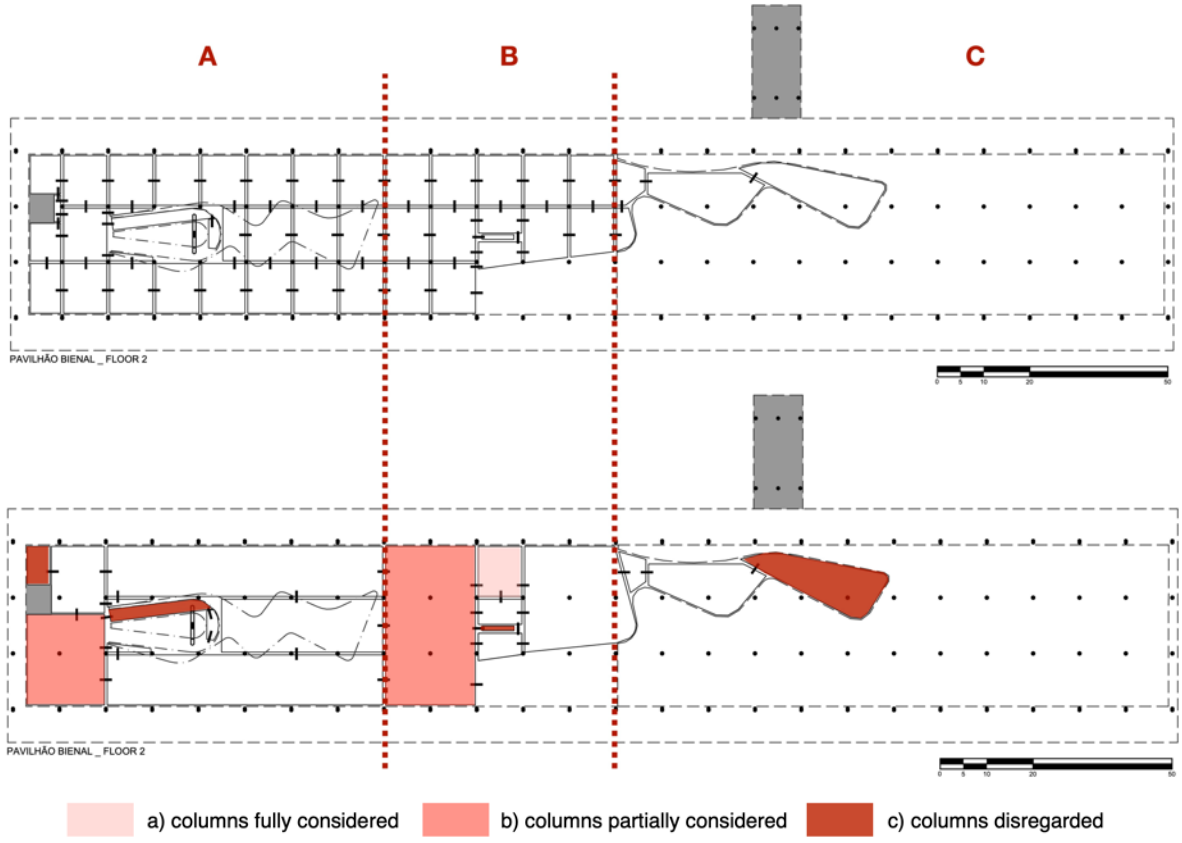


Figure 96. AB version (floor 2) – Complex and generic convex maps and their translation criteria.

The generic map, in turn, considers that, according to the notion of generic, as something that encompasses a multiplicity of things, these maps represent a significant part of the building's spatial configuration in a non-specific way (Turner, 2007). This nomenclature is also related to a third type of convex map developed during this research, specific convex maps, which are used to describe the spatial configuration of exhibitions, understood as highly specific networks with regard to the classification of things (artworks). It is based on the notion of building-specific, which in turn is an analogy to the idea of site-specific artworks, as works conceived specifically for a particular location (Rangel, 2018). This third model is discussed in the third section of this chapter (7.3, from complex to specific spatial systems).

This representation of the Pavilhão Bienal, in the form of generic convex maps, describes the building in a language that seems to be closer to the spatial experience that one has when navigating it empty (that is, without exhibitions), emphasizing its large halls, on the one hand, and curved and well-delimited spaces, on the other. It constitutes a kind of minimum occupancy limit, whereas its complex representation describes the maximum

occupation possibilities embedded into the configuration of the building (aware that in practice the smallest possible occupancy is simply not occupying a certain part of the building, as well as the maximum possible occupancy can be increased if the building's modulation is subdivided into new spaces).

Once the characteristics of each type of convex map are clarified, further analyzes are performed to compare the differences between the two description models based on the global values of each attribute, as well as its local distribution. These analyzes were carried out for the seven building versions (OD, AB, 1957, 1969, 1981, 1996, 2018), considering the same seven attributes of their spatial systems (integration, connectivity, mean depth, choice, control, and controllability + intelligibility). The results of these analyzes are gathered in Figures 97, 98, 99, 100 and 101.

In general, it was observed that the global values obtained for the complex and generic models of the seven versions of the building presented very similar results. This can be attributed to the fact that, although in the generic model the convex spaces have been quite unified, the way in which these spaces connect with each other and with the building's vertical circulation system (largely responsible for the building's structure) remains the same for both models (complex and generic).

Therefore, the generic model, although very simple, seems to capture the global properties of both systems in a similar way, since there is a great correlation between the values obtained in the two models. The same can be observed with respect to the number of convex spaces and connections, which in all cases were reduced to similar proportions in the process of translating the complex model into a generic model (Figure 101).

On the other hand, in local terms, the complex model seems to be more enlightening to understand how attributes are distributed across systems, due to its detailed description and consequent ability to capture more nuances in this distribution. That is, generic convex maps, by unifying many spaces, end up representing a wide area of the building with a single color/value, which, although useful for an initial understanding of the building, greatly reduces the diversity of possibilities contained in its original layout.

Some particularities about the local distribution of these attributes in the seven cases analyzed can be discussed. With respect to the integration attribute, the generic model represented the spaces with the highest and lowest value at the same location as the complex model for the seven cases (i.e., on floor 3/sector B, and at the ends of sector C,

floors 1, 2 and 4). In the mean depth attribute, although similar (but inverse) to the integration attribute, the generic model presented a greater distinction between floors (and less differentiation between sectors), where floor 3 appears as the shallowest in the system, as well as the mezzanine (floor 2/sector C) appears as the deepest space.

Regarding connectivity, in the generic model, the spaces with the highest value in the system are located on floor 2/sector B. Whereas in the complex model, the spaces adjacent to the ramp also present high connectivity in most versions. This space (access to the stairs on the second floor) also stands out in the analysis of the choice attribute, appearing as the space with the highest choice value in practically all cases (except in the OD, where the configuration of sector B is slightly different). In fact, it occupies a strategic position in the building, as it is located at a point where access to the ramp on floors 1 and 2, access to the stairs on floors 2 and 3 and access route to the ramp on floors 2 and 3 converge.

On the control attribute, while in the complex model of all seven versions, the spaces with the highest value were located on the ramp and stairway accesses (especially on floors 2 and 3), in the generic model they shift to the galleries around the empty on floors 3 and 4 (as well as still presenting a high value in the stair access space on floor 2). In fact, when represented in a simplified way, these lateral galleries seem to acquire greater importance over the control of the system, precisely because they are located between the ramps and the stairs on floors 3 and 4.

On the controllability attribute, in the generic model, the area below the projection of the mezzanine on the first floor (in addition to the spaces behind the stairs on floor 2/sector B, in the 1996 and 2018 versions – when the exhibition spaces in this sector were reduced and fragmented) stands out as a space of high controllability, that is, it can be visually dominated from adjacent spaces.

Other aspects could be highlighted regarding the similarities and differences between cases and models. However, at this point, what we want to emphasize is the viability of the generic model as a building description system (since it presents global results similar to the complex model), as distribution as the precision of the complex model in describing in detail the nuances of local variation of these attributes.

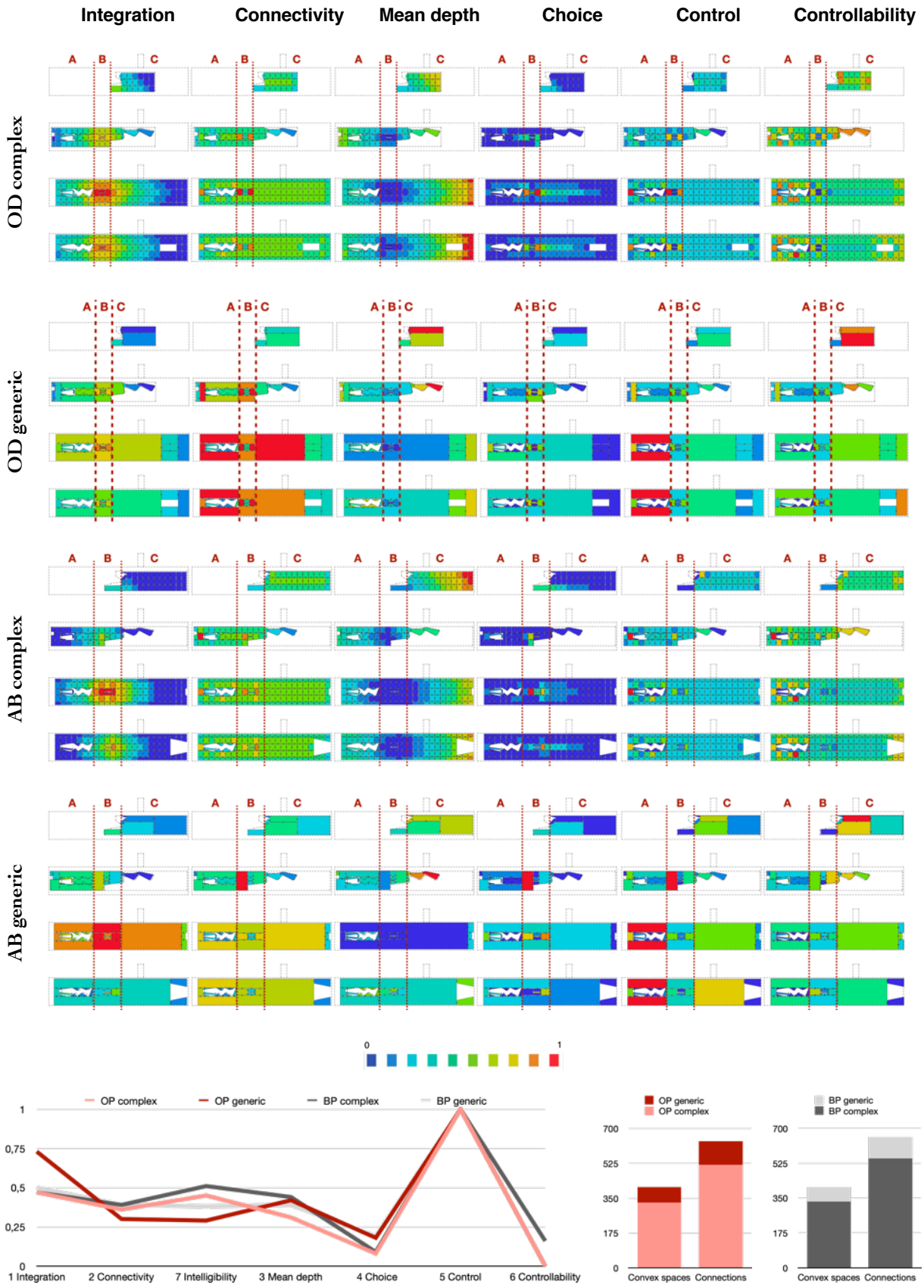


Figure 97. OD and AB – Convex analysis (7 attributes, complex and generic models).

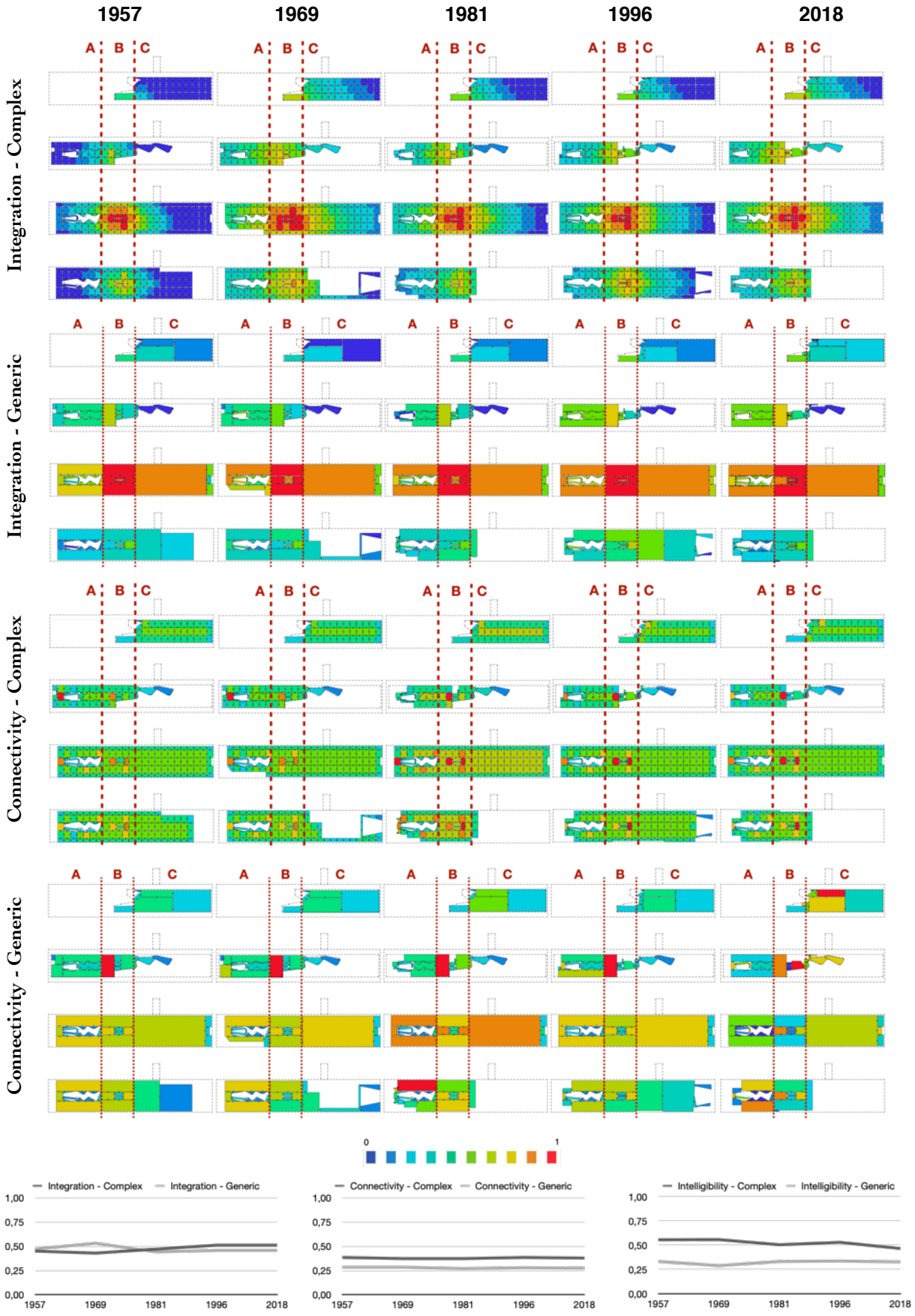


Figure 98. Five cases – Convex analysis (integration, connectivity, intelligibility).

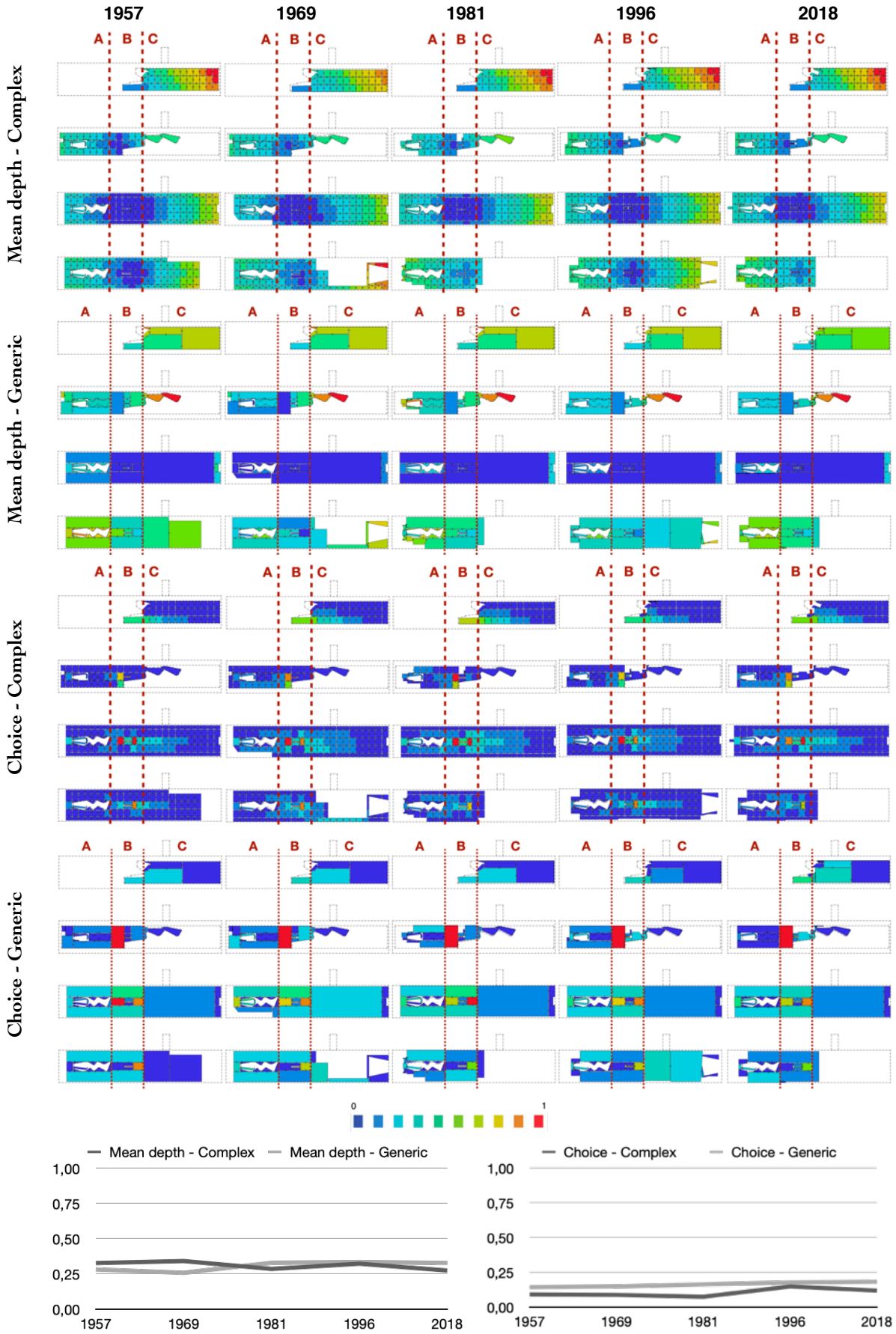


Figure 99. Five cases – Convex analysis (mean depth and choice).

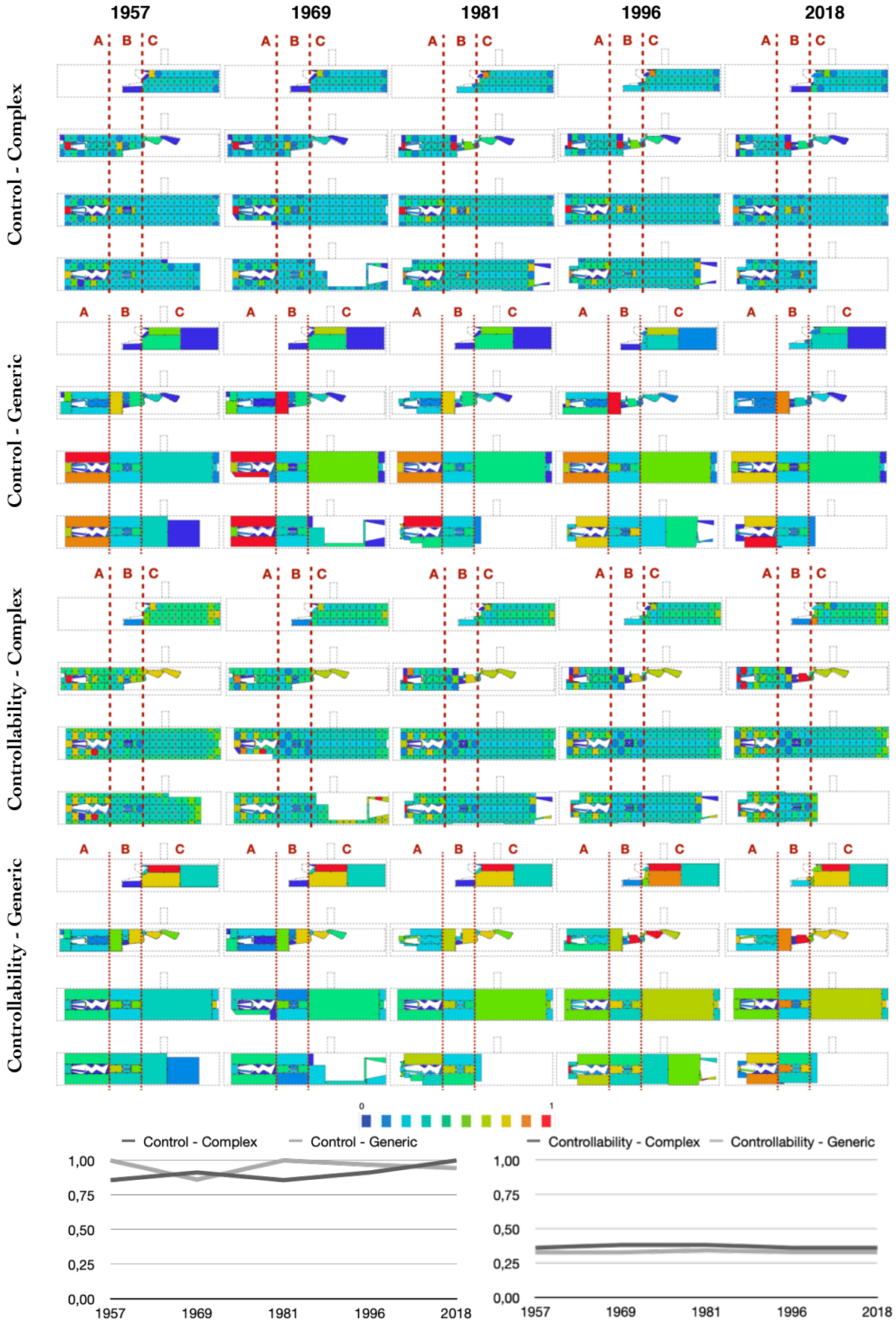
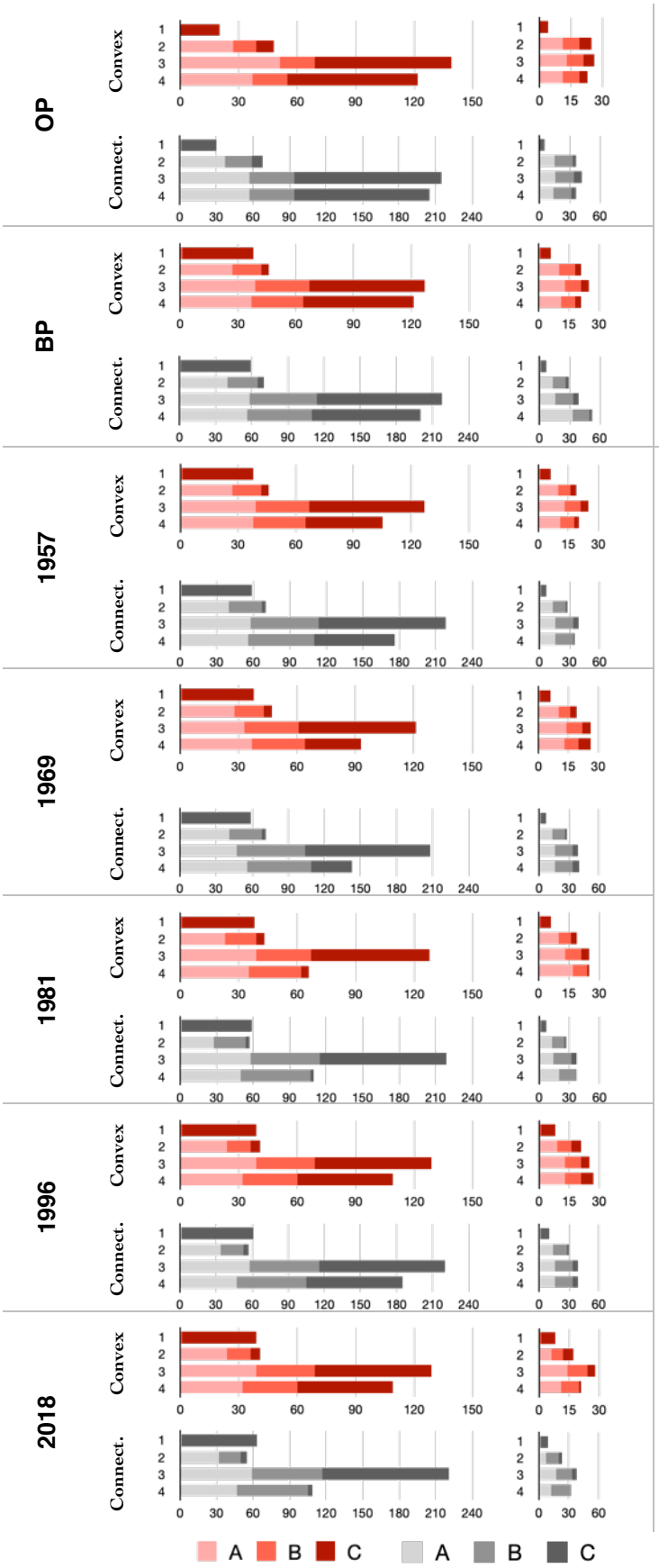


Figure 100. Five cases – Convex analysis (control and controllability).

Complex **Generic** | **Reduction**



Convex

	A	B	C
OP	70%	50%	89%
BP	67%	66%	91%

Connections

	A	B	C
OP	70%	44%	93%
BP	60%	64%	94%

Convex

	A	B	C
1957	67%	69%	91%
1969	62%	69%	86%
1981	59%	69%	89%
1996	46%	66%	86%
2018	67%	63%	84%

Connections

	A	B	C
1957	71%	64%	94%
1969	69%	64%	90%
1981	65%	66%	92%
1996	67%	63%	92%
2018	74%	63%	91%

Figure 101. Five cases – Number and reduction of convex spaces and connections of each model (complex and generic) per floor/sector.

On the reduction of convex spaces and connections in the seven versions (Figure 101), it is noteworthy that sector A, although larger than sector B, has been reduced by similar levels. This can be attributed to the geometry of its balconies and ramps, as well as the fragmentation of its perimeter (due to the reduction in exhibition spaces, especially on floors 2 and 4), which means that its convex spaces cannot be unified.

This aspect can be related to the notion of spatial capacity (Bobkova, 2019; Bobkova et al., 2017), discussed in Chapter 3, where the configuration of this sector (A) presents not only a high number of convex partitions, but also a high diversity of shapes. Therefore, the outstanding spatial capacity of this sector may be reflected in its exhibitions in the fact that most of them do not add many partitions in this sector or propose complex arrangements.

Therefore, this seems to be the sector with the higher spatial capacity not only because it has a high number of convex partitions of different shapes, but also because the layout of many exhibitions (as illustrated in Chapter 4) does not propose complex arrangements for this sector, taking advantage of the very values already contained in its configuration. Something that does not happen in sector C, which despite having the largest number of convex spaces of the three sectors, is quite repetitive in terms of shapes and arrangements, which in turn results in the widespread introduction of new partitions, in order to create the intended diversity and differentiation for the display of artworks and the movement of people.

* * *

The development of the complex and generic description models, in the form of convex maps, proved to be an interesting tool to address the limits and possibilities of occupation embedded in the spatial configuration of the building – where the complex model describes its maximum possibilities and the generic model the minimum ones. The representation of these models in the form of justified graphs, in turn, can contribute to address the same aspects in terms of movement, since this language facilitates the identification of possible paths through the systems (larger for the complex model and shorter for the generic model), an aspect that is investigated in the following topic.

5.2.2 Limits and possibilities of movement

The study of the Pavilhão Bienal as a spatial system that can be represented in a complex and generic way, as it simultaneously presents a regular but also singular configuration, can also be done to understand the limits and possibilities of movement embedded in its layout. These possibilities of minimum and maximum movement were associated with the notions of system of origins and destinations (SOD) and system of multiple routes (SMR).

These notions were presented in chapter 3, in the discussion of buildings as movement economies, which in turn is a reference to the notions of natural movement and cities as movement economies (Hillier, 1996a; Hillier et al., 1993), which suggest that the spatial configuration influences both the attractors that are placed in its mesh and the movement of people who pass through it.

In this context, the notions of: 1) system of multiple routes (through-movement) – describes all the possibilities of movement contained in the spatial configuration of the building (where the objective is to describe all possible routes, regardless of their starting or ending points); 2) system of origins and destinations (to-movement) – describes the main points of interest in the building (entry/exit, and elements of vertical circulation and the minimum connection between them) and is used to define a minimum circulation path (MCP) common to all seven versions of the building studied so far.

To this end, this section is divided into two parts: 1) definition of a system of origins and destinations (5.2.2.1); 2) representation of a simultaneously complex and generic system – j-graphs and MCP j-graphs (5.2.2.2). The first part, therefore, seeks to define a minimum circulation path (MCP) through the building that includes the most used vertical transition elements (ramps and stairs) and that is common to all versions (seven cases) and models (complex and generic), which in turn gave rise to another descriptive model (MCP j-graph). And the second part describes the maximum and minimum movement possibilities through the building, with the aid of j-graphs and MCP j-graphs, that can be used to describe both building models (complex and generic).

Finally, this discussion, seeks to characterize the building layout in terms of its minimum and maximum movement possibilities, in order to understand how the exhibition layouts explored such possibilities (aspect introduced in section 5.3 and studied in detail in Chapter 7).

5.2.2.1 Defining a system of origins and destinations – Minimum circulation path (MCP)

Understanding the layout of the Pavilhão Bienal as a system of origins and destinations includes identifying, among its elements of circulation, which ones are most important for its configuration and most used by visitors in their navigation. That is, although the building has several access possibilities (located on practically all its facades along the first and second floors), in addition having several elements of vertical circulation (which include the internal ramps, external ramp, central stairs, and elevator), some of these are clearly more used than others, possibly because of their strategic position in relation to the configuration of the building.

This aspect has already been demonstrated, to some extent, in the occupation analyses, which, when comparing the attributes of complex and generic models, presented similar results. Such models, although very different in quantitative terms (number of topological levels, convex spaces, and connections), are structured in a similar way, as each sector (limit for the junction of convex spaces) is structured around the same elements (ramps, in the case of sector A and stairs, in the case of sector B). Thus, this section builds on this aspect, to define a minimum circulation path (MCP) for all seven versions studied so far.

This minimum circulation path is characterized by the definition of a space of origin (entrance to the building, which in many exhibitions is also its exit), and destination spaces, which are the spaces of vertical circulation (internal ramps and central stairs) – and consequently the connection spaces between them (spaces of horizontal transition).

The chosen space of origin was the pavilion door located on the first floor/sector B, which connects the pavilion directly to the marquee that leads to other buildings in the Parque Ibirapuera (such as the Museu de Arte Moderna de São Paulo, MAM-SP). The choice for this door is due to the identification that this is the entrance to the building used by most exhibitions. In the case of the OP, the only of the seven versions that has a distinct entrance, the space of origin was the door that connects the building directly to the park (as some claim that this would have been the entrance originally intended for the building).

Regarding the definition of the elements of vertical circulation, the choice for internal ramps and central stairs is also based on the same reason, the fact that the exhibitions are structured around these elements and that the others, when accessible (since the external ramp is often closed and the elevator is used for exceptional circulation), are less used.

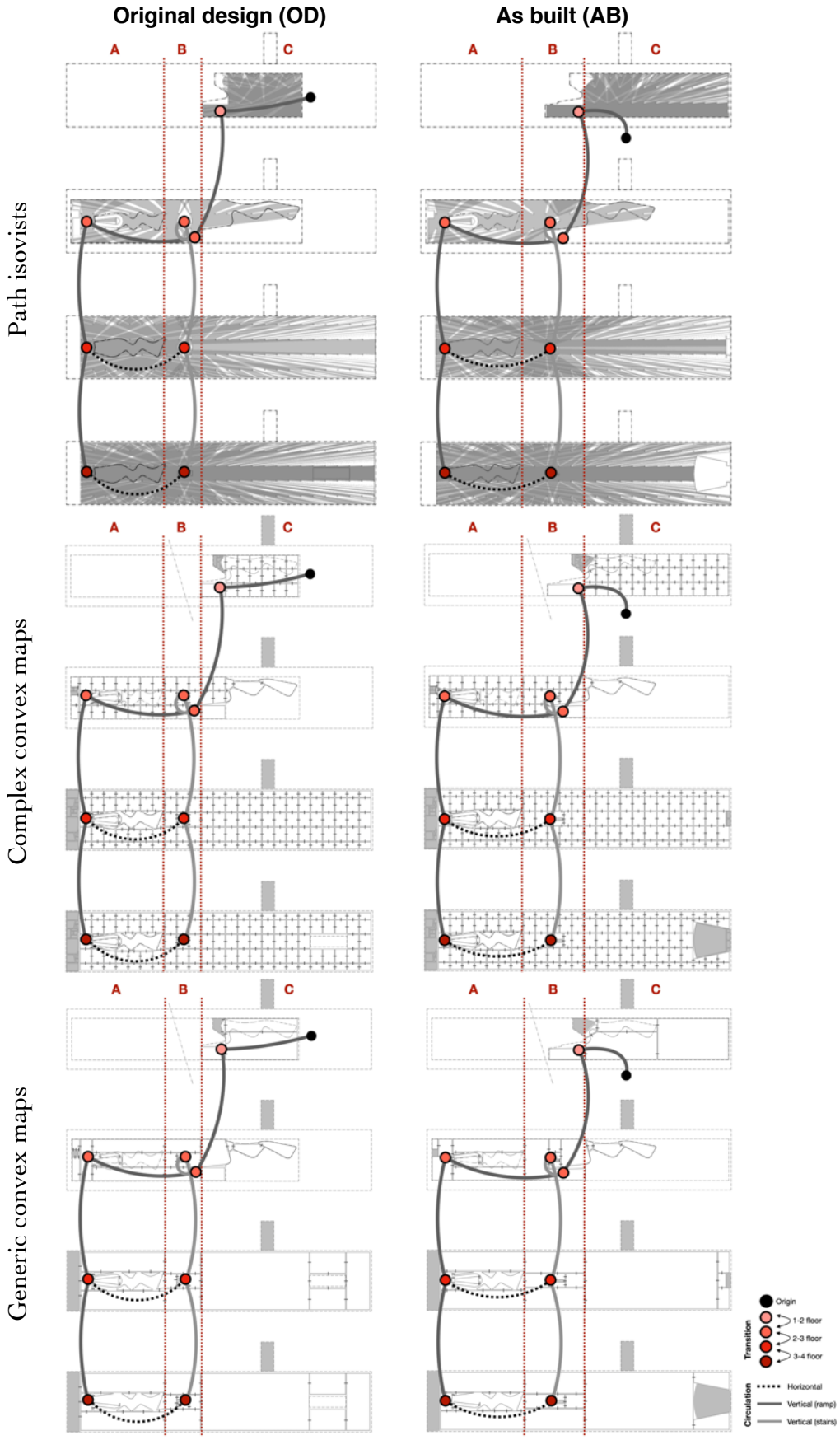


Figure 102. OD and AB – Minimum circulation path (path isovists, complex and generic convex maps).

This minimum circulation path (MCP) is illustrated in Figure 102, which demonstrates how it was defined (from its application to the first to versions of the building, OP and BP). This definition was mainly based on the fields of vision that the visitor has from each point of the route, which provide an overview of the building. From that, the points were connected, vertically and horizontally, and applied on the complex and generic models of the building, to verify its validity.

By overlaying this MCP on complex and generic convex maps, even in the simplified representations of the systems, the path remains the same, since the nodes they are anchored to are not modified from one version to another. It is important to highlight that the nodes and edges of this path practically do not cross sector C of the building (except on floor 1, in the stretch between the entrance and the ramp that leads to floor 2), since in sector C there is no vertical circulation element. However, from them it is possible to have a visual domain of the entire building (as described in the path isovists).

Therefore, this path is made up of nodes (which represent the horizontal and vertical circulation spaces – ramps and stairs, as well as the origin) and edges (connections between them), represented in a simplified way in the diagrams above, where: the black node represents the origin space; the nodes in shades of pink and red represent the elements of circulation on each floor; edges in dark grey describe the path between ramps; edges **i**n light gray describe the path between stairs; and the dotted edges describe the connection between ramp and stairs on floors 3 and 4**.**

After characterizing these paths and observing their feasibility in complex and generic models of two cases (OD and AB), the same procedure was carried out for the other five cases (1957, 1969, 1981, 1996, 2018), also in their complexes and generic models – years in which it underwent major spatial transformations that could eventually require some adjustment.

This procedure, illustrated in Figure 103, showed that in all cases it was possible to keep the same path. That is, even when the building has sectors A and B reduced, which reduces the exhibition spaces around the void, this path remains valid, since access to the ramps and stairs remains free. The changes in sector C, the most significant in quantitative terms, do not occur on floor 1, therefore they do not affect the definition of these paths.

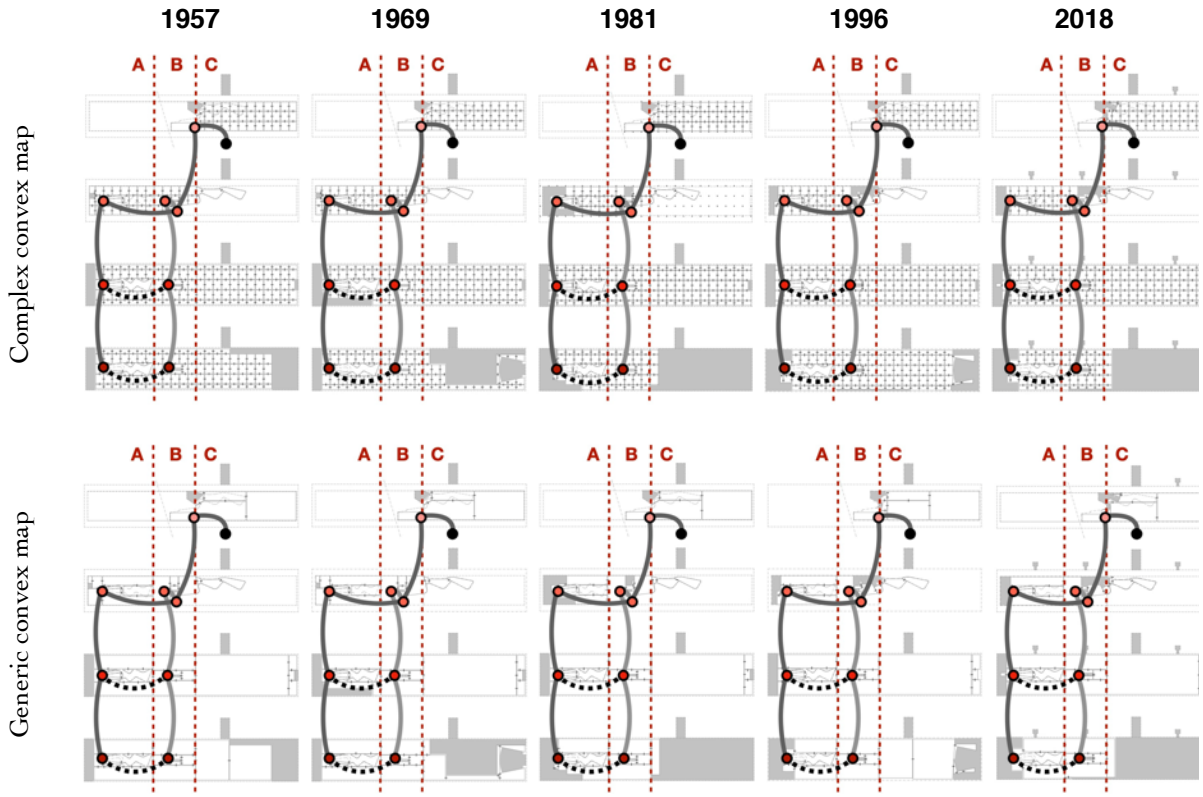


Figure 103. Five cases – Minimum circulation path (complex and generic convex maps).

* * *

The definition of a minimum circulation path (MCP), in principle does not represent an end in itself[168], but a means from which the Pavilhão Bienal can be described and compared in terms of movement, in order to describe its maximum and minimum possibilities – that is as a system of multiple routes (SMR) and as a system of origins and destinations (SOD), as discussed in the next section.

[168] That is, this is the minimum circulation path (MCP) that considers all internal ramps and stairs interconnected to each other on all floors, as it is argued that from this route it is possible to have an overview of the building (when lacking the layout of the exhibitions). In practice, it is known that the visitor can walk an even shorter route when navigating the exhibition, choosing not to go through all the floors, or not to use all the elements of vertical circulation.

5.2.2.2 Representing simultaneously complex and generic systems – j-graphs and MCP j-graphs

The definition of two models of description of the spatial system of the Pavilhão Bienal, complex and generic (whose translation in the form of convex maps was used to address its occupation possibilities), as well as a minimum circulation path (to address the minimum possibilities of movement) brought to light the need to describe the maximum possibilities of movement embedded in the building layout.

Just as in terms of occupation the layout of the biennial pavilion can be described as a complex and generic system (describing the maximum and minimum convex spaces possible to be identified in the system), in terms of movement this layout can be described as a system of multiple routes, SMR, or a system of origins and destinations, SOD (i.e., considering all possible circulation paths or its minimum circulation path). However, these two systems (SMR and SOD) can be described either based on the complex model or based on its generic model. That is, the notions of SOD and SMR can be applied to understanding the building layout in its two models.

Although these notions can be described using convex maps, they seem to be more evident when represented using justified permeability graphs. These graphs, discussed in chapter 2 (section 2.2.3), define a node at the base (origin space – entrance/exit), from which all points of depth 1 from that point are aligned horizontally immediately above it, all points at depth 2 from that point above those at depth 1, and so on (Hillier and Hanson, 1984). This representation differs from the convex maps because it considers only the configurational spatial relationship, thus abstracting the geometric properties of space. In this context, four models of description of the possibilities of movement were defined, as described in Table 8.

	Language	Model	Description
SMR	**J-graph**	Complex	**Maximum** possibilities of movement within the **maximum** occupancy capacity
		Generic	**Maximum** possibilities of movement within the **minimum** occupancy capacity
SOD	**MCP j-graph**	Complex	**Minimum** possibilities of movement within the **maximum** occupancy capacity
		Generic	**Minimum** possibilities of movement within the **minimum** occupancy capacity

Table 8. Movement systems (SMR and SOD) – Descriptive models.

These four models are based on the two building layout description models (complex and generic), which describe the maximum and minimum occupancy capacity of the building, combined with the maximum and minimum circulation paths that can be structured in these models. These maximum possibilities of movement are described using j-graphs, which consider all the convex spaces contained in both the complex and generic models, thus characterizing the possibilities of movement as a system of multiple routes (SMR). The minimum possibilities of movement, in turn, are described using MCP j-graphs, that is, graphs that describe only the spaces contained in the minimum circulation path, whether in the complex or generic model – therefore characterizing the possibilities of movement as a system of origins and destinations (SOD).

These models become clearer when observed in an applied way to the layouts of the first two versions of the building, OD and AB, as described in Figure 104. This figure presents the four descriptive models of the occupation possibilities (complex and generic j-graphs and MCP j-graphs), where the upper part describes the building as a system of multiple routes (SMR, complex and generic j-graphs), and the lower part as a system of origins and destinations (SOD, complex and generic MCP j-graphs).

The j-graphs of the SOD were developed with the aid of the Jass software (Koch, 2004). Although they are of large dimensions and complexity (for a building system[169]), in both it was possible to identify the spaces that constitute the MCP, highlighted manually. From these paths, MCP j-graphs[170] were made, that describe the minimum possibilities of movement in the complex and generic models of the building. Although in j-graphs it was already possible to identify the MCP, the elimination of spaces that do not constitute it, as well as the ordering of its structure, make it a much easier reading language. In this model, the transition between the floors is also easily identified (highlighted in the MCP j-graphs).

From these set of graphs (j-graphs and MCP j-graphs), it is possible to discuss various aspects about the building layout, such as its general structure (whether very or little branched), its depth (topological levels), and density (number of convex spaces and connections), which in turn help to understand the possibilities of movement along these systems. These graphs are also used to describe exhibition layouts, equally extensive and complex networks.

---

[169] With more than30 topological levels, 300 nodes and 500 connections.

[170] The MCP nodes were represented with different sizes to facilitate reading and distinguishing the transition nodes form the circulation nodes. Therefore, they are not weighted nodes.

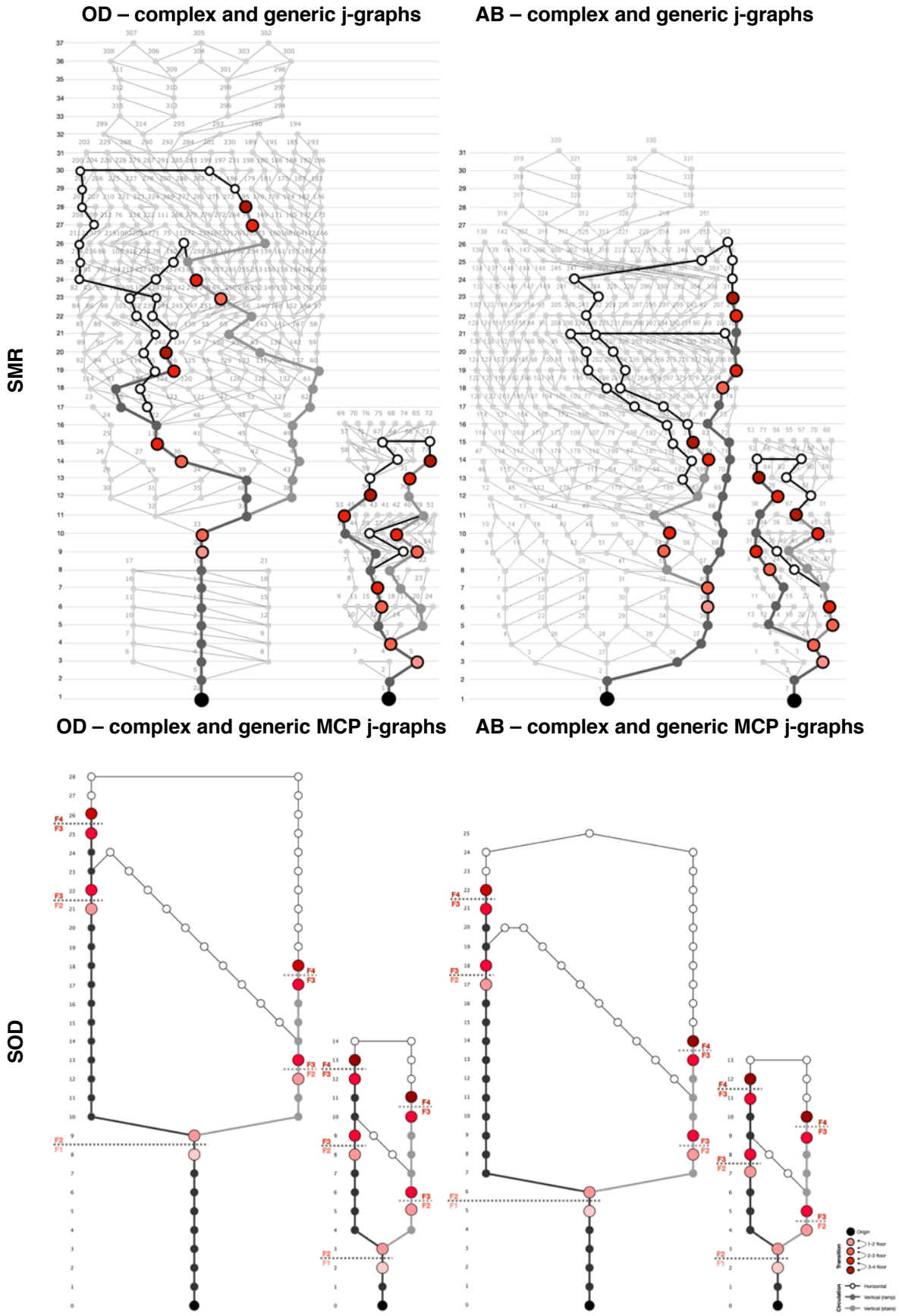


Figure 104. OD and AB – Descriptive models of movement (complex/generic j-graphs/MCP j-graphs).

The j-graphs of the SMR allow us to observe that, although the AB is larger in area terms, it is shorter in topological terms than the OD (31 vs. 37 levels). This can be attributed to both the positioning of the entrances (which in the BP is closer to the ramp that leads to the second floor) and the elimination of the void that existed in the OD on the fourth floor (which configured a circulation ring observable at levels 31 to 37 of the j-graph of the OD).

When described in the form of MCP j-graphs, that is, as a system of origins and destinations (SOD), these models still show slight differences in terms of topological levels (28 to 25 levels, between the complex MCP j-graphs, and 14 to 13 levels, in the between the generic MCP j-graphs). However, their configurations are essentially the same - a linear entry path (which represents the connection between the origin and the floor 2) and two large circulation rings (which correspond to the paths through floors 2-3 and 3-4).

Even though the description of these versions of the building (OD and AB) as a system of origins and destinations (SOD) constitutes a significant simplification of its spatial system, especially when comparing the generic MCP j-graph with the complex j-graph[171], it still seems to cover a great part of these spatial systems, since the reduction of topological levels between complex models (37 to 28 in the OD and 31 to 25 in the AD) and between generic models (16 to 14 in the OD and 16 to 13 in the AB is not so high, especially when compared to the reduction of convex spaces and connections, apparently much higher.

To test the viability of these models, the same procedure was applied to the other five versions of the building (1957, 1969, 1981, 1996, 2018). That is, the four models (complex/generic j-graphs and complex/generic MCP j-graphs) were elaborated for the five cases. These models were grouped in figures 5.26, referring to their description as SMR (complex and generic j-graphs), and 5.27, which brings together their description as a SOD (complex and generic MCP j-graphs).

In general, the most distinct cases are those represented by the complex j-graphs, which describe all possible paths through the building layout (SMR) – thus capturing the spatial changes that have occurred in all floors and sectors. Whereas the system of origin and destination (SOD), described by the MCP j-graphs, showed great configurational similarity in the five cases, both in their complex and generic models, since it does not cover the areas of greatest spatial change in the building (concentrated on its perimeter).

[171] OD complex j-graph – 37 topological levels and 315 nodes; OD generic MCP j-graph – 14 topological levels and 28 nodes.

However, some particularities can be highlighted, both for the analysis of the maximum possibilities of movement (SMR, Figure 105) and regarding its minimum possibilities (SOD, Figure 106). The j-graphs (Figure 105) clearly highlighted the years when the building had a longer (1969 and 1996, with 34 and 29 topological levels) or shorter (1981 and 2018, 25 topological levels each) system. The 1957 building, however, presented a configuration that resembles the shorter models (with 27 topological levels) as, according to its plans, auditorium and bathrooms were not accessible. These spaces, side corridors and terminal spaces, end up adding depth to the system, as evident in the 1969 building, where there is a long corridor that connects sector B to the auditorium/bathrooms.

When these buildings are described according to their generic models, these differences between systems are quite reduced (where the five versions vary between 15 and 17 topological levels), since the generic model unifies several spaces in the C sector (the sector where these changes are most expressed). In all j-graphs it was possible to identify all the spaces that make up the MCP. Although these acquire different trajectories, in them the spaces of vertical circulation (ramps and stairs, pink and red nodes) appear represented in similar topological levels when their complex and generic versions are compared.

The MCP j-graphs, in turn, highlight these similarities between cases and models in terms of the minimal possibilities of movement that the building layout offered in the five years studied. That is, on them the spatial changes that the building goes through practically have no effect. However, they are still very subtly described in both models. In the MCP j-graphs of the complex models of the five versions, these spatial changes of the building translate into a few more (or less) nodes and topological levels in the horizontal circulation paths, that is, in the connection between the ramp and the stairs on the floors 3 and 4 - nodes represented in black and white.

This increase/decrease in nodes/topological levels reflects the spatial changes that sector A/floors 2 and 3 undergoes. Similar reasoning explains the changes between generic graphs, which are also expressed in the connection spaces between ramps (in 1981 and 1996). Therefore, although of great simplicity, the MCP j-graphs capture some of the spatial changes that have taken place in the building, when they interfere in its movement possibilities as a system of origins and destinations (SOD).

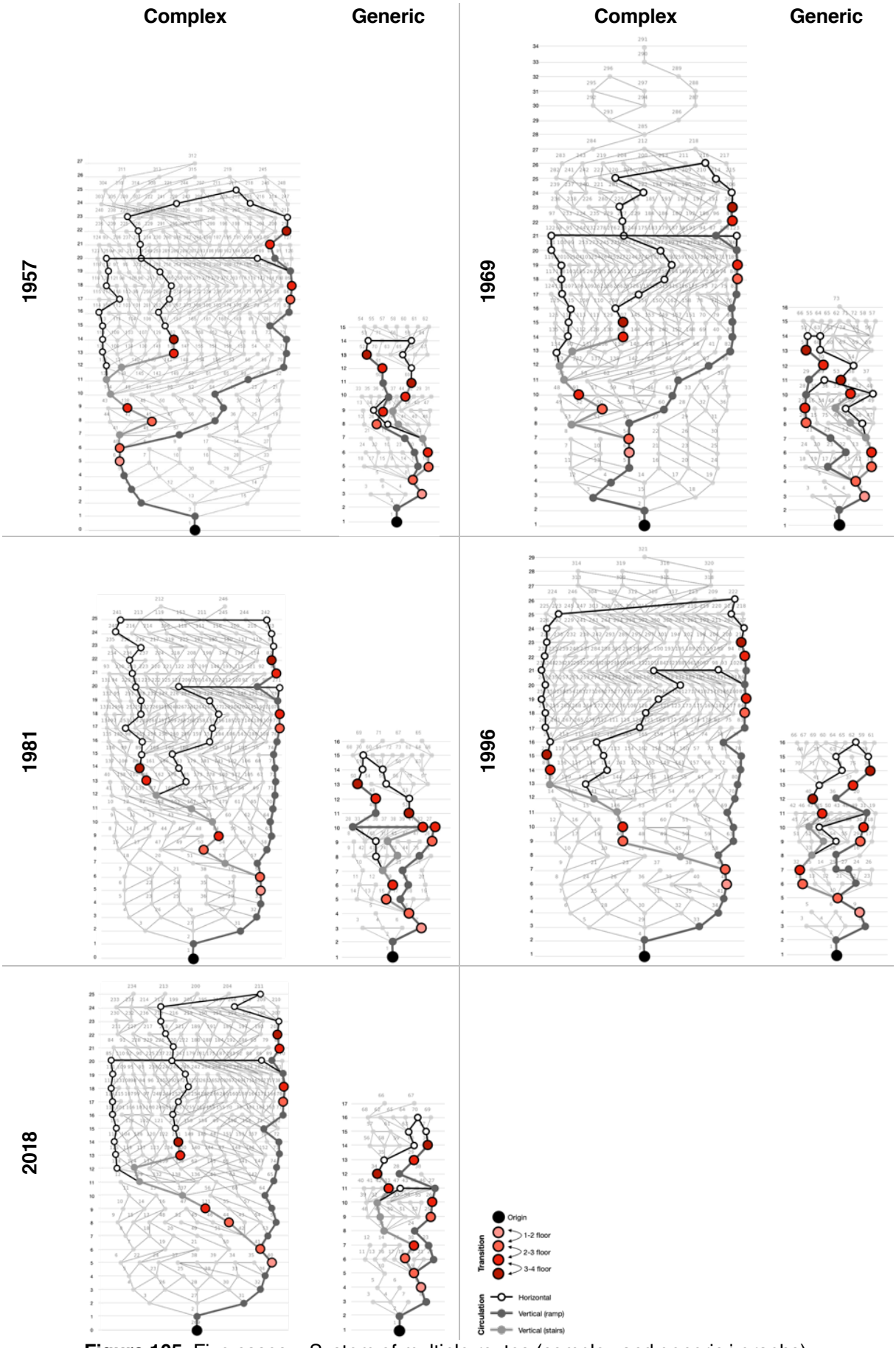


Figure 105. Five cases – System of multiple routes (complex and generic j-graphs).

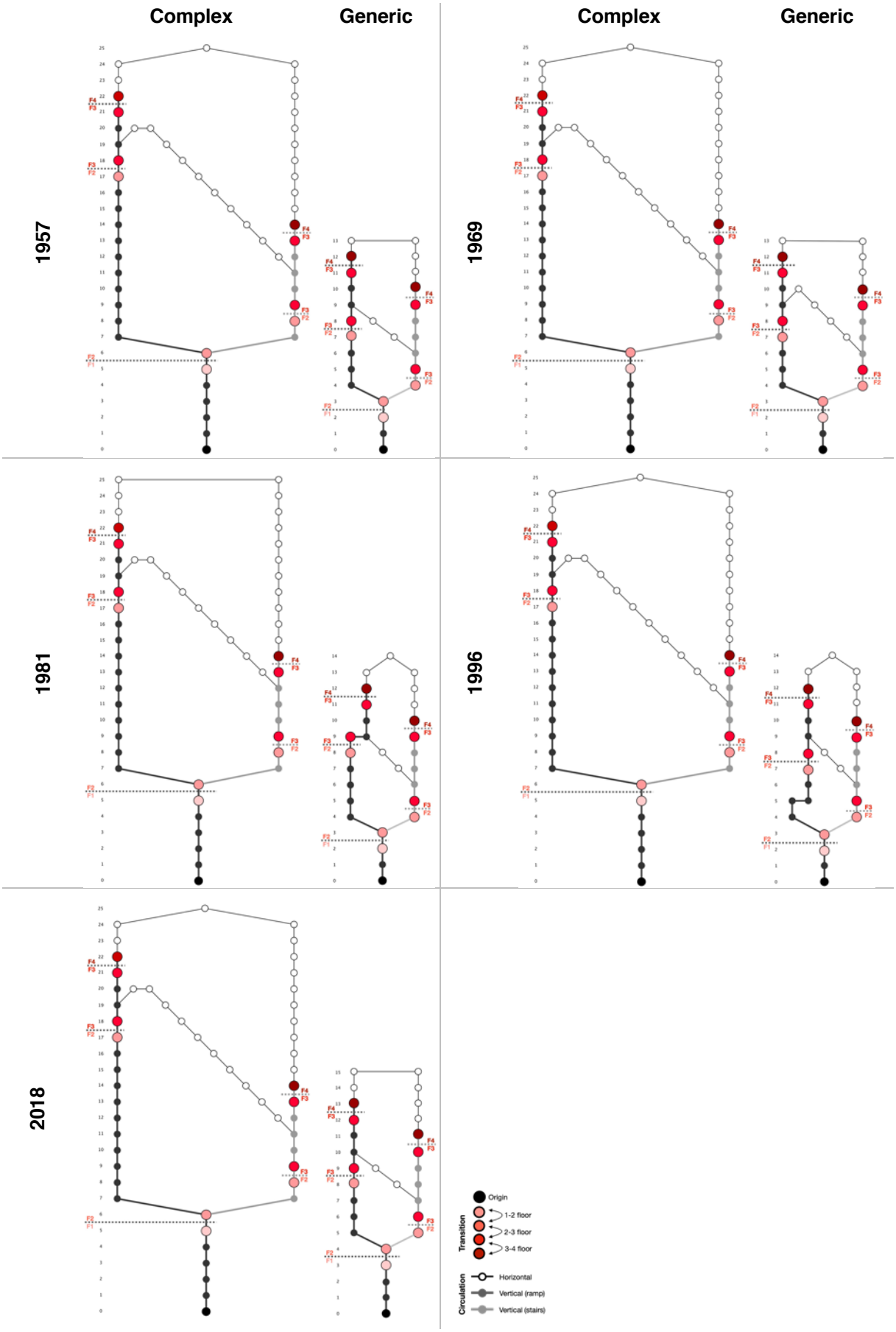


Figure 106. Five cases – System of origins and destinations (complex and generic MCP j-graphs).

These changes and continuities between the MCP j-graphs in the five versions become even clearer when their parts are decomposed into circulation elements (pairs of convex spaces that describe the ramps and stairs, pink and red nodes) and circulation regions (nodes contained between these elements, white and dark and light grey nodes) (as described in Figure 107).

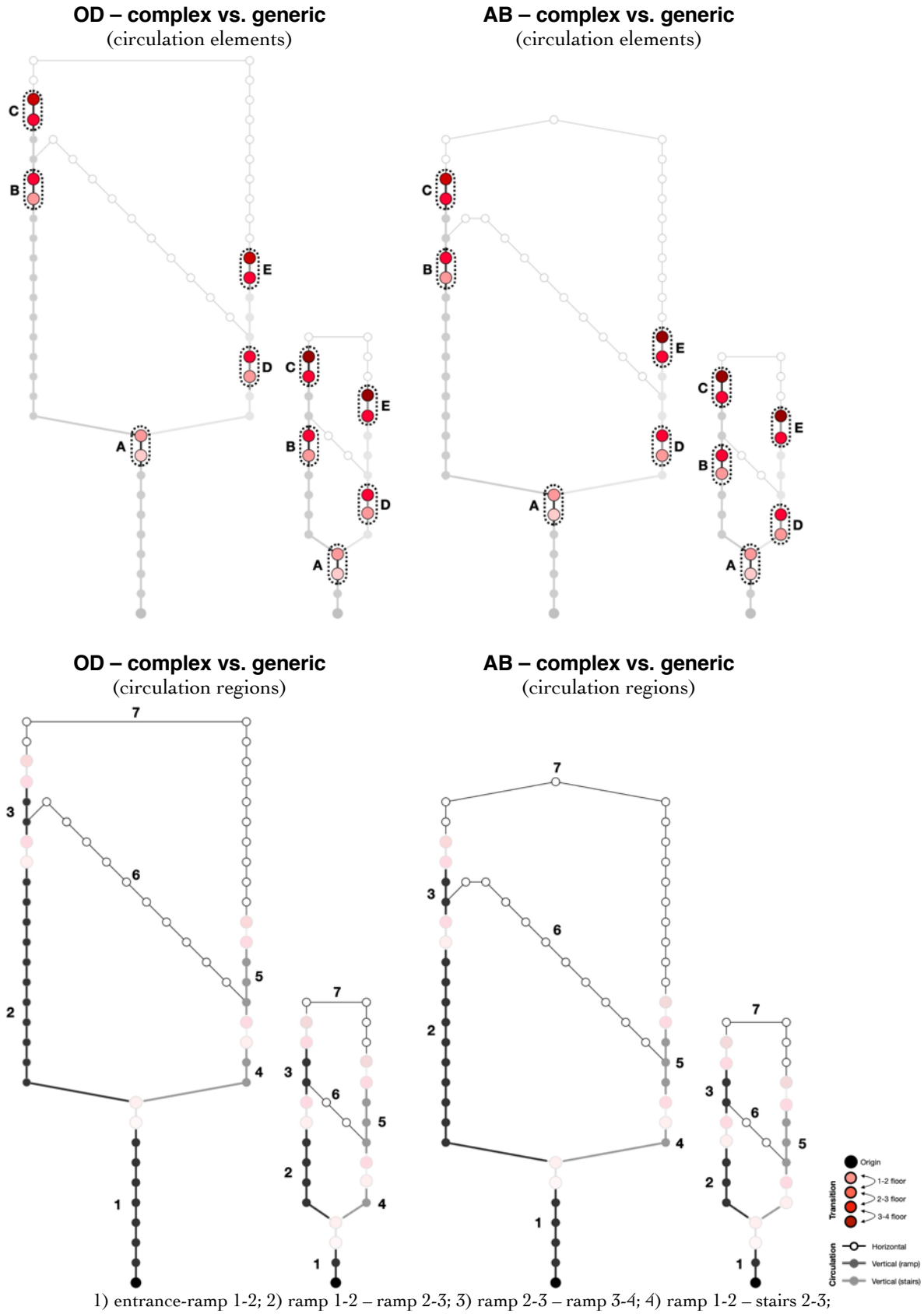
The circulation elements are: A) ramp 1-2 floors; B) ramp 2-3 floors; C) ramp 3-4 floors; D) stairs floors 2-3; E) stairs floors 3-4. Although ramps and stairs can be understood as a continuous element, each of them has been assigned two convex spaces, one for each floor.

Circulation regions, in turn, are stretches of the route where visitors circulate horizontally between one element and another, namely: 1) origin – ramp 1-2; 2) ramp 1-2 – ramp 2-3; 3) ramp 2-3 – ramp 3-4; 4) ramp 1-2 – stairs 2-3; 5) stairs 2-3 – stairs 3-4; 6) horizontal connection ramp-stairs floor 3; 7) horizontal connection ramp-stairs floor 4.

These elements and regions, although identified in all MCP j-graphs made so far, are highlighted in the four MCP j-graphs of the first two versions of the building, OP and BP (Figure 107). The definition of such elements and regions is fundamental for these networks to be compared with each other, by distinguishing spaces that tend to be fixed and constant (circulation elements) from those that tend to have greater variation, both between building layouts, and especially between exhibition layouts.

Taking these two versions (OD and AB) as an example, it can be seen that in both cases and models some regions were compressed, while others remained intact. For instance, in the four MCP j-graphs, regions 3 and 5 had the same number of nodes (2 and 3, respectively). These regions correspond to the vertical path between the ramps and between the stairs, on floors 3 and 4, which in fact remain unchanged not only in these two versions, but also in the other five cases. The other regions (1, 2, 4, 6 and 7) are reduced when this layout is described in a complex to generic way[172]. These regions in fact correspond to the stretches of the path that can be modified the most in the design of the exhibitions, since they refer to the paths between the main entrance and the ramp leading to floor 2 (region 1), between ramps on floors 1-2 and 2-3 (region 2), as well as the horizontal connections between ramps and stairs (regions 6 and 7).

[172] The disappearance of region 4 in the complex MCP j-graph of the BP is due to the fact that in this version the stairs are 10 meters closer to the ramp of floors 1-2 in relation to the OP. Therefore, the connection between the ramp of floors 1-2 and stairs of floors 2-3 is straightforward in this version.



1) entrance-ramp 1-2; 2) ramp 1-2 – ramp 2-3; 3) ramp 2-3 – ramp 3-4; 4) ramp 1-2 – stairs 2-3; 5) stairs 2-3 – stairs 3-4; 6) ramp-stairs floor 3; 7) ramp-stairs floor 4.

A) straight ramp 1-2; B) curved ramp 2-3; C) curved ramp; D) stairs 2-3; E) stairs 3-4.

Figure 107. OD and AB – Components of the MCP j-graphs.

* * *

Representing spatial systems that are, to some extent, complex and generic required the development of representation models that capture such properties. In this context, the notions of system of multiple routes (SMR) and system of origins and destinations (SOD) were fundamental to frame the apparently maximum and minimum possibilities of circulation embedded in the building layout. In this sense, the combination of the two description models, complex and generic, with the definition of a minimum circulation path, gave rise to four representation systems (complex and generic j-graphs and complex and generic MCP j-graphs) that describe how the possibilities of movement are situated in relation to the possibilities of occupation.

That is, the complex and generic j-graphs describe the *maximum circulation possibilities* comprised between both models of the building. Whereas the complex and generic MCP j-graphs describe the *minimum circulation possibilities* comprised between the maximum and minimum layouts of the building. This second set of graphs (MCP j-graphs) also allows these networks to be decomposed, to identify where the elements of vertical circulation (internal ramps and stairs) and the circulation regions between them are located, something that is difficult to define in j-graphs due to the extent of these networks.

Such definitions, in turn, are essential so that the layout of the exhibitions can be analyzed in terms of movement and occupation, both in isolation and in relation to the limits of the building. These two comparative scenarios can shed light on the characterization of the notion of spatial mediation, as it seems to be contained both in the spatialization of curatorial discourses in space, and in the relationship that the exhibition layout establishes with the building layout.

In this context, before selecting specific cases for in-depth analysis, it is proposed to compare a single exhibition with its respective building to test how such concepts and models apply when both layouts (building and exhibition) are compared simultaneously, as discussed below.

5.3 From complex to specific spatial systems

This last topic of the chapter discusses in an integrated way the limits and possibilities embedded in the various layouts of the Pavilhão Bienal, based on a comparative study between them and one of its exhibitions, BSP *4* (1957), the first held in this building.

Although the object of study of this chapter is the pavilion, and that some of its exhibitions are analyzed in detail in chapter *7*, this comparative study can shed light on the adequacy of these descriptive models for the analysis of new cases, as well as for synthesizing the spatial characterization of the pavilion. It is also expected that, in addition to understanding the spatial changes of the building (as discussed in section 5.1), the analytical models and procedures that will guide the selection of cases and the definition of an analytical framework (to be discussed in Chapter 6 and done in Chapter *7*), can be outlined and tested in this section.

For this, the exhibition layout also needs to be translated in the form of convex maps, justified graphs and MCP j-graphs, so that both layouts (building and exhibition) can be analyzed and compared in terms of occupation and movement. In this process, it was verified that the translation of the spatial system of this exhibition constitutes a different model from the complex and generic models of the building, which required different criteria for the elaboration of its convex map, from which its graphs are drawn.

Therefore, this topic is structured in two parts: 1) exhibitions as specific spatial systems (5.3.1), describes the translation of the layout of BSP *4* into a system that is neither generic nor complex, but specific; 2) between complex, generic, and specific spatial systems (5.3.2), analyzes the three layouts in terms of occupation (based on complex, generic, and specific convex maps) and movement (as a system of multiple routes, SMR, and as a system of origins and destinations, SOD, through j-graphs and MCP j-graphs).

5.3.1 Exhibitions as a specific spatial system

Although the Pavilhão Bienal was completed in 1954, the first biennial exhibition to be held in this building takes place in 1957. In this short period of time, however, its exhibition spaces have already undergone some changes in relation to the built project, which consist in the delimitation of some rooms for non-exhibition use around the auditorium on floor 4. Although small, this change illustrates the need to detach the layout of the building from the exhibition layout, so that one can accurately describe how the building was at the time each exhibition was held (as illustrated in Figure 108).

This was the first aspect that drew attention to the need to describe the interdependent relationship that characterizes these layouts. When comparing the building plans with the exhibition plans, it is suggested that this is a specific layout, as it embeds aspects that approach both the generic and the complex models of the building.

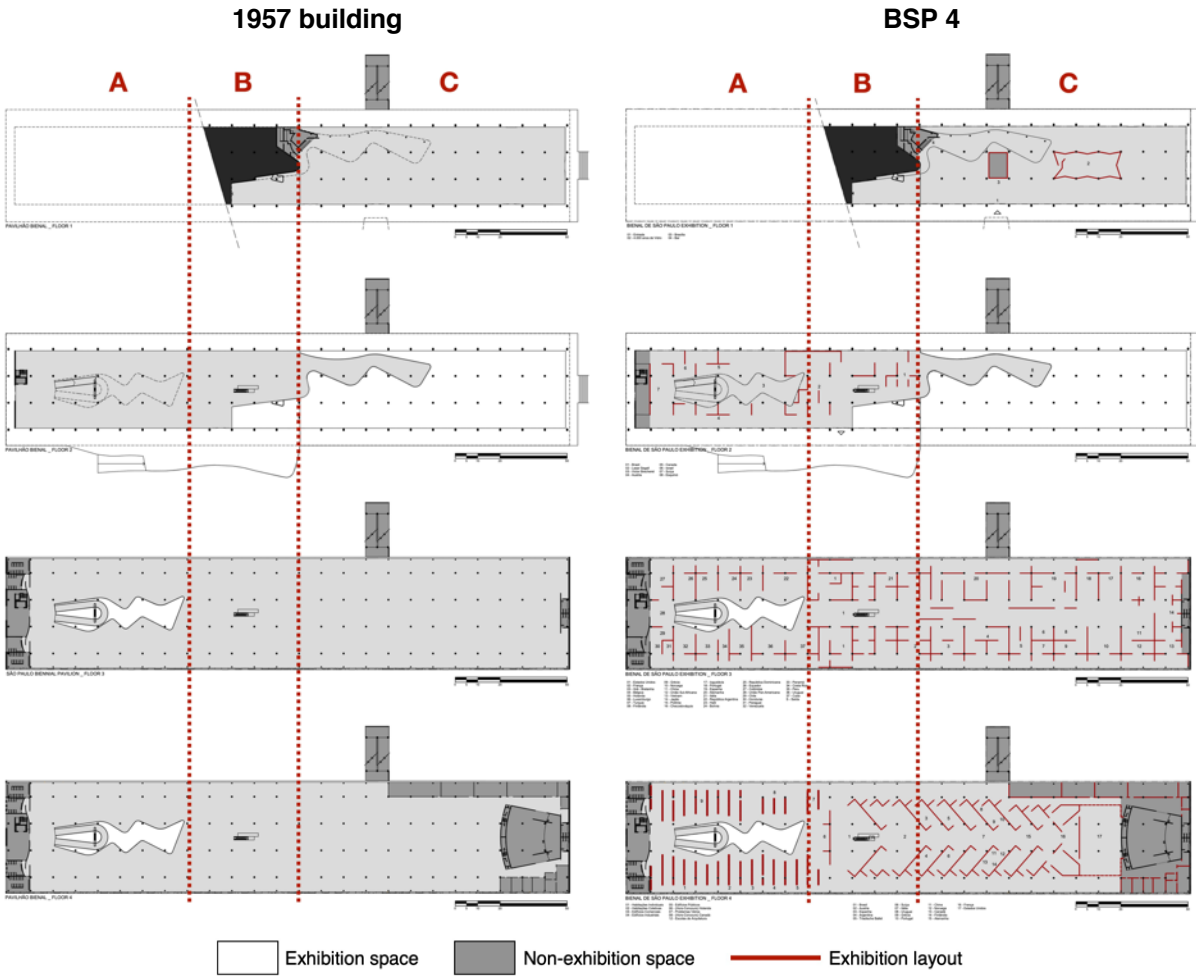


Figure 108. BSP 4 – Building (left) and exhibition (right) plans.

In the case of BSP, for instance, its layout seems to approximate the complex description of the building on the third floor, where there is a high number of convex partitions, arranged orthogonally along the structuring axes of the building. On the first floor, as well as on a good part of the second floor, this partition is smaller and few barriers are added to the system, that is, the open spatiality of the building seems to prevail – which resembles the generic model of description. The fourth floor, in turn, has layouts that further partition the 10x12 meter module (as in the case of sector A) or introduce a new order and geometry to it (as in the case of sectors B and C), not approaching none of the models of description (complex and generic), but responding spatially to the specifics of its contents.

The term 'specific' is used to characterize the layout of exhibitions both by contrasting the idea of generic (which describes the building in its most simple configuration) and as a reference to the notion of building-specific (Rangel and Amorim, 2015; Rangel, 2018), as introduced in Chapter 3.

> During the interview with architect Rodrigo Cerviño Lopez, he raised the hypothesis that his project for Adriana Varejão Gallery could be considered *building-specific*. When using this term, the architect mentioned site-specific works of art, considering the gallery as a work of art itself, not only as a building that houses a certain set of artworks. Thus, the building became specific for housing specific works of art, in the same way the works of art have become site-specific for they are shown as *building-specific*, in order to promote an inseparable relation between content (work of art) and continent (space) (Rangel, Amorim, 2015).

The notion of building-specific describes buildings that were specifically designed to house particular works of a single artist, which in turn is an allusion to the idea of site-specific, used to describe artworks designed specifically for a certain location, and which contemplates the "exchanges between the work of art and the places in which its meanings are defined" Kaye (2000, p. 1)**.** In Rangel's (2018) work, the author also makes a distinction between two categories of exhibition spaces in relation to the design of their buildings, using generic and specific terms to differentiate two categories of buildings – the former conceived without a specific collection and the latter designed to house certain works by certain artists (Rangel, 2018), which is what happens in the Pavilhão Bienal[173].

Having understood the main characteristics that make the layout of this exhibition (and possibly that of several others to be studied in chapter 7) distinct from the layout of its building, its convex map was prepared, so that they can be compared. In practice, the three criteria considered for the translation of complex convex maps into generic convex maps

[173] Which in fact is questionable, since according to the original name of the building, Palace of Industries, it was conceived to house exhibitions of industrial artifacts – which allows for a general idea of the specifics of the artifacts to be exhibited.

(in addition to considering all the existing barriers at the level of the knees) can also be applied to the preparation of exhibition-specific convex maps, namely) 1) columns fully considered; b) columns partially considered; C) columns disregarded (Figure 109).

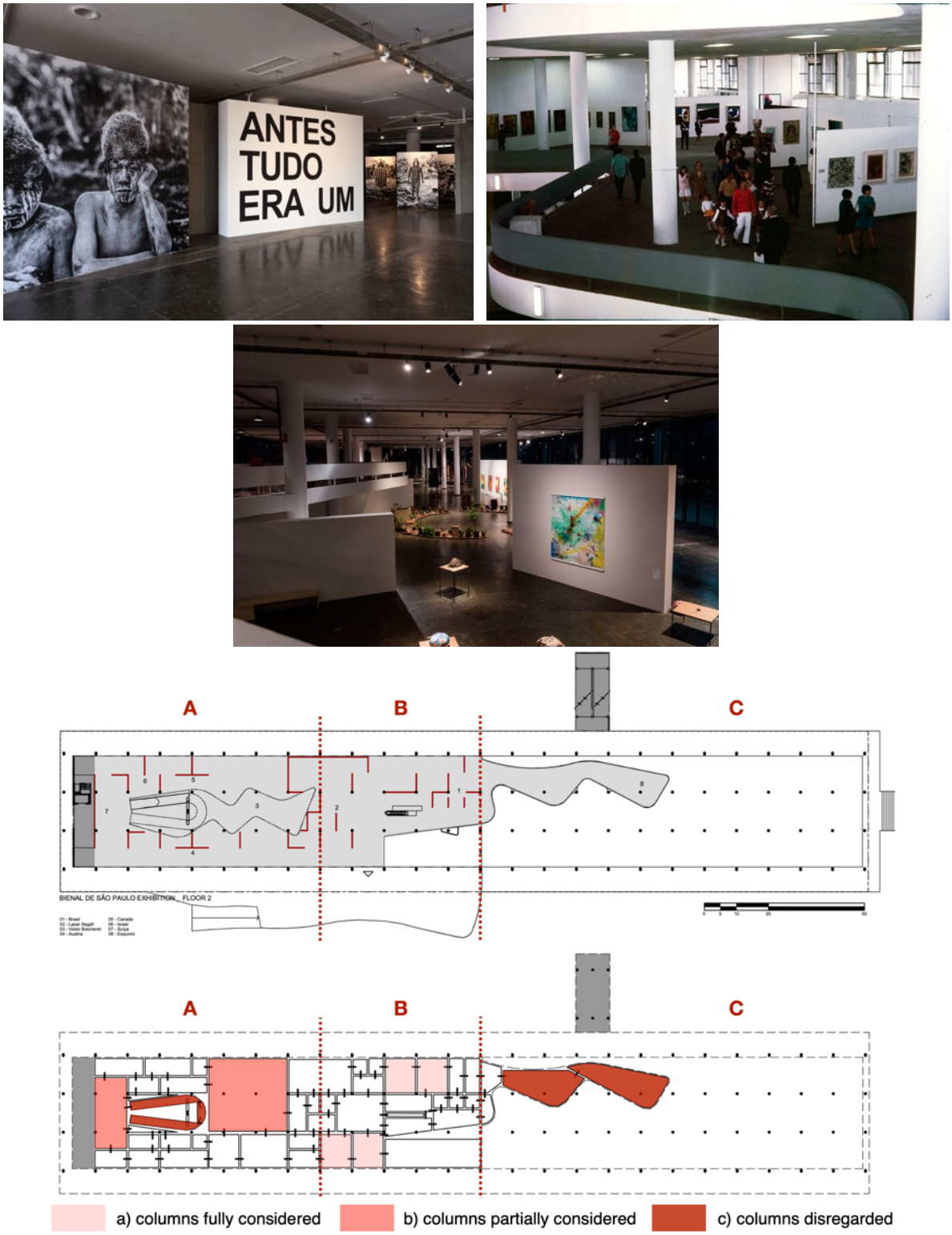


Figure 109. Spatial situations in which columns are considered (totally or partially) or disregarded and specific convex map (BSP 4, floor 2) (author's drawings and AHWS/FBSP photos).

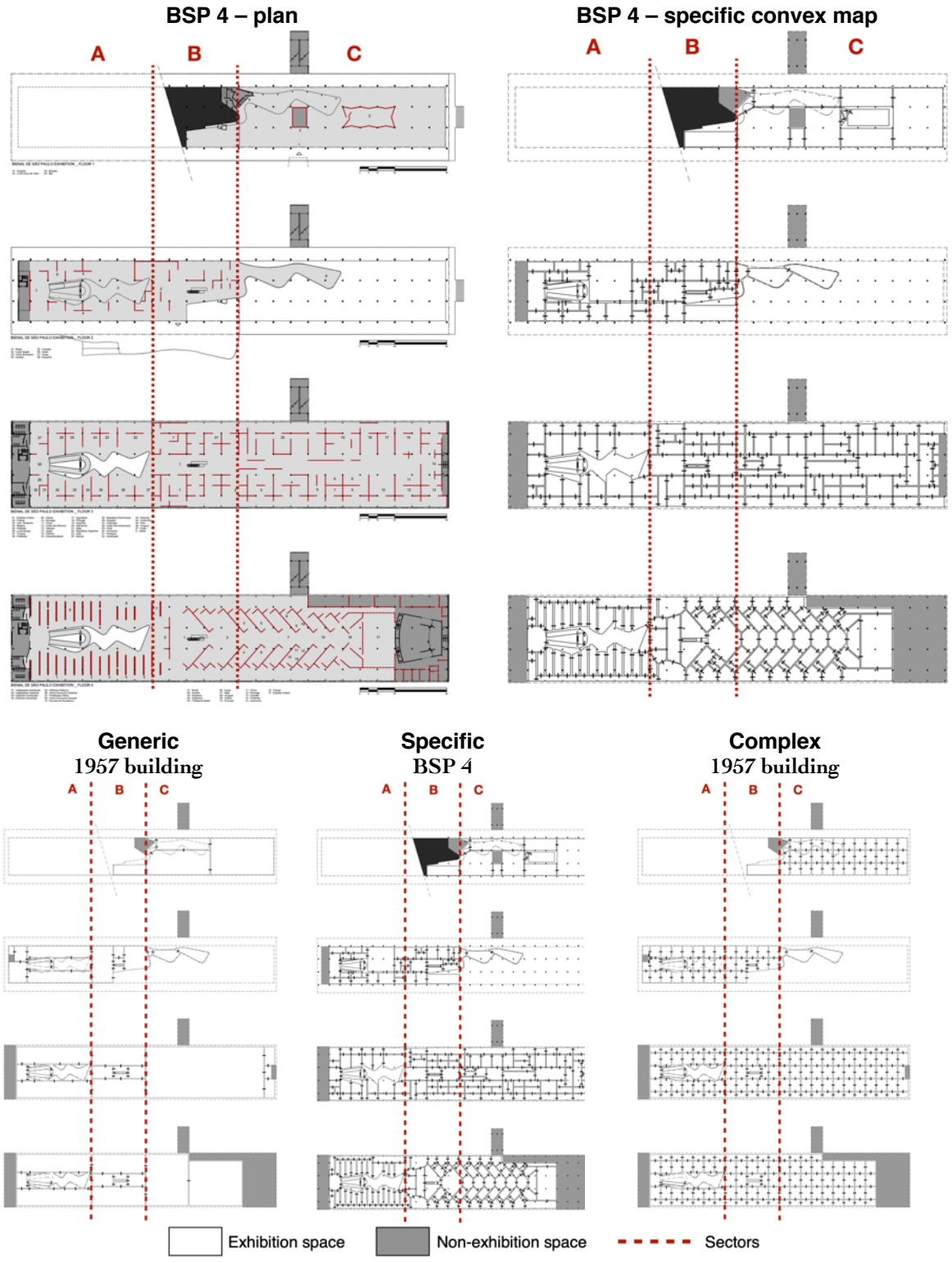


Figure 110. 1957 building x BSP 4 – Plans and complex, generic, and specific convex maps.

In the case of the generic convex map the aggregation of convex spaces was done solely with the aim of representing the spatial system in the smallest possible way. In the specific convex map, in turn, this aggregation seeks to represent in a unified way spaces that displayed the same content. This is the case of the central hall of BSP 4, sector A/floor 2,

which displayed the sculptures of Victor Brecheret, and when its pillars are partially disregarded (since some are still taken as a reference) can be described as a single hall.

Although similar to the approach that guided the elaboration of the generic convex maps, this specific convex map seems to produce very different results. These differences can be seen when comparing the specific convex map of the exhibition with the complex and generic convex maps of its building (Figure 110).

From these maps, the specific convex map is an intermediate model between the complex and generic models. That is, neither as partitioned as the complex model nor as simple as the generic model. Evidently, this is not a rule that applies to all sectors and floors, as in some cases the partition of the specific model seems to be larger than that of the complex model (such as on the floor 4/sector A) and on other cases is very close to the generic partition (floor 1/sector C).

5.3.2 Between complex, generic, and specific spatial systems

The joint visualization of the three convex maps provides a first scenario of how the idea of spatial mediation can be empirically approached, of exhibitions as a spatial discourse and of its buildings as spatial commodities, aspects that are embedded in the exhibition layout – which is both a response to the displayed artifacts and proposed curatorial classification principles, as well as a reflection of the minimum and maximum limits of occupation and movement embedded in the building.

One way of empirically addressing this notion of spatial mediation, which to some extent is already expressed in these maps (insofar as the specific model appears to be intermediate between the generic and complex models) is to measure the spatial attributes of these systems. In this sense, this section analyses the three models of the Bienal de São Paulo in question (complex, generic, and specific) in terms of movement and occupation.

That is, the global results and the local distribution of the seven attributes studied so far (integration, connectivity, intelligibility, mean depth, choice, control, and controllability) are analyzed and compared based on their convex maps to discuss its occupation (possible and accomplished). And the j-graphs and MCP j-graphs of the three models are generated to address these spatial systems in terms of movement, both as a system of multiple routes (SMR) and as a system of origins and destinations (SOD), which in turn allow to discuss and compare these systems in terms of topological levels, convex spaces, and connections.

The occupation analyses, described by the complex, generic, and specific convex maps obtained for the six attributes, as well as the graph that brings together their numerical outputs (which also include the intelligibility results), allow us to visualize not only how the layout of the exhibitions is structured (that is, where are your spaces with greater or lesser value and what is their distribution), but also compare how these spaces are situated in relation to the two models of the underlying building.

Its global results, that is, numerical values obtained for the seven attributes analyzed (Figure 111), as well as for the numbers of convex spaces and connections of these networks, demonstrate that the exhibition layout is, in most cases, an intermediate version between the building layouts (complex and generic). This occurred in the attributes of integration, connectivity, mean depth, choice, intelligibility, as well as in relation to the number of convex spaces and connections (which describe the size of these networks).

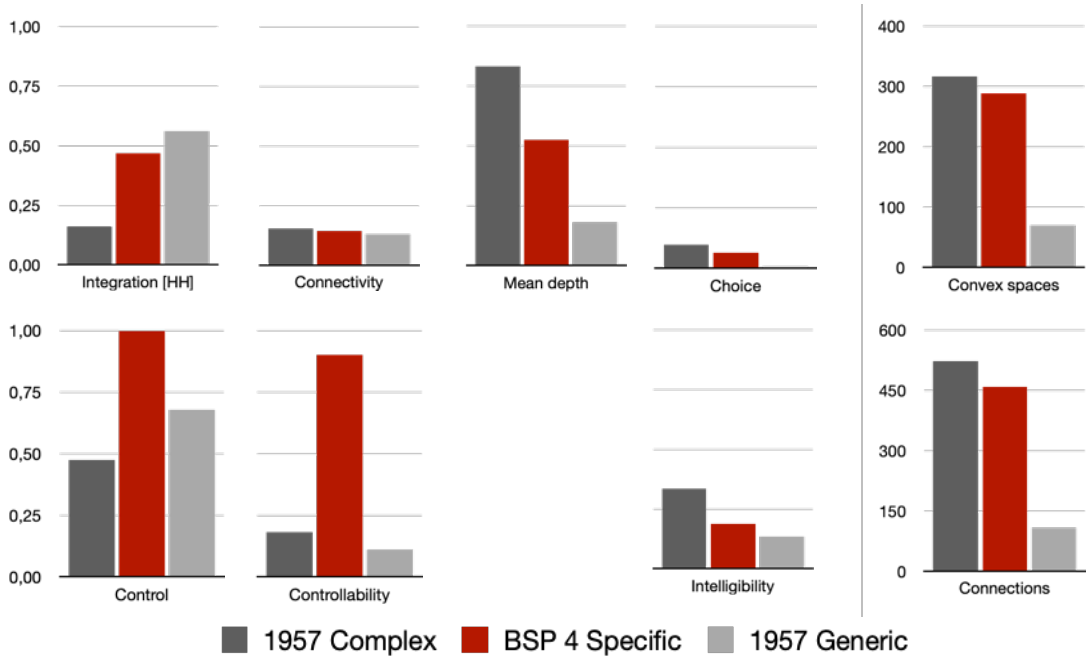


Figure 111.1957 building x BSP 4 – Complex, specific, and generic models (numerical synthesis of results).

In the control and controllability attributes[174]**,** the specific model (exhibition) presented higher values than the complex and generic models of the building. This can be attributed both to the open spatiality of the building (which is of medium control and low controllability) and to the way in which the layout of the exhibitions is organized, which, by introducing new barriers into the building, increases its control and controllability. That is, it increases the amount of visually and physically dominant and dominated spaces[175].

By observing the local distributions of these attributes, described in their convex maps, some considerations can be made regarding the most prominent spaces in the exhibition layout, as well as their relationship with their underlying building. that is, if the layout of the exhibition reinforced or modified the distribution contained in the building (Figures 112 and 113).

[174] Which record the maximum and minimum values of these systems, respectively. Unlike the other five attributes, which measure average values, as highlighted in previous analyses.
[175] Therefore, it is not the fact that these attributes record the maximum and minimum values, since a similar result was obtained when tested for the average values (which, in the case of the control attribute, do not produce difference between systems, since all of these are equal to 1).

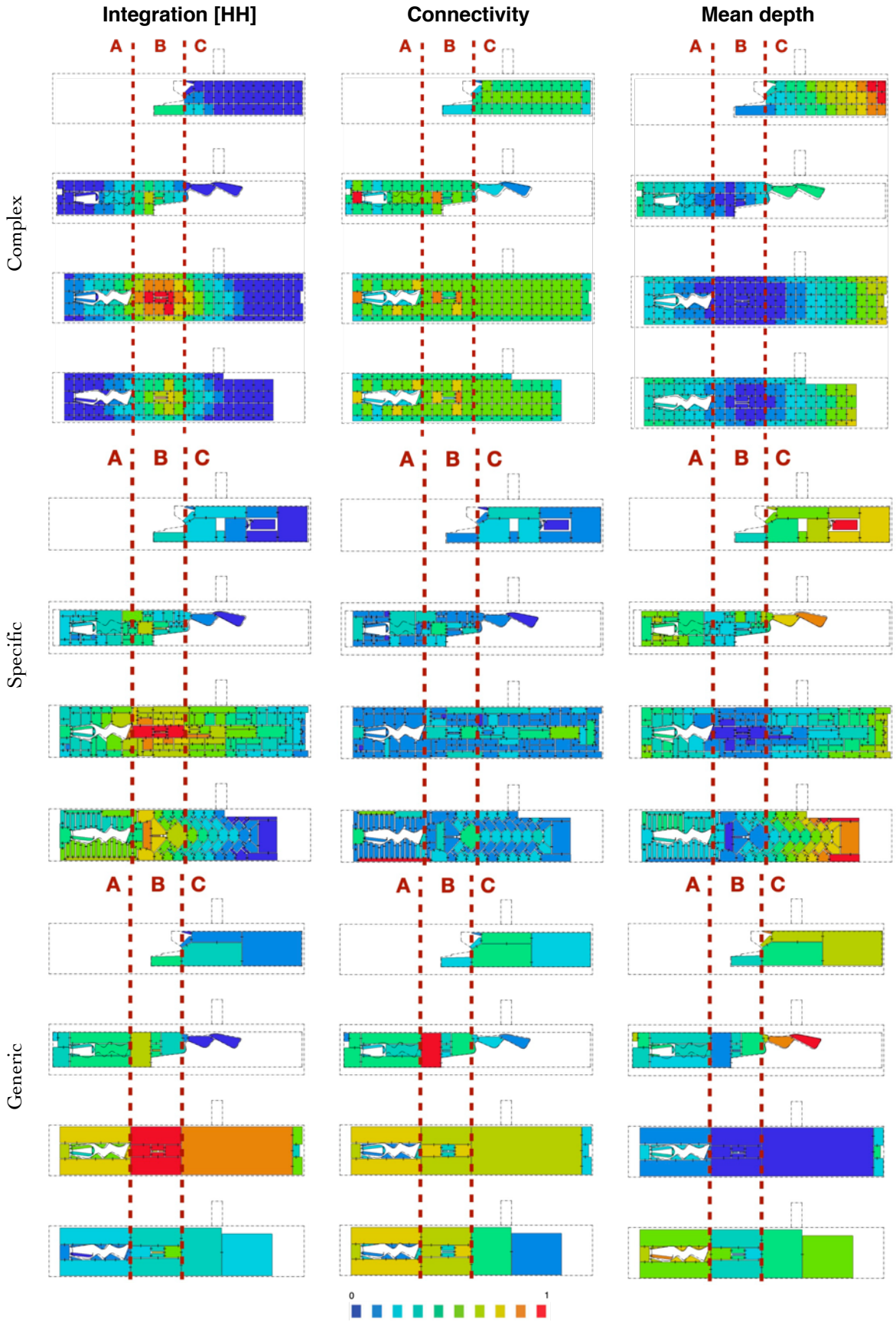


Figure 112. 1957 building x BSP 4 – Complex, specific, and generic models (integration, connectivity, mean depth).

Choice **Control** **Controllability**

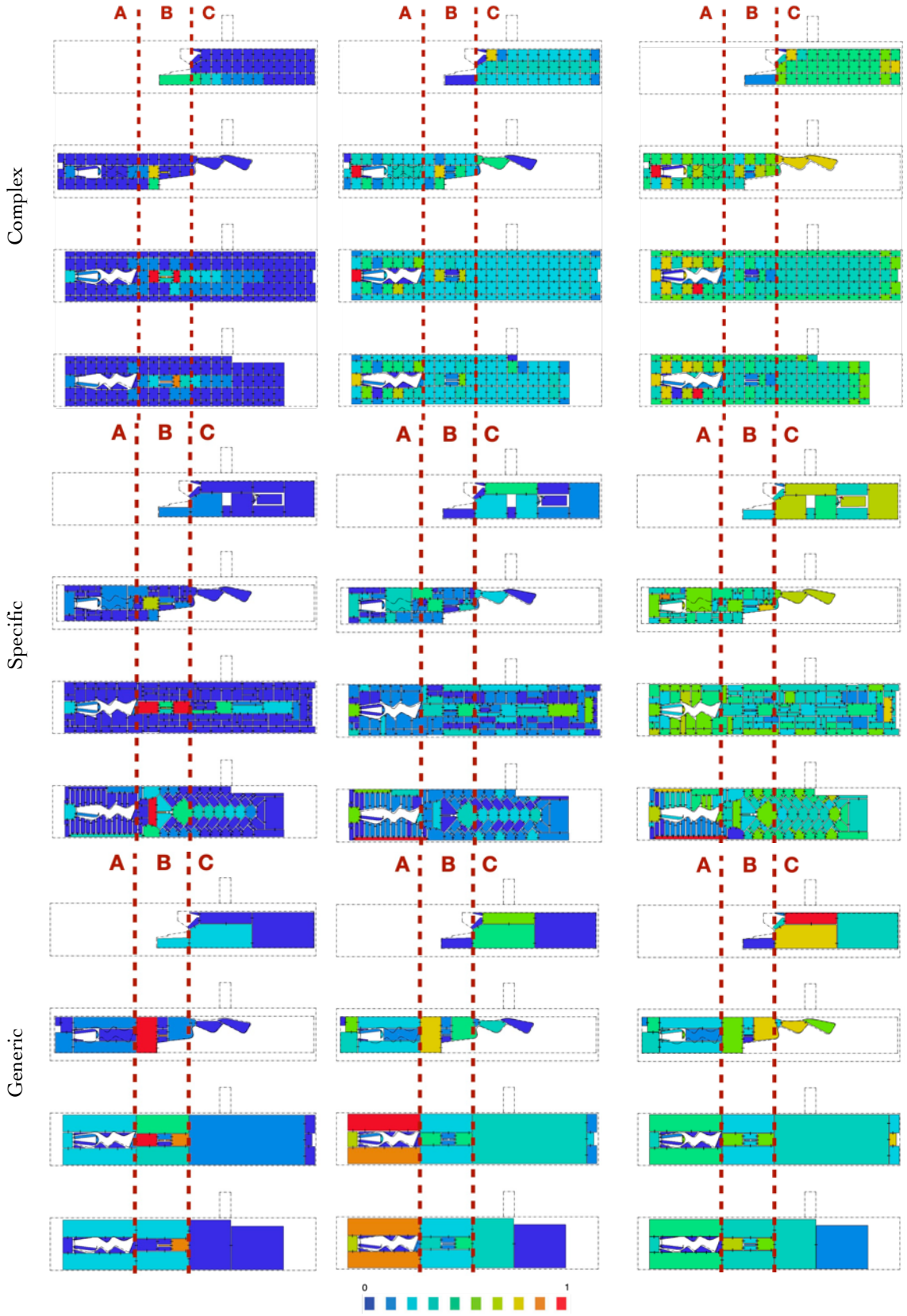


Figure 113. 1957 building x BSP 4 – Complex, specific, and generic models (choice, control, controllability).

Regarding the integration attribute, it is observed that the most integrated spaces in the exhibition layout are concentrated in sector B, especially on the third floor (the same place

where the most integrated spaces of the complex and generic model of the building are concentrated). Spaces with low integration value are also located in the same sector, as in the underlying building. However, in the exhibition layout, they appear in much smaller quantity, which suggests that, in local terms, the system is more integrated. In addition to the mezzanine, and the rooms located at the end of floor 4/sector C (whose low integration was relatively expected), the layout of floor 1 contributed to reinforce this low integration, by creating a central room that communicates with the surrounding spaces in just one point, through an antechamber, which corresponded to the 4,000 Years of Glass room (MAM-SP, 1957).

A similar pattern is observed in the mean depth attribute, whose shallower areas of the system are the same in the three models (sector C, especially floor 3). The deeper areas, however, diverge. in the case of exhibitions, they correspond to an enclosed room on the first floor and to the side aisles on the fourth floor/sector C, where the theater biennale took place. These divergences can be attributed to the peculiar configuration of these two spaces, where the first is a terminal space, preceded by an antechamber (mentioned above), and the latter are also terminal spaces located at the end of the system, on the limits between the exhibition and non-exhibition spaces.

The connectivity attribute, in contrast, varies greatly when the exhibition layout is compared to the building layouts. While in the building layouts, the spaces with the greatest connectivity of the system are those adjacent to the stairs and circular ramp (floors 2 to 4), in the exhibition they are located in the center or edges of the layout, as is the case of the side corridor that connects to several perpendicular rooms on floor 4/sector A, and from the central circulation spaces on floor 3/sectors B and C.

Similar aspects are observed in relation to the control attribute, where the most connected spaces of the building layouts move to the central and peripheral corridors of floors 3 and 4. These central corridors on the third and fourth floors, together with the spaces adjacent to the stairs, are the spaces with the highest values in the exhibition layout.

The control and controllability attributes presented the spaces with the highest value in the same places as the exhibition, the long side aisle located on floor 4/sector A, which in turn is also the most connected space in this system. In fact, "some spaces can be both controllable and controlling" (Turner, 2004, p. 16-17), that is, simultaneously seeing and being seen by a large number of adjacent spaces, as is the case of Bentham's panopticon.

These are also attributes that can be widely explored in exhibition design, as they allow to suggest a way of reading these exhibitions, as well as where to position its artifacts.

Although many other aspects of the occupation of this exhibition could be highlighted, at this point what we want to demonstrate is the viability of these descriptive models for the representation of systems and discussion of the notion of spatial mediation (as it is one of nine cases to be characterized in chapter 6 and analyzed in chapter 7).

In this context, the minimum circulation path (MCP) is superimposed on the complex, specific and generic convex maps, to verify their viability (Figure 114), as well as their convex maps are translated into j-graphs and MCP j-graphs in order to support the movement analysis in these layouts, as a system of multiple routes (SMR) and as a system of origin and destination (SOD).

These j-graphs and MCP j-graphs of the three models reproduced the pattern obtained for the attributes of the occupation analysis, where the exhibition layout presented intermediate configurations between the complex and generic layouts of the building, both in terms of convex spaces and connections (described in the previous analysis, of occupation), but also of topological levels (Figures 115 and 116).

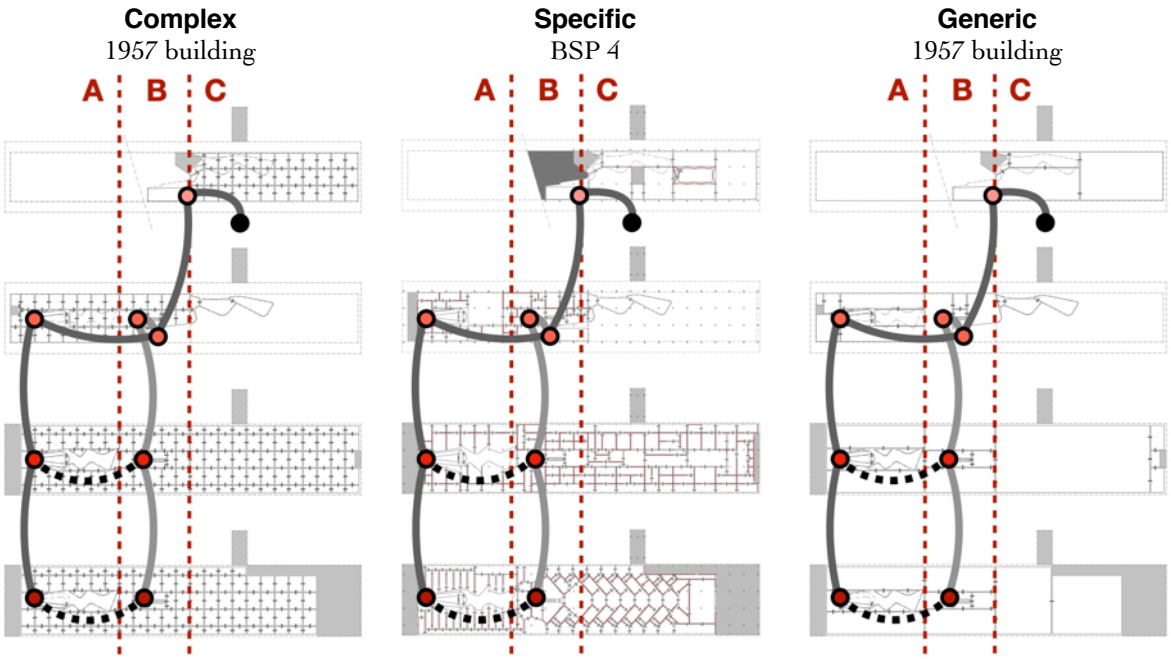


Figure 114. 1957 building x BSP 4 – Minimum circulation path (complex, specific, and generic models).

Complex
1957 building

Specific
BSP 4

Generic
1957 building

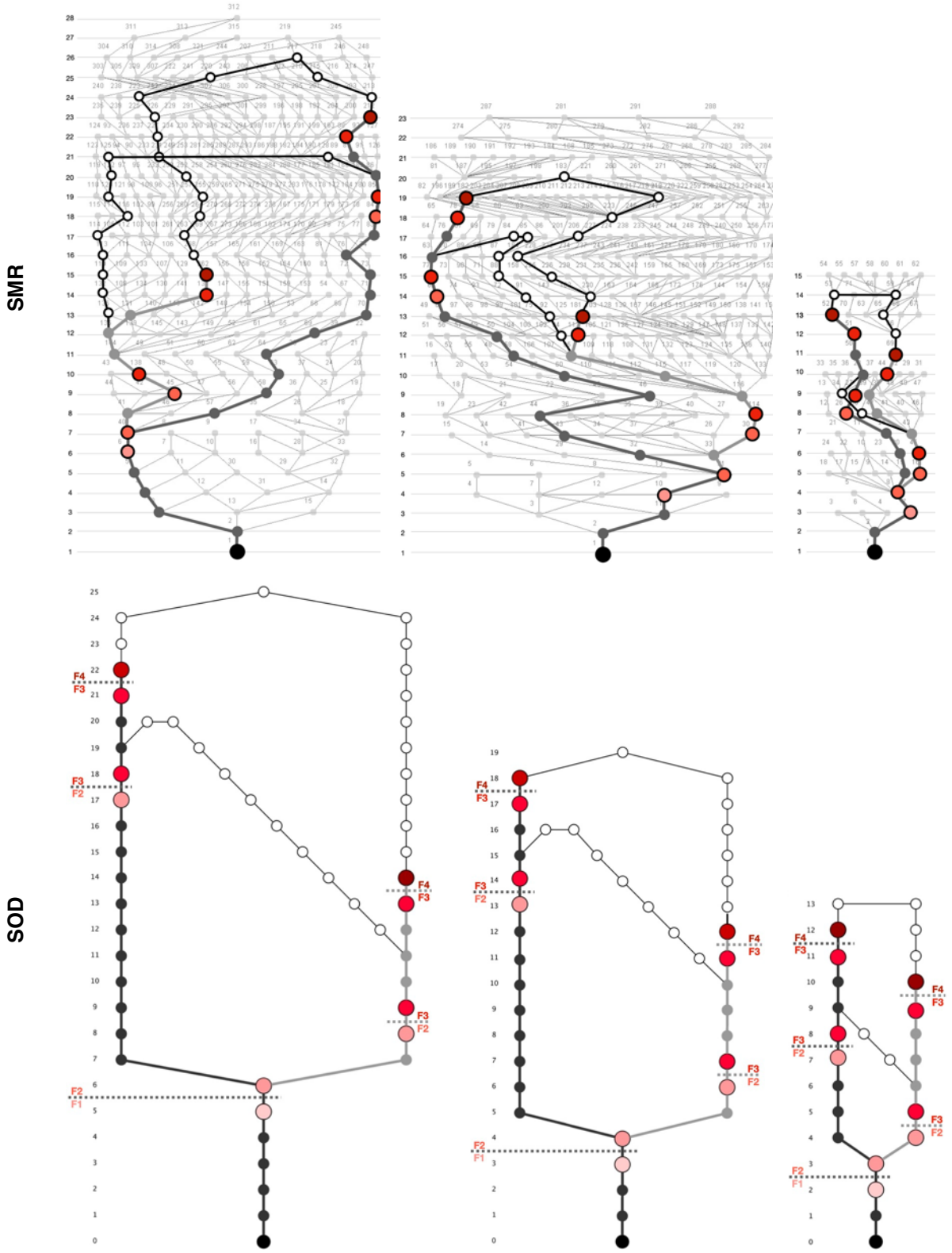


Figure 115. 1957 building x BSP 4 – J-graphs (top) and MCP j-graphs (bottom).

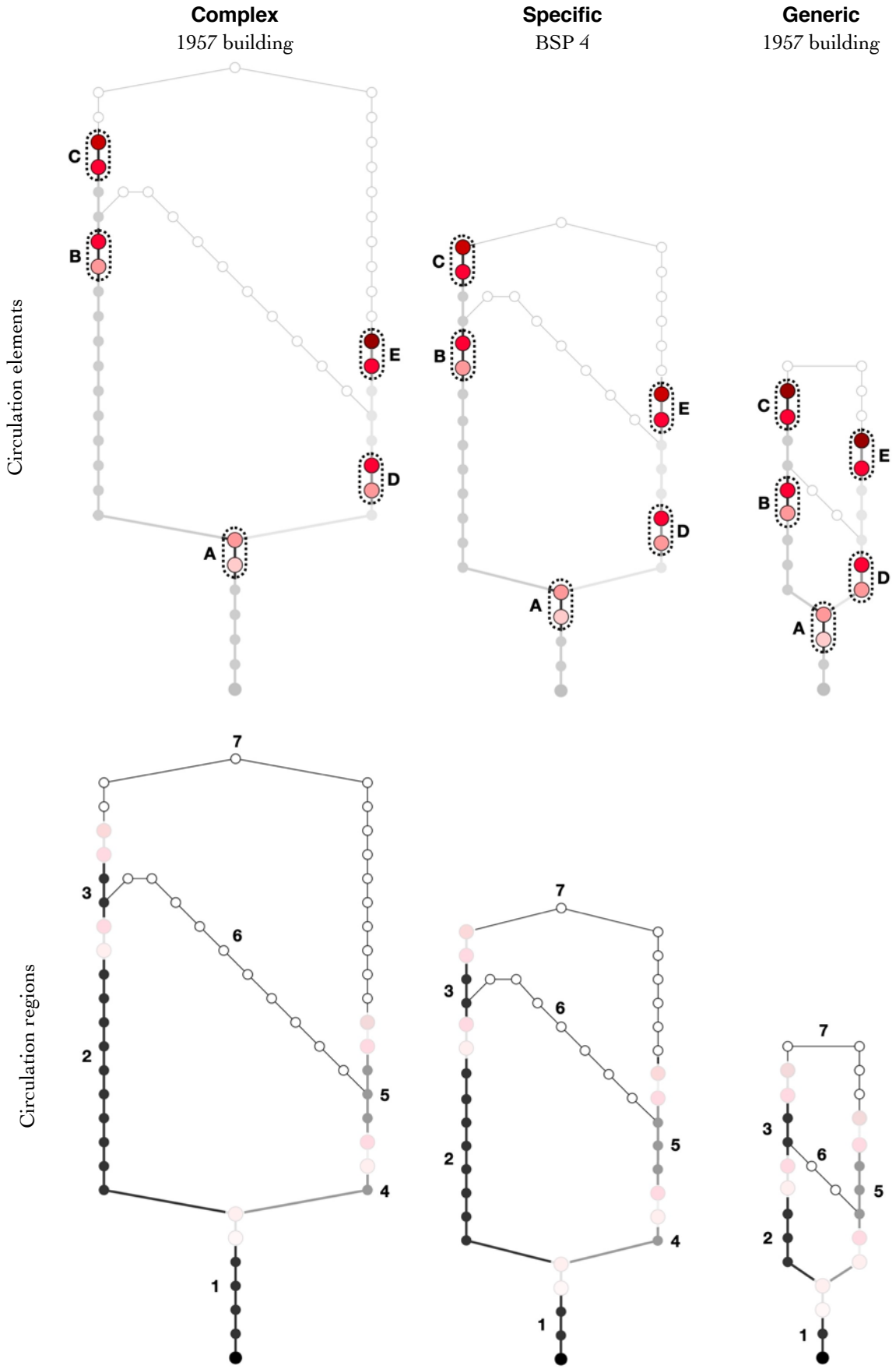


Figure 116. 1957 building x BSP 4 – Circulation elements (top) and regions (bottom).

Regarding the topological levels of the SMR (j-graphs), the three systems presented the following depths: 28 (complex), 23 (specific) and 15 (generic) levels. The structure of these j-graphs, in turn, seems similar, although the j-graph of the specific system seems to be denser and more compact than the complex system and presents some nodes with a large concentration of edges (that is, highly connected spaces).

In these three j-graphs, it was possible to identify the nodes and edges that constitute the minimum circulation path (MCP), whose general structure appears to be very similar in all three models (since all spaces of vertical circulation and connections between them could be identified and appear to be at equivalent topological levels). However, when only the minimum circulation path is represented (MCP j-graphs), this intermediate condition of the exhibition layout in relation to the complex and generic models becomes more evident.

In the MCP j-graphs (Figure 115), the gradation of topological levels between the three systems is more evident, with 25, 13 and 19 levels, respectively. It is also evident how the structure of the MCP was compressed (when compared to the complex model) or lengthened (compared to the generic model) but retained its general properties across all the three systems.

When these sets of j-graphs and MCP j-graphs are observed in terms of their circulation elements and circulation regions (Figure 116) it is evident that the regions of the exhibition layout also presented intermediate values between the complex and generic models of its building.

Although many other aspects of the exhibition layout could be highlighted, at this point what is wanted is to test the viability of these description models to analyze the three distinct layouts. In this sense, such models seem to be able to demonstrate how the notion of spatial mediation can be provisionally characterized – one in which the building layout acts as a boundary for the definition of the exhibition layout, since in certain attributes, the layout of the exhibition goes beyond those contained in the building layout. Therefore, in fact, the building seems to mediate, but not limit, the configuration of such exhibitions, an aspect to be better investigated in Part III of this thesis.

* * *

This chapter sought to provide a spatially characterization of the Pavilhão Bienal through three specific study axes. The first mapped the main spatial changes and continuities that occurred in the period studied (1957 to 2018), as well as between the first two versions of the building (OP and BP, from 1954). Based on this mapping, five versions of the building (in addition to the first two) were selected to carry out the first configurational analyses, which correspond to the years in which spatial changes were most evident (section 5.1). These analyses, in general, showed that although there are significant changes between the original project and the built project, in the other five versions these changes had minor local impacts on the building's configuration. However, they were essential to better understand the building's morphology, which proved to be both complex and generic.

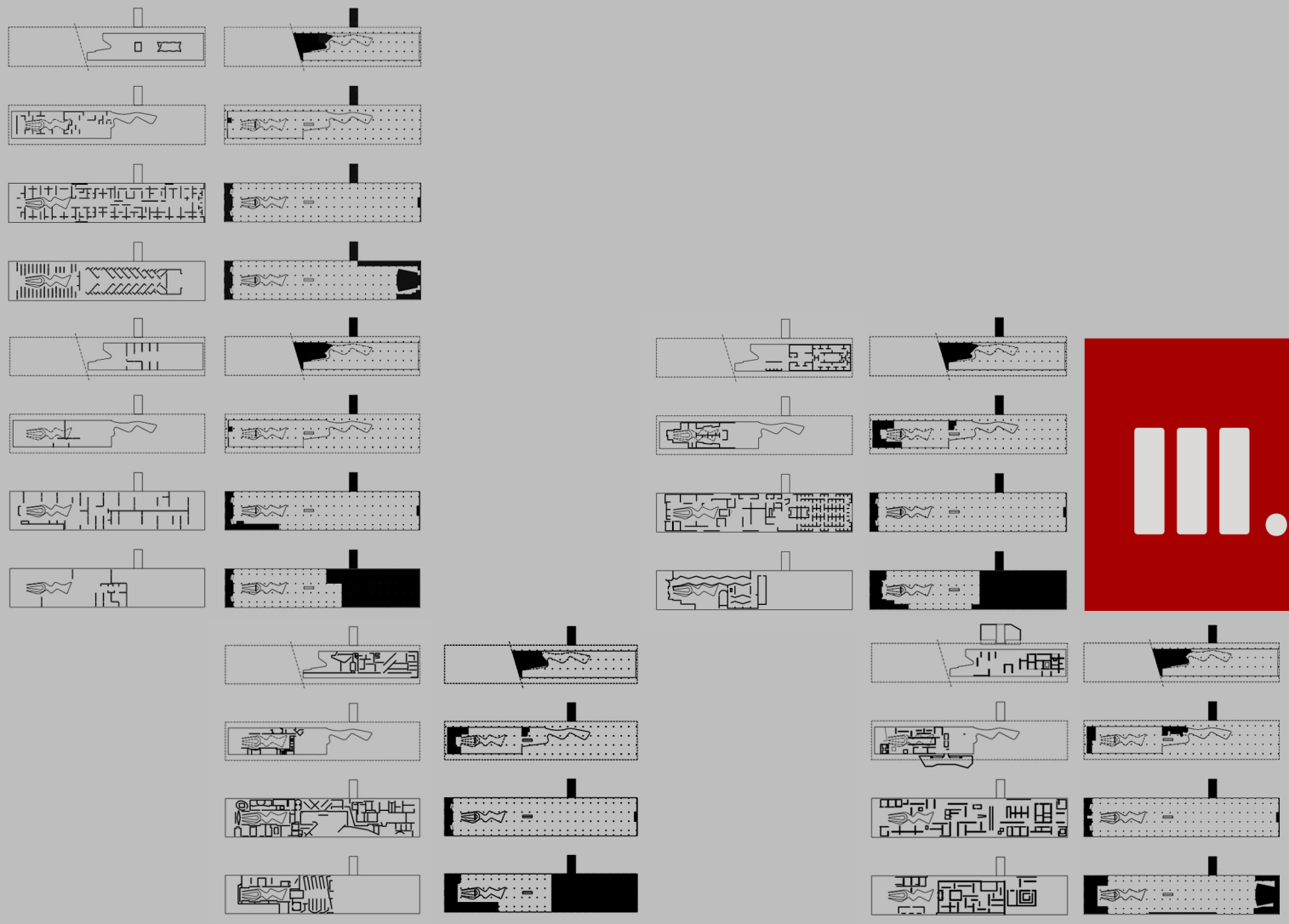
Based on this, the second round of studies (section 5.2) sought to characterize how such complexity and genericity affect this building. This complexity and genericity were addressed both in terms of movement and in terms of occupation. With respect to the former, configurational sectors were defined based on the variations and recurrences between the attributes, which allow establishing a comparison parameter between the different versions. These sectors supported the development of two models of description of the building (complex and generic), which describe the maximum and minimum limits of occupancy of the building. These models, although relatively distinct in local terms regarding the distribution of their attributes, are very similar in local terms, which suggests that the generic model, in general, captures the same properties of the complex model (since, despite of simplified, if similarly structured).

These findings, in turn, supported the study of the building in terms of movement, where a minimum circulation path (MCP) was defined and applied to such models. With this, it was possible to describe (by means of j-graphs) the minimum and maximum movement possibilities contained in its more and less detailed models in terms of occupation possibilities (complex and generic, initially elaborated in the form of convex maps). These four description models (complex/generic j-graphs and complex/generic MCP j-graphs) in turn seemed adequate to capture the changes that the building underwent in the five years studied, as well as its effect in terms of occupancy and movement.

Finally, the third analytical step (5.3), applied such models and concepts to a specific case, the BSP *4* and its respective building (1957). Although the focus of the chapter is the study of the building, this analysis served as a pilot study to test the analytical procedures elaborated above. In it, a third model of description is developed, specific model, to describe the layout of the exhibitions, which brings together criteria from both complex and generic models (by considering all the barriers and permeabilities of the space and joining spaces when they exhibit the same content and are solely constituted by pillars). By comparing the three models in terms of occupancy and motion (i.e., via convex analyses, j-graphs and MCP j-graphs) a first demonstration of the notion of spatial mediation was obtained. That is, the exhibition layout was within the limits of the building layout for most of the analyzed attributes, as well as having significant exceptions (as in the control and controllability attributes). Therefore, the building seems to operate as a definer of boundaries and not of limits, since in certain aspects the spatial configuration of the exhibition can go beyond that of its building.

This dimension of spatial mediation corresponds to the one in which its buildings are associated with the notion of commodity, as primary goods that have an exchange value. In fact, when the exhibition layout reinforces the attributes originally contained in his building, it appears to be using it as a commodity in its raw state. However, when certain attributes are transformed (as in the case of control and controllability), it is suggested that the building layout is commodified, that is, its exchange value dominates the use value (Appadurai, 1994, 1988). That is, if the building, in principle, had low control and high controllability, by subverting these values, the exhibition layout also subverts its use. However, more analysis is needed so that these aspects can be better characterized.

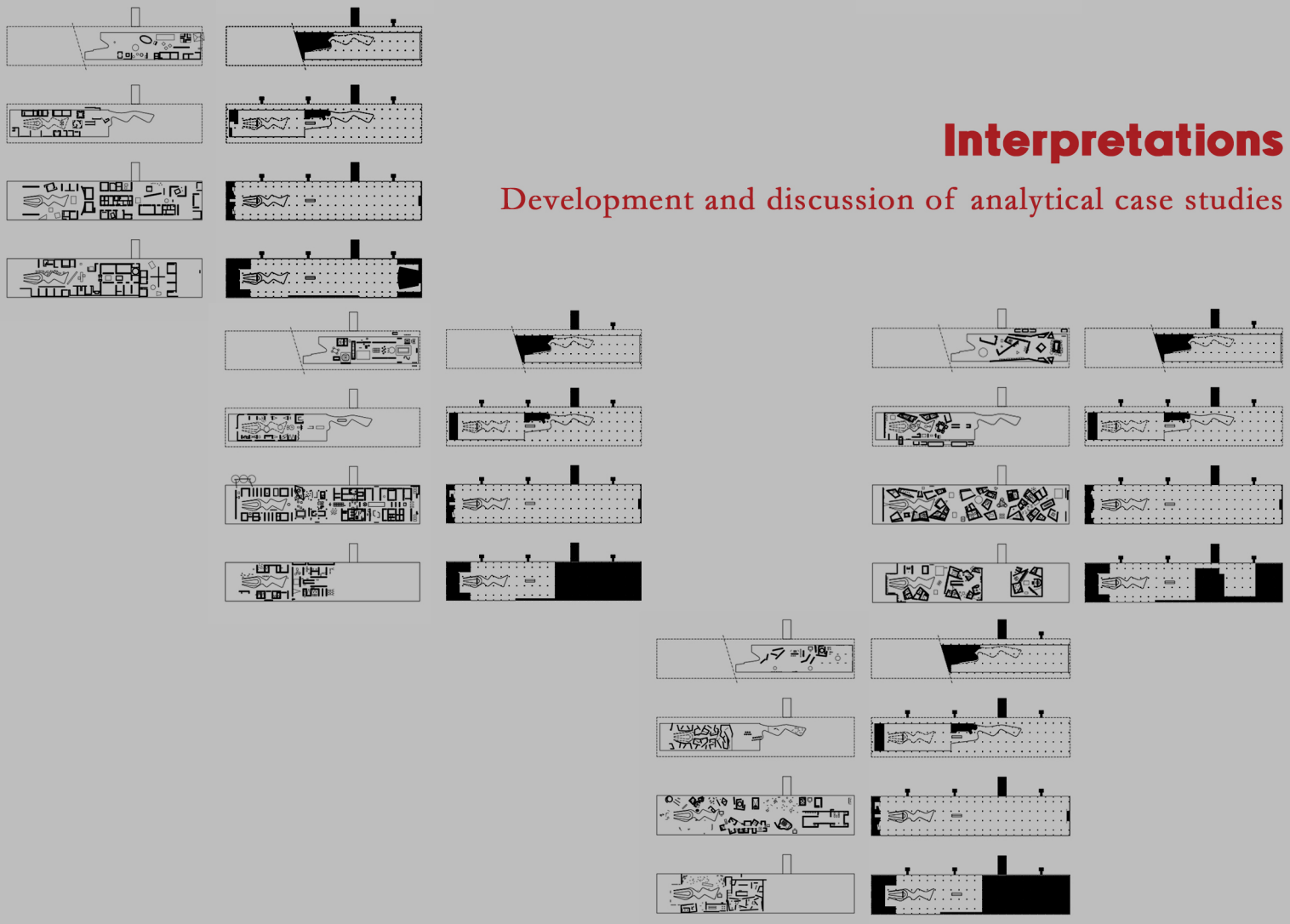
In addition, it is argued that the notion of spatial mediation is also observed in the way the curatorial discourse is transposed to the exhibition layout, an aspect that was not understood in this analysis. thus, the next part of this thesis is dedicated to the selection of specific cases (Chapter 6) and the in-depth analysis of these cases (Chapter *7*) so that this notion of spatial mediation can be characterized with greater precision.



III.

Interpretations

Development and discussion of analytical case studies



6 MODELING OF ANALYTICAL CASE STUDIES

The two chapters (6 and 7) that constitute this last part of this thesis are dedicated to modeling and development of structured and in-depth analytical studies on specific cases of BSP exhibitions and their respective buildings.

This Chapter, 6, describes the selected cases and outlines an analytical framework for their description and discussion, based on the definitions and findings of the previous chapters. In this context, the chapter is structured in two parts: case selection and characterization (6.1); analytical framework (6.2).

The characterization of cases is discussed according to the two lenses that guided their choice, narrative (6.1.1) and capital (6.2.2) (discussed from a theoretical and empirical perspective in chapters 2 and 3). This division into facets seeks to reflect the main aspect that makes these exhibitions especially distinct: the classification systems they present (thus constituting different forms of structuring their curatorial discourses) and the dialogue they establish with the spatial configuration of the underlying building (which functions as a commodity for the spatialization of such discourses). The cases are presented and discussed in pairs according to their facets and the similarities they present.

The second part of the chapter, in turn, describes the analytical framework that structure the analysis the cases developed in chapter 7. This analytical framework, in turn, is divided into an analytical matrix (6.2.1) and analytical steps (6.2.2). The first develops a representation system that allows comparing cases of different facets in its multiple dimensions (that is, layouts of buildings and exhibitions represented singly or together). The second describes the steps from which the notion of spatial mediation is approached, which is based on spatially mediated elements in exhibitions – things and people.

6.1 Case selection and characterization

Among the 30 exhibitions[176] that took place in the Pavilhão Bienal (BSP 4-33), only 27 of them can be analyzed configurationally, since: the plans of BSP 9 have only labels (no partitions), the plans of BSP 5 do not provide enough accurate information about the fourth floor (that is, it is not known where their partitions begin and end) and BSP 14 plans were not available at the Arquivo Histórico Wanda Svevo/FBSP.

In this context, of these 27 cases, 9 were selected for an in-depth study. This selection considered several aspects, of a quantitative and qualitative, temporal, and spatial nature. Together, these aspects and cases constitute two facets, named narrative and capital. The four cases that make up the facet of the narrative are: BSP 4 (1957), BSP 16 (1981), BSP 27 (2006), and BSP 33 (2018). The five cases of the capital facet are: BSP 11 (1971), BSP 19 (1987), BSP 23 (1996), BSP 25 (2002), and BSP 29 (2010).

The cases are distributed in the Figure 117, which brings together the number of the exhibition (grey row) and its year (pink row). The upper part of the figure gathers the four cases of the narrative facet and the lower part the cases of capital, represented by their respective posters.



Figure 117. Nine selected cases – Narrative (top) and capital (bottom) facets (author's illustration, data from AHWS/FBSP).

The cases of the narrative facet were selected for inaugurating distinct classification systems, while delimiting the entire period studied. BSP 4 was classified according to the national representation system; BSP 16 was the first to organize the works according to curatorship principles (although the selection was still based on the artists' countries of

[176] Since the BSP 34 is not considered in this work because it was held at the end of 2021.

origin); BSP 27 was the first to be classified exclusively according to curatorship principles; and BSP 33 presented the figure of the artist-curators, who, together with the general curator, select and organize the artworks in the space.

This facet was characterized based on morphological studies of buildings that consider that their spatial configuration allows us to understand how certain discourses are spatially formulated and meanings are embedded in such structuring, as discussed in chapters 2 and 3 (Koch, 2004; Peponis et al., 2003; Peponis and Hedin, 1982; Psarra, 2009; Stavroulaki and Peponis, 2003; Tzortzi, 2016, 2007; Wineman and Peponis, 2010). Therefore, this facet seeks to understand how such curatorial discourses were spatialized.

The cases of the capital facet were selected due to the striking spatial characteristics of their exhibitions. For instance, BSP 11, 19 and 25 placed the exhibition entrance on the second floor of the building. BSP 19 also divided the third floor into two parts not directly connected to each other, cutting the horizontal connection between ramp and stairs on this floor. BSP 23 eliminated the connection between the third and fourth floors via stairs, making this floor accessible only by ramp. And BSP 29 occupies the area of the fourth floor located after the storage of the MAC-USP, an apparently deep and poorly connected portion of the system.

The characterization of this facet takes into account a series of studies (also discussed in chapters 2 and 3) that suggest that the spatial configuration of cities and buildings, by constituting resources that give practical structuring to everyday life, embeds an economy that influences the performance of their generic functions (occupation and movement) (Bobkova, 2019; Bobkova et al., 2017; Hillier, 1996a, 1996b; Hillier et al., 1993; Marcus, 2010, 2007). Thus, this facet analyzes how the structuring of such curatorial discourses used the spatial resources offered by the building (reinforcing or modifying them) for its structuring.

This selection also took into account the existing data on each case, as well as those elaborated within the course of this investigation (such as the reconstitution of building plans). Furthermore, the diachronic understanding of the exhibitions (Chapter 4), as well as their buildings (Chapter 5), was fundamental for such selection. In this context, cases are characterized according to the facet to which they were associated, as discussed in the two following topics.

6.1.1 Narrative facet – BSP 4, 16, 27 and 33

The cases of the narrative facet, BSP *4* (1957), *16* (1981), *27* (2006) and *33* (2018) were selected due to the distinct discourses they represent, especially from a curatorial point of view. These discourses, in turn, also have a spatial implication that, although specifically discussed in Chapter *7*, are briefly characterized in this topic. These four cases constitute, to some extent, a gradation in the way such discourses evolved along this time interval.

The first and third cases (BSP *4* and *27*) were exclusively organized around national representations and curatorial project, respectively (FBSP, 1957; FBSP, 2006a). BSP *16* and *33*, in turn, are variations of the other two other, as the former is the first to introduce curatorial premises in its organization (but continues to adopt national representations in parallel) and the latter (BSP *33*) presents a curatorial project that is not just created by curators, but also by artists (FBSP, 1981a; FBSP, 2018a). Therefore, BSP *16* and *27* might seem obvious examples, as they are the first to introduce curatorial principles in their classification (partially or exclusively). Whereas BSP *4* and *33*, although they are not the first of their systems (since BSP *1-3* also adopted the system of national representations and that BSP *33* belongs to the curatorial project system), are important both because they frame the entire period studied, but also because of their classification (since BSP *4* illustrates a case of an exhibition classified exclusively from the system of national representations and BSP *33* introduces important changes in its curatorial project.

Together, these cases can shed light on how the principles of classification of an exhibition in this case quite distinct from each other, are reflected in the constitution of these spaces. The presentation of the cases is done in pairs, according to the selection criteria adopted as well as the discussion that these examples suggest (Figure 118).

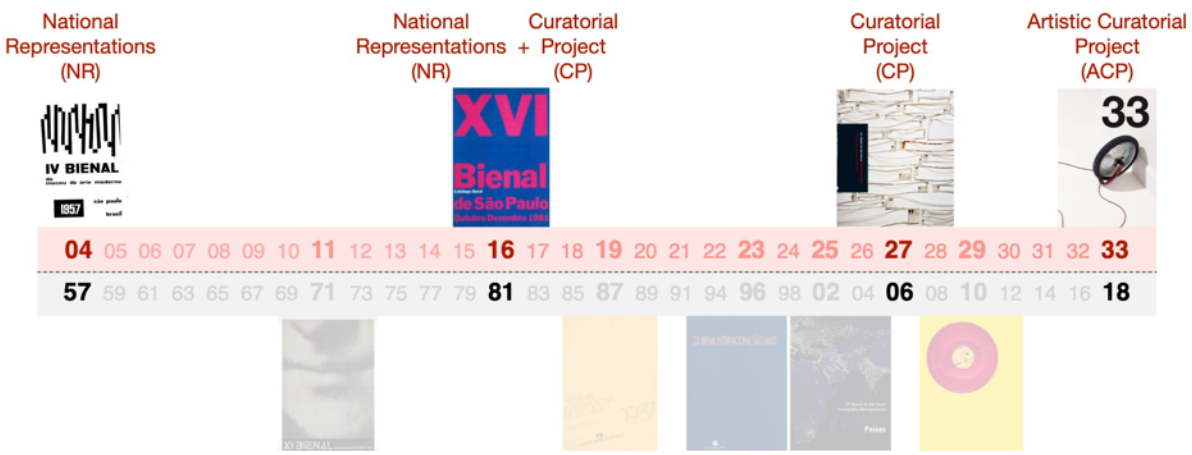


Figure 118. Narrative facet cases – BSP 4, 16, 27 and 33.

6.1.1.1 BSP 16 and 27

> The appearance of a general curator for the exhibition would completely transform the course of the Bienal. The critic and former director of the MAC-USP, Walter Zanini, was the first to assume the position, in an edition that abolished spaces separated by country and chose to group the works by "language analogy" (of techniques and themes). It also marks the end of the boycott of the Bienal and the political opening in the country[177].

> The theme "How to live together" – the title of a series of seminars given by Roland Barthes in the 1970s, guided Lisette Lagnado's curatorship for the BSP 27. The edition was marked by the extinction of national representations – the selection of artists was in charge of the Bienais curators – and by the affirmation of art as a transnational language. A fundamental innovation for the exhibition, the curatorial projects were chosen based on selection processes carried out by an international committee of critics and curators[178].

The passages above constitute the descriptive text of the BSP 16 (1981) and 27 (2006), according to the FBSP website. Considered a primary source for understanding the history of the event, not only because it is its official organizing institution, but because it is public and widely accessible, FBSP's descriptions of both cases emphasize the pioneering character of each of the exhibitions. This pioneering spirit, however, does not refer to the architecture of these exhibitions, but to the innovations they introduced from an artistic and curatorial point of view.

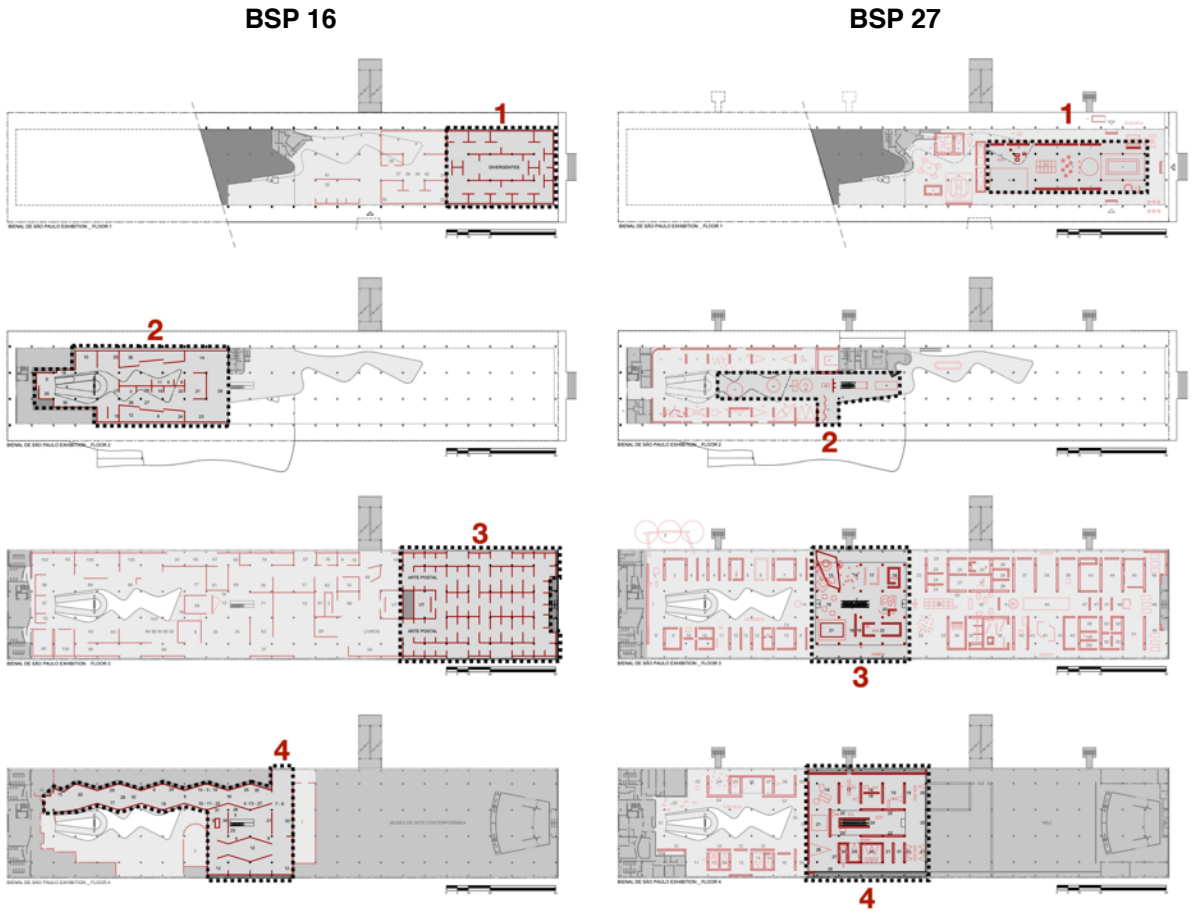
From the plans of BSP 16 and 27, however, it is possible to identify some areas of the exhibitions that constitute apparently well-defined sectors. This information, when compared with the labels of the plans and the texts and images of the artworks present in the catalogues, allows us to identify a strong correlation between the principles of classification of artworks and the spatial configuration of these areas. These examples stand out for constituting well-defined areas not only when observed in relation to the occupation of the same floor, but in relation to the layout of the entire exhibition (and even with other exhibitions).

The examples in BSP 16 correspond to specific excerpts of the curatorial discourse (i.e., named parts in the form of a specific topic or title). In general, the exhibition was structured under "essential parameters and in an orderly manner, significant aspects of artistic plurality, which characterized the beginning of the 80's, governed the main intentions of the BSP 16, determined according to three nuclei of manifestations" (FBSP, 1981, p. 19). Nucleus I grouped the works based on criteria of relation and language

177 http://bienal.org.br/exposicoes/16bienal
178 http://bienal.org.br/exposicoes/27bienal

analogies, Nucleus II brought together works with various focuses and historical value for international contemporary art. And Nucleus III exhibited Latin American works.

On the other hand, in BSP 27, this correspondence is not so clear or directly identifiable, as its curatorial project is quite complex. This edition's catalog presents the works through sets of texts written by artists, critics, and curators, preceded by small excerpts by Roland Barthes, which, to a certain extent, announce the theme of that set of works, in line with the title of this exhibition, "How to live together"[179]. Therefore, each set of texts and works sought to reflect conflicts and tensions of life in society. Four examples of each case (one per floor) are highlighted, as described in Figure 119.



1. Divergents
2. Nucleus I, Vector B
3. Mail Art
4. Uncommon Art

1. Site-specific installations
2. Architectural artworks
3. Square
4. Museological space

Figure 119. BSP 16 and 27 – Exhibition sectors and classification principles.

[179] A reference to the set of lectures the author gave at the Collège de France, in Paris (1977) on human relations and their various forms and social models.

Regarding the examples of the BSP 16, although this is an exhibition recognized because of the new classification criteria it inaugurated, the first example is a set of rooms that brought together artists whose works diverged from the general idea of the exhibition, therefore called Divergent. Included in the exhibition's Nucleus I (which brought together works with similar languages), these artworks are part of Vector B of this nucleus, dedicated to works that inaugurate new artistic research, and were thus called because they were "considered divergent from the regulation itself" (FBSP, 1981, p. 47).

Although the BSP 16 catalog does not explain how these works diverge from the others, a study of its catalogue suggests that this divergence is due both to the themes/formats explored by these artists and their countries of origin. The themes can be inferred from the photographs, whose works can be associated with a wide range of artistic movements, whether contemporary or historical. Regarding the formats, there are: painting, sculpture, photography, drawings, serigraphy, tapestry, installation, woodcut, and engraving.

The most interesting divergence criterion, however, is perhaps the artists' country of origin, which was also a selection criterion. The artists gathered in this sector came from: Argentina, Bulgaria, Chile, Dominican Republic, Ecuador, Greece, Guatemala. Hungary, Panama, Peru, Poland, Romania, South Korea, Venezuela, Uruguay, and Yugoslavia. Although coming from different countries, these artists seem to converge in one aspect: the fact that they do not belong to the circuit formed by countries in Central Europe and North America, especially the United States, often described as culturally hegemonic, a hypothesis that requires further investigation.

This notion of divergence can also be observed in the configuration of the rooms, both in terms of size (which, although rectangular, vary between 27,5 and 240 square meters), and in the various possibilities of routes (due to the arrangement of peripheral and central rooms, connected by a circulation ring that also allows the central rooms to be crossed longitudinally). Unfortunately, no photos of this sector could be found.

Example 3 of BSP 16 also gathers artworks according to the common language they present, in this case specifically all mail art works. This section, which also has a separate catalogue, was not intended to be selective, but rather to publicize the current stage of this artistic movement (Zanini apud FBSP, 1981a). Therefore, it gathered works by more than 500 artists from all over the word, who participated not only with postcards, but with any format that could be sent by mail, such as musical records, video-k7, and photos.

Interestingly, this is the most subdivided sector (that is, with a large number of small rooms), not only among the other examples of this biennial, but of all these two exhibitions (16 and 27). With rooms measuring 5x6 meters throughout this sector, these rooms were arranged in rows on the sides of the building and grouped in sets of 4 in the central part (whose structural modules measure 10x12 meters). However, even if such dimensions are adequate given the proportion of the building and compared to the entire layout of the exhibition, they still seem oversized considering the small formats of the artworks.

Examples 2 and 4 of BSP 16, in turn, display artworks with different languages, but common themes. The works shown in example 2 constitute Nucleus I, Vector B1 of this biennial, with works that introduced new artistic research. Example 4, in turn, was called "Uncommon Art", an independent exhibition. This last example also has an independent catalog, which, together with the exhibition's general catalog and the mail art catalogue, make up the three volumes of this year's publications. Example 2 is possibly the most iconic image of the entire BSP 16.

Example 4, which constitutes the Uncommon Art exhibition, occupied practically the entire fourth floor of the pavilion, which more than half of its area was already being used for non-exhibition purposes (facilities of the FBSP on the left and the MAC-USP deposit on the right)[180]. This exhibition aimed to "broadly awaken the public's attention ho highly creative production, outside the cultural art system, as well as providing an incentive to its research and preservation in the Brazilian environment" (Zanini apud FBSP, 1981b, p. 7). Its title described the multiple individual manifestations of inventive spontaneity that could not be reduced to established cultural principles, "whose authors, whether mentally ill or individuals detached from the normal contexts of visuality" (Zanini apud FBSP, 1981b, p. 7), and their works were described as being of great libertarian, spiritual, unconscious, mysterious, transcendent and agonistic expression.

From a spatial point of view, this exhibition of example 4 (Uncommon Art) was characterized by sequential hexagonal polygons, whose diagonal partitions configure both a long gallery of consecutive rooms and a square portion, structured around the stairs, also with diagonal partitions in its central area (examples 3 and 4 are gathered in Figure 120).

[180] In addition to the spaces of this specific exhibition, this floor also housed a movie theater and a large room with an exhibition on ancient Peruvian music and dance.

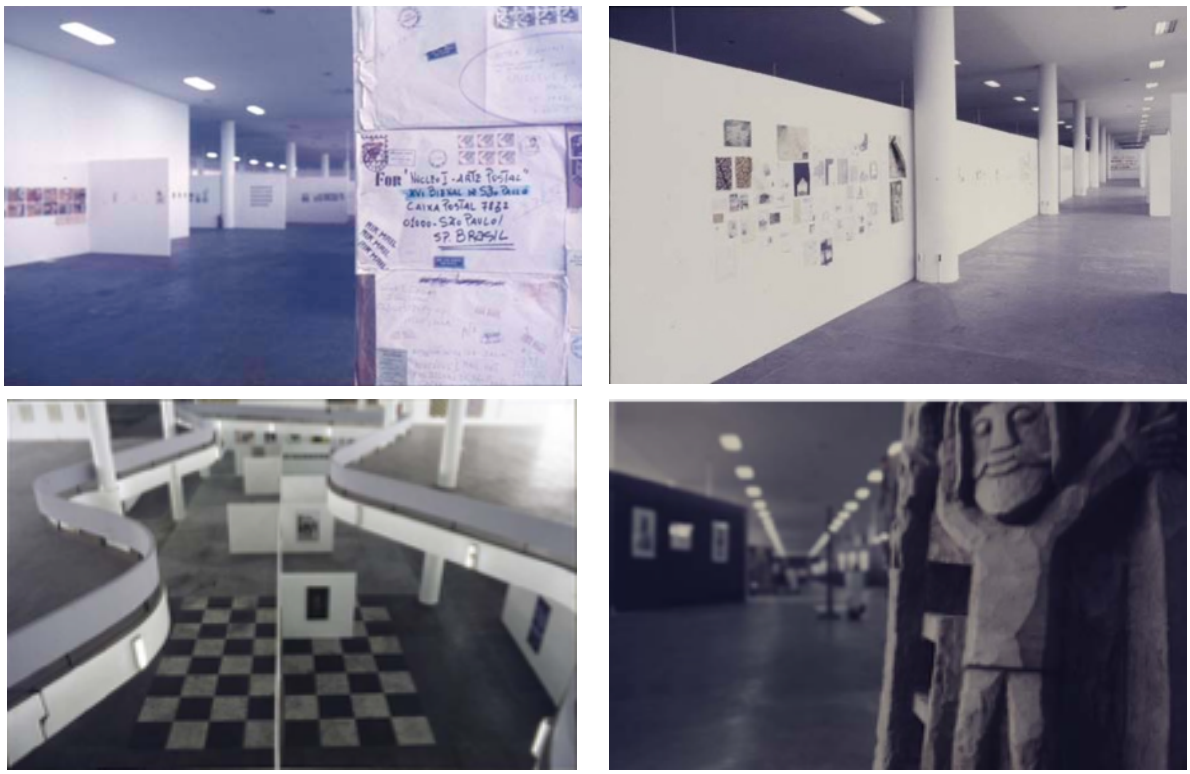


Figure 120. BSP 16 – Examples 3 (top), 2 (bottom left) and 4 (bottom right) (AHWS/FBSP).

The case of BSP 27 required a more careful examination of the plans and the catalog, as the structure of its curatorial project is not as explicit as that of BSP 16. However, as in the previous case, it was possible to identify at least one example for each floor, that constitute visible distinct sectors of this exhibition in relation to their context.

The four examples identified will be discussed in pairs, where: examples 1 and 2 stand out for their spatial amplitude and the absence of internal divisions, their limits being defined by barriers that act as supports for the works in neighboring spaces (the works of these examples are therefore self-supporting) or by the building itself. Whereas examples 3 and 4 are similar in terms of dimensions, geometry, and position on the floor, although this similarity has quite different reasons.

Example 1 of BSP 27, called site-specific installations, accurately illustrates the interplay between art, curatorship, and architecture. If, on the one hand, the entrance to the exhibition in this edition was positioned in the tree doors of the first floor (and not in just one, as usual) adjacent to the Parque Ibirapuera, when entering the building (through any of the doors) the visitor is confronted with the installation Security, by Jane Alexander (described in the previous quote from Lagnado), which to some extent announces the theme of the exhibition, *Como viver junto* (How to live together).

> The colonization of the African continent provides new perspectives on Brazil's slave-system past, and in that sense Jane Alexander's powerful installation *Security* was chosen to deliver the exhibition's curatorial statement right at the Pavilion's entrance. The result of this Bienal without national representations raised issues related to the difference between homeland and land, nationality and exile, house and shelter (Lagnado, 2007, p. 62).

As Lisete's quote suggests, the change in the classification system affects not only the way in which the works are grouped and arranged in space, but the very thought that precedes their selection, and placement in the building. In this context, Jane Alexander's installation, *Security*, is a good example. Although the spatiality of other floors and sectors are spatially capable of displaying, the high ceiling of this floor, as well as its positioning at the entrance of the exhibition, seem to be essential for the spatial construction of its meaning and for its appreciation, which seems to gain expressiveness precisely because of the contrast between the open spatiality of the pavilion in this sector and the strong barrier it defines at the right entrance of the exhibition (illustrated in Figure 121).

Similar observations can be made to other works displayed in this sector (example 1/BSP 27), such as the work *Canon*, by the Brazilian artist Marepe, a floor-to-ceiling installation with umbrellas, steel cables and aluminum support. Although this sector also has longitudinal partitions, which are also support for the exhibition of Mauro Restife's photographies, most of the works exhibited there have self-supporting structures – such as the site-specific installation *Sweetness*, by Meschac Gaba (Figure 121). These partitions, in turn, delimit a space from which an interior-exterior connection is no longer possible.

Example 2 of BSP 27 is similar to example 1 precisely in this point, that its works are self-supporting, and its spaces do not have partitions (except those that are part of the building or neighboring spaces). For this reason, this sector was called Architectural, as its works, in addition to not requiring support, also define spaces. Some of the artists exhibited in this sector are Didier Faustino, Martinho Patrício, Atelier Bow-Wow (Jumbo origami arc), and Lucia Koch and Héctor Zamora (A good order).

Aa can be seen in the plans, these works extend over the area delimited by the projection of the void, as well as on the back of the stairs (adjacent to the restrooms/bar and close to the mezzanine). The void, in turn, was occupied by an installation by Tomas Saraceno, which extends throughout its vertical dimension, as it happens in several other editions[181] (thus reinforcing the special character of this space), as illustrated in Figure 122.

[181] As discussed by FBSP in a post titled "The great void" (http://www.bienal.org.br/post/541).



Figure 121. BSP 27 – Example 1 (Security, by Jane Alexande; Cânone, by Marepe) (AHWS/FBSP).



Figure 122. BSP 27 – Example 2 (Tomas Saraceno – left, Lucia Koch and Héctor Zamorra, Atelier Bow Wow, bottom right) (AHWS/FBSP).

Examples 3 and 4 of the BSP 27 (Square and Museological space)**,** on floors 3 and 4, although similar in location (sector B of the pavilion) and geometry, differ greatly in their purpose. Example 3, Square, makes the transition between sectors A and C of this floor, through a slightly raised platform. Some of these works have a greater need for supports (exhibited in exclusive rooms, such as the photographies by Tacita Dean and Juan Araujo's paintings), others are more autonomous, such as the works by Goshka Macuga (which mimics the building's architecture) and Rirkrit Tiravanija, in which it is possible to see the wooden platform that delimits this sector (Figure 123).

Example 4, in turn, corresponds to the 'museological space' – an air-conditioned area created between 1991 and 1994 (BSP 21 and 22), which receives the works with the tighter lending restrictions (which often correspond to works by well-recognized museums, galleries and artists). Works by Grönlund/Nisunen (an installation on the access stairs to this sector), Marcel Broodthaers (whose room was adjacent to the stairs), and Gordon Matta-Clark were exhibited in it (Figure 124).

Several other aspects could be highlighted in relation to these examples and, mainly, to the artists and works they contain. However, at this point, the important thing is to emphasize that the curatorial discourse, as well as having its own characteristics, seems to result from the negotiation between this proposed discourse and the configuration of the underlying building, discussion continued in the characterization of the next two cases.



Figure 123. BSP 27 – Example 3 (Goshka Macuga and Rirkrit Tiravanija) (AHWS/FBSP).

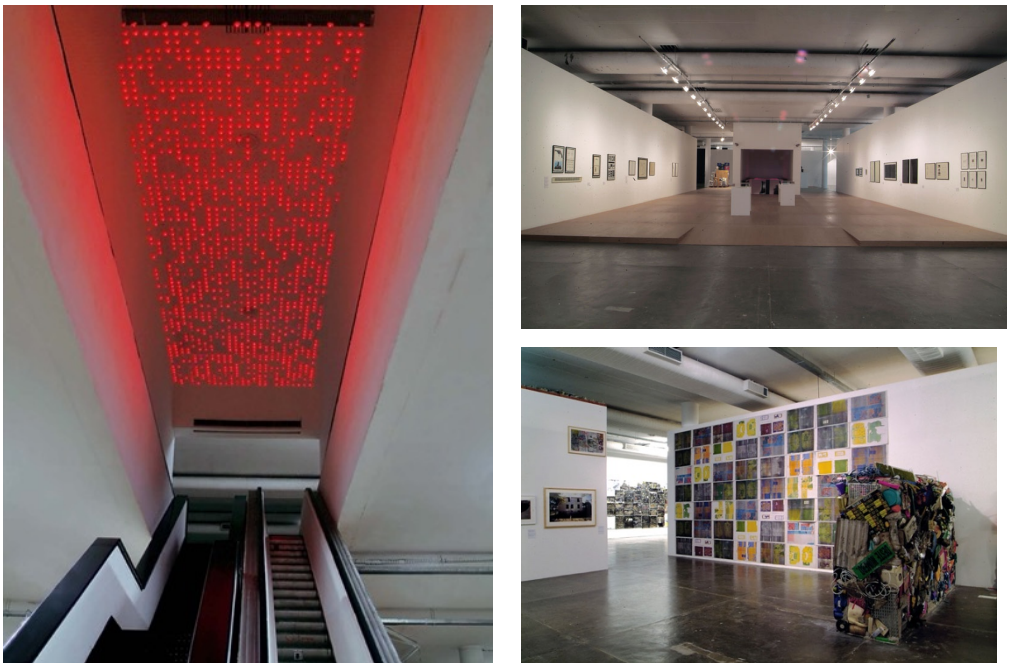


Figure 124. BSP 27 – Example 4 (Grönlund/Nisunen, Marcel Broodthaers, and Gordon Matta-Clark) (AHWS/FBSP).

6.1.1.2 BSP 4 and 33

> The selection process of works and the excessive influence of Ciccillo Matarazzo were contested by Brazilian artists. This was the first time that the Bienal took place in the space that would become its permanent headquarters, in the Ibirapuera Park Industries Pavilion. Controversy marked the edition, when renowned names in the national artistic scene, such as Flávio de Carvalho, had their works rejected by the jury. Abstract expressionist painter Jackson Pollock, who died the previous year, was presented in a special room, organized by the American representation at the height of his international recognition.[182]

> For the BSP 33 – Affective Affinities, the Spanish general curator Gabriel Pérez-Barreiro proposed a change in what he called the Bienal's operating system. For this, he invited seven artists to curate exhibitions at his side. The result were collective exhibitions in which the works of these artist-curators were presented alongside works by other artists with whom they have affinities or influence them. Pérez-Barreiro also selected twelve other artists which individual shows were set up. Among them, three honorees, now deceased and unknown to the general public: the Brazilian Lucia Nogueira, the Paraguayan Feliciano Centurión, and the Guatemalan Aníbal López.[183]

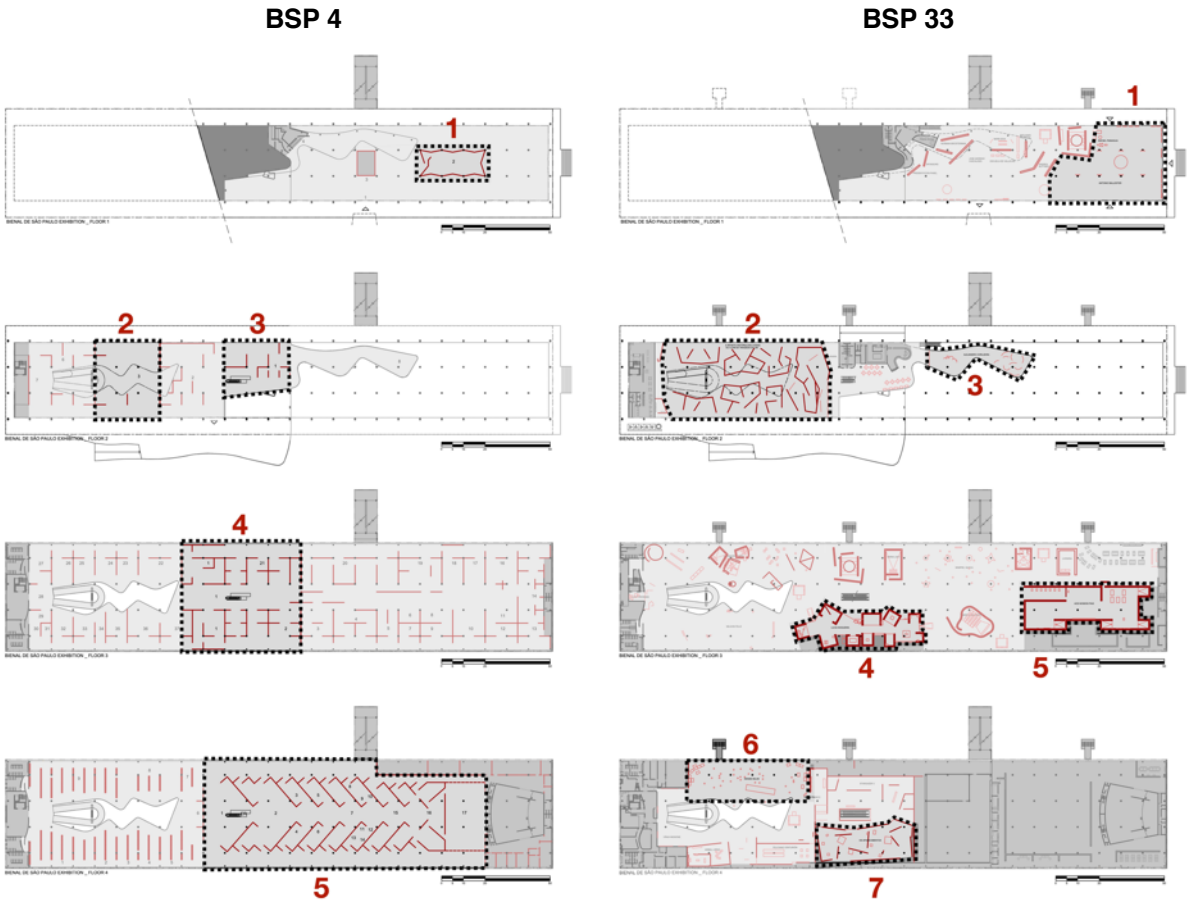
As in the two previous cases, the characterzation of BSP 4 (1957) and 33 (2018) begins with the description of these exhibitions by FBSP. If initially these two cases were selected to frame the entire period studied, a careful examination of their curatorial discourses allows us to identify the particularities that make them equally relevant in this regard.

The excerpt above, about the BSP 4, in addition to mentioning the fact that this was the first BSP in the pavilion, also brings some interesting points to understand how the discourse of this exhibition was characterized. On the one hand, the fact that the American painter Jackson Pollock was shown in a special room stands out. On the other hand, apparently long-awaited Brazilian artists were rejected. Although it is not clear in this excerpt, the criticism of the excessive influence of Ciccillo Matarazzo is possibly related to both events. It is also worth mentioning the expression "American representation" (as if the United States represent the entire American continent), since at that time the international commissioners selected and classified the artworks according to the countries of origin of the artists, characterizing the system of national representations.

If BSP 4 predates the period of curatorial project, BSP 33 seems to constitute a change in the way these projects are structured. By inviting artists not only to exhibit, but also to select works by other artists, the curator, Gabriel Pérez-Barreiro, makes an asymmetrical movement that turns the selection process less centralized. However, the curator also made his own selection of artists who were exhibited to set up small solo exhibitions.

---

182 http://bienal.org.br/exposicoes/27bienal
183 http://bienal.org.br/exposicoes/33bienal



1. 4.000 years of glass
2. Victor Brecheret
3. Brazil
4. United States/France/Italy
5. Theater biennial

1. Antonio Ballester Moreno
2. The infinite history of things
3. Alejandro Corujeira
4. Lucia Nogueira
5. To our parents
6. Denise Milan
9. The appearings

Figure 125. BSP 4 and 33 – Spatial sectors and classification principles.

Faced with such different operating systems, understanding how these systems translated into spatial configurations arises as a question. In this context, five examples from BSP 4 and 9 examples from BSP 33 were selected for discussion (Figure 125). In the case of BSP 4 examples, they refer to special rooms (as in the of the first three, 4,000 years of glass, Victor Brecheret, and Brazil), sectors of national representations (example 4, United States, France, and Italy) and different biennials within the same biennial (example 5, theater biennial).

The examples of BSP 33 differ between group exhibitions (conceived by the artists-curators) and individual projects (by artists invited directly by the main curator). This

difference is expressed in the labels of these spaces, which in the case of individual exhibitions bear the artist's name (as in examples 1, 3, 4 and 6) and in collective exhibitions are represented by their titles (examples 2, 5 and 7).

If on the one hand, at BSP 33, this operating system seems to result in predominantly autonomous exhibitions (whether collective or individual), in BSP 4 this relationship of autonomy (both between exhibition sectors and between the exhibition and the building) is more evident in some examples than in others. This greater continuity in the layout of the exhibition that is observed in BSP 4, especially in examples 2, 3 and 4, is broken in examples 1 and 5, not only because of the specificity of the themes exposed, but possibly also due to the exhibited artistic formats. The examples of BSP 4 were selected not only because of their prominence in relation to the entire spatial system, but also for the existence of photographs that, in addition to being scarcer in the older exhibitions, are also evidence of reputation.

Example 1, 4,000 years of glass, constitutes an autonomous room positioned in the central portion of the first floor, that exhibited the collection of Ernesto Wolf, with glass pieces of Byzantine and medieval origin (Stern and Schlick-Nolte, 1995). The position and the configuration of the room (preceded by an antechamber) simultaneously suggests the importance of the collection, as well as the need to protect the pieces. Unfortunately, photos from example 1 could not be located. The other examples of this biennial (BSP 4) are illustrated in Figure 6126.

Example 2, located in the projection of the void on floor 2, corresponds to the special room dedicated to the Brazilian sculptor Victor Brecheret. This is possibly the most portrayed space in the entire exhibition. Its position in the catalogue, where Brazil was the first country presented, and Victor Brecheret is the first room in this country to be described, are also testimonies of the importance of this artists' work for the exhibition. In the introductory text, Menotti del Picchia, art critic and art historian, clarifies the reason for such importance, stating that Brecheret, together with Mário de Andrade, Oswald de Andrade, and himself, marked the starting point for the Modernist Revolution (1922) in the country (FBSP, 1957, p. 50).

The exhibited artistic format, by requiring only support bases for the sculptures, in fact seems to dialogue with the pavilion's architecture, by keeping free the limits vertically

defined by the void. The few partitions seen in this space are adjacent rooms, mainly Lasar Segall room, another Brazilian artist who was part of the 1922 Modern Art Week.

Examples 3 and 4 have as a common point the fact that they are structured in spaces adjacent to the stairs, on floors 2 and 3, respectively, where the works of Brazil (example 3) and United States, France, and Italy (example 4) were exhibited. These are probably the most exhibited countries in the history of BSP (Italy and France, in addition to Brazil, have participated in all exhibitions to date, as discussed in Chapter 4).

These examples, however, despite appearing to benefit from this strategic position (situated in the transition between floors and between sectors), present a relatively similar configuration. That is, they are composed of light partitions, which follow the alignment of the pillars on which paintings and works in similar formats are displayed. In the central portion of these spaces, sculptures are displayed, as they do not need vertical support. Especially the rooms of Brazil and United States present photos that confirm this arrangement, in addition to recording the works of its most prominent artists, such as Bruno Giorgi (Brazilian sculptor), Franz Weissmann (Austrian sculptor living in Brazil), and the painter Jackson Pollock (USA).

Finally, example 5, is possibly the most distinct spatial arrangement of this exhibition. Composed of a central corridor and sequentially arranged side rooms (that is, in a fish-bone style), this sector corresponds to the theater biennial. From the catalogue it is possible to verify that the artifacts that made up this sector of the exhibition were the most diverse and included models, clothing, objects, and drawings, which may explain the coexistence of more open areas (with less supports), and more closed areas (with more supports).

This is an interesting example also because it allows us to observe how spatial distinction were create within the same sector. In the central corridor, which structures the diagonal side rooms, the countries Brazil (adjacent to the stairs), Austria, Italy, France, Germany, and the United States are displayed (the latter with an exclusive room at the end of the corridor). The side rooms, on the other hand, were mostly reserved for a single country (Spain, Argentina, Switzerland and the Triadisches Ballet, only special room in this sector), except for two rooms, which displayed works from Uruguay, Grecia, and Portugal and China, Norway, Canada, and Finland.



Figure 126. BSP 4 – Examples 2 (Victor Brecheret), 5 (theater biennial), 4 (United States/Pollock) and 3 (Brazil/Franz Weissmann and Bruno Giorgi) (AHWS/FBSP).

The examples from the BSP 33 stand out mainly for the reason mentioned above, which is the fact that due to its spatiality, it is possible to distinguish autonomous exhibitions, whether by invited artists or artists-curators. These more recent cases have the advantage of having many photographic records available, which allows to confirm with greater precision this relationship between exhibition layout and building layout.

The operating system of this exhibition, as described by its curator, seems to have resulted in an exhibition of great autonomy not only among the artists, but also between artworks, displays and their relationship with the building. This general character seems to be reinforced by the theme of educational mediation, which in this edition explored the idea of attention economy and created spaces for resting along the route, where visitors could sit and read the educational material to reflect on the exhibition (Figure 127).

On floors 1 and 2, sector C (examples 1 and 2) there are individual exhibitions by Antonio Balester Moreno and Alejandro Corujeira, respectively. These sectors stand out for the absence of supports, however with very different spatial results. While Moreno's work relies mainly on the building's façades, leaving the space visually permeable, some of Corujeira's installations define pathways within the limits of the mezzanine. It is noteworthy that, despite this being a clear example of an partition artwork (Rangel, 2018), for analysis purposes, only the perimeter reserved for the artist, as well as partitions that have been added to it (which do not constitute artworks), are considered[184] (Figure 128).



Figure 127. BSP 33 – Rest spaces located between individual/collective exhibitions.

[184] As it was not always possible to distinguish when an artwork constituted a barrier, but in all cases, it was possible to differentiate the building's original partitions from those added by the exhibitions.



Figure 128. BSP 33 – Examples 1 and 2 (individual exhibitions by Antonio Balester Moreno, top, and Alejandro Corujeira, bottom) (photos 1, 2 and 3.- author; photo 4 – AHWS/FBSP).

Example 3, in turn, also located on the second floor, refers to a collective exhibition, organized by the Brazilian artist Sofia Borges, called *A infinita história das coisas ou o fim da tragédia do um* (The infinite history of things or the end of the tragedy of one). Exhibiting artworks by more than 20 artists, including the artist-curator herself, the sector stands out for being quite labyrinthine (Figure 129).

Its sloping partitions constitute rooms that delimit a central square and side aisles. In this small square, in turn, there were singing and dancing performances, to which the visitor was attracted by the sound, as there is no view of this space from the rooms. In this sector the reading of the underlying building is obscured, both by the exhibition layout, which diverges from the characteristic orthogonality and breadth of the building, as well as by the concealment of its glazed facades with curtains.

The pairs of examples 4 + 5 and 6 + 7 correspond to two individual exhibitions and two collective exhibitions, each of them located on floors 3 and 4, namely: 4) Lucia Nogueira; 5) To our parents (artists-curator Alejandro Cesarco); 6) Denise Milan; 7) The appearings (artist-curator Waltercio Caldas) (Figures 130 and 131).



Figure 129. BSP 33 – Example 3 (collective exhibition by Sofia Borges).

The two individual exhibitions, Lucia Nogueira and Denise Milan, differ both in location and structure, as the former is located in sector B/floor 3 and is clearly delimited by diagonal partitions added to the building, and the latter, located in sector A/floor 4 occupies one of the sides of the void in its entirety, taking advantage of the limits defined by the building (with the exception of one of its sides, which corresponds to the room delimited for the individual exhibition of the artist Siron Franco). The artworks by Milan, stone sculptures, are dispersed throughout the entire area, almost blending in with the visitors. The Nogueira's installations, on the other hand, are minimal and almost disappear on the wide spaces destined for them.

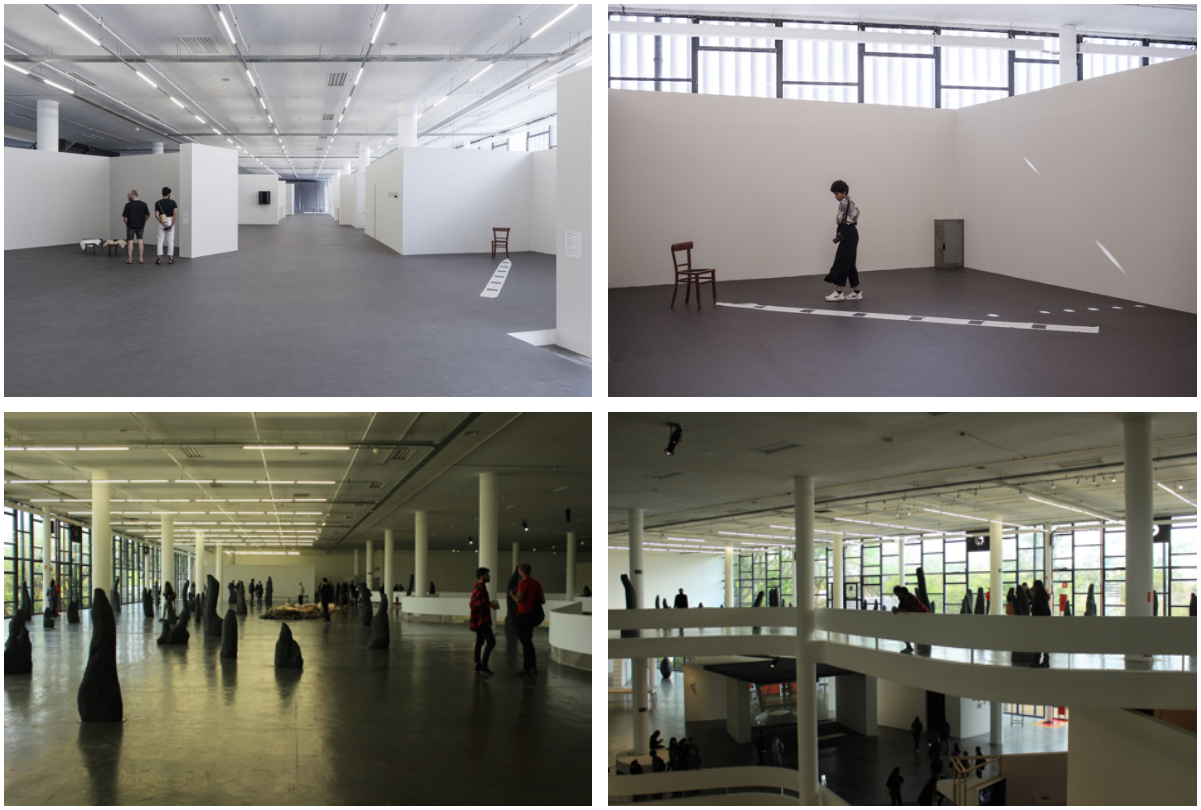


Figure 130. BSP 33 – Examples 4 and 6 (individual exhibitions by Lucia Nogueira, top, and Denise Milan, bottom) (photos 1 and 2 AHWS/FBSP; photos 3 and 4 – author).



Figure 131. BSP 33 – Examples 5 and 7 (collective exhibitions “To our parents”, top, and “The appearances”, bottom) (AHWS/FBSP).

Finally, examples 5 and 7, the collective exhibitions *Aos nossos pais* (To our parents), by the artist-curator Alejandro Cesarco, and *Os aparecimentos* (The Appearances), by Waltercio Caldas, are similar in that they constitute well-defined sectors and have only one access point. In the case of the former, example 5, a long entrance hall with televisions gives access to a central room from which other adjoining rooms are accessed, many of them with video projections, therefore delimiting enclosed spaces. The depth of this sector can be explained by the exhibition of works with sensitive content (i.e., not recommended for people under 18), whose signs are present on the plans. The case of example *7*, in turn,

The case of example *7*, in turn, despite the slanted partitions and the slightly labyrinthine aspect, is quite conventional in terms of exhibited formats (mostly paintings and sculptures) and display solutions. Although it has three access points, they all interface with the stairs. In fact, this sector corresponds to part of the so-called museological space (air-conditioned area of the building). This example is curious as this is the only case where this area was clearly divided into two distinct exhibitions, this one in question and Stargazer II, curated by the Swedish artist Mamma Anderson.

Together, these two exhibitions were separated from the sector A of the building by the room destined for the individual exhibition of Siron Franco, which also functioned as an antechamber for this sector. Among the artists displayed in example *7*[185], as well as the names displayed beside it[186] (both within the building's air-conditioned perimeter), some names seem to have great reputation, which could explain the positioning of this exhibition in such location (since these works may have more conditioning and safety restrictions).

In fact, the entire BSP 33 could be easily described since its layout consists of sectors clearly defined (which is not always the case). However, these four cases (BSP *4*, 16, *27* and 33) stand out precisely because they illustrate how curatorial principles were translated into spatial configuration, without neglecting the underlying configuration of the building. This last aspect, however, is explored more clearly by other exhibitions, not always so recognized for their discourses, but which resorted to bold spatial solutions for their structuring, as discussed in the following facet.

---

185 Anthony Caro / Antonio Calderara / Antonio Dias / Armando Reverón / Blaise Cendrars / Bruce Nauman / Cabelo / Friedrich Vordemberge- Gildewart / Gego / Jorge Oteiza / José Resende / Miguel Rio Branco / Milton Dacosta / Oswaldo Goeldi / Richard Hamilton / Sergio Camargo / Tunga / Vicente do Rego Monteiro / Victor Hugo.

186 Åke Hodell / Bruno Knutman / Carl Fredrik Hill / Dick Bengtsson / Ernst Josephson / Gunvor Nelson / Henry Darger / ícones russos / Ladislas Starewitch / Lim-Johan / Mamma Andersson / Miroslav Tichý.

6.1.2 Capital facet – BSP 11, 19, 23, 25 and 29

The cases of the capital facet, BSP 11 (1971), 19 (1987), 23 (1996), 25 (2002) and 29 (2010) were selected based on an eminently spatial criterion, identified from the exhibition layout, but which is closely related to the building layout, substantially altering the latter. That is, unlike the cases in the previous facet, the selection of these cases was based mainly on their floor plans, with textual and image data being secondary sources of information. The characterization of these cases is also discussed in two groups, namely: BSP 11, 19 and 25 (6.1.2.1); and BSP 23 and 29 (6.1.2.2) (Figure 132).

The first group of cases brings together three cases that, among other aspects, positioned the entrance to the exhibitions at similar points (all of them on floor 2), but quite distinct from each other (that is, at different points on this floor) and from the rest of the cases (all of them with access from floor 1). BSP 19 also divided floor 3 in half, cutting the horizontal communication between the ramp and the stairs.

The second group discusses two cases that occupied the fourth floor in a very particular, and, to a certain extent, similar way. Both occupied a deep and segregated portion of this floor, located behind the museological space, in the case of BSP 23, and after the MAC-USP storage, in BSP 29. BSP 23, in addition, closed the stairs connecting floors 3 and 4. The figure below (6.16) brings the cases together, illustrating, through the posters of each exhibition, its temporal distribution and the main aspects that justify its selection.

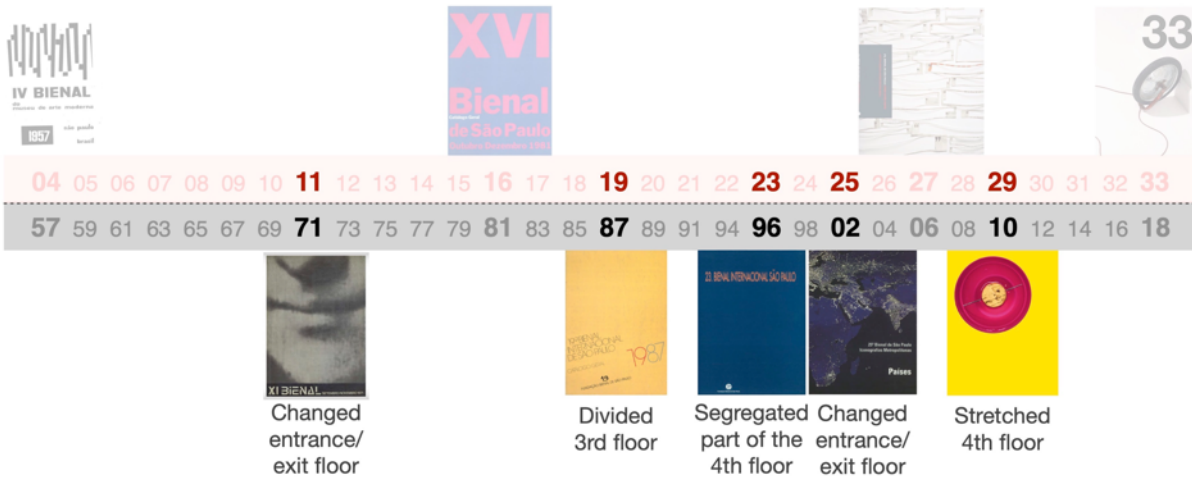


Figure 132. Capital facet cases – BSP 11, 19, 23, 25 and 29.

6.1.2.1 BSP 11, 19 and 25

These three of the five cases that make up the facet of capital are discussed together because they share a very simple aspect, but one that can substantially change the spatial configuration of the exhibitions and, therefore, the experience that visitors have of the proposed narrative. This aspect is the fact that all these exhibitions have positioned their entry point on the second floor of the building, albeit at different locations.

This apparently simple change in practice modifies the building's navigation logic discussed so far, whose tendency was to traverse the building in a relatively linear and sequential way, starting from the first floor towards the fourth floor. When accessing the building from the second floor, this navigation logic is interrupted, and it is no longer possible to intuit which would be the most attractive circulation sequence. Evidently, this aspect alone is insufficient to assess whether there is a tendency to go up to the second floor or down to the first, so the entire layouts of these exhibitions need to be studied.

In fact, the building has several access possibilities, both in terms of floors and façades, as it can be accessed on two floors and four different façades (the longer ones can be accessed either on floors 1 and 2, and the shorter ones can be accessed from the park, floor 1, or the avenue, floor 2[187]). Faced with so many possibilities, however, most exhibitions located the entrance (and often the exit) on the first floor of the pavilion, more specifically on the door below the marquee that connects the pavilion to the MAM-SP and that leads to the other buildings in the Parque Ibirapuera (Figure 133).



Figure 133. Main entrance to the building in 2018 and during BSP 33 (photos: left - Luiz Amorim/ right – author).

[187] Due to the slope on which the building is located, which means that the firsts floor has only half of the slab, not reaching the interface point with the avenue.

It is important to emphasize that even variations in the first-floor entrance can frame quite different spatial experiences, since the building can be accessed either transversally or longitudinally, at points closer to the center or at its ends.

However, these cases stand out precisely because, by placing the entry on the second floor, they subvert any preexisting navigation sequence, not only horizontally (that is, in relation to how that floor will be traversed), but above all vertically (by rendering the sequence of circulation between floors less predictable). Despite being deceptively simple, its effects on the building and the exhibition experience can be profound. Externally, locating the access on the second floor means establishing a closer relationship between the exhibition and the avenue, although a significant distance continues to separate these two. Internally, it means the entrance is closer to both the vertical circulation elements.

This navigation sequence can be characterized by relative linearity. Based on site observations[188], there is a tendency to navigate the building from the bottom up, often alternating between ramps and stairs. In fact, the main ramp seems to be more used, possibly because it allows for a more social and exploratory visit (since from there it is possible to see content and be seen by other people from great distances), whereas the stairs allow for a more targeted visit or a more direct exit from the exhibition.

This exceptional placement of the entrance was identified during the redrawing of the exhibition plans. If, on the one hand, the original plans of BSP 11 and 19 explicitly indicate the location of such entrance/exit, at BSP 19 these locations were deduced from the design of the spaces, their labels, and the openings in the façades. It is interesting to note that, just as the three cases position the entrance on the second floor, but in different places, they all also define an exit, this one located at the same point on the first floor.

This definition of such a specific and coincident exit point may, in turn, suggest that, by assuming the upward visitation trend, designers define the exit on the first floor to attract the visitor (which, in the case of an exit on the second floor, could be avoided). When comparing the entry and exit points of the three cases, it can be seen that in the case of BSP 19 they were quite close, adjacent to the ramp between floors 1 and 2, while in BSP 11 and 15 they were more distant (since the entries of these editions were positioned on the left portion of the floor) (Figure 134).

188 During the BSP 30 (in 2014, as a visitor to the exhibition), 33 (in 2018, during this research) and during visits to the AHWS/FBSP (in 2018 and 2019, with the building empty).

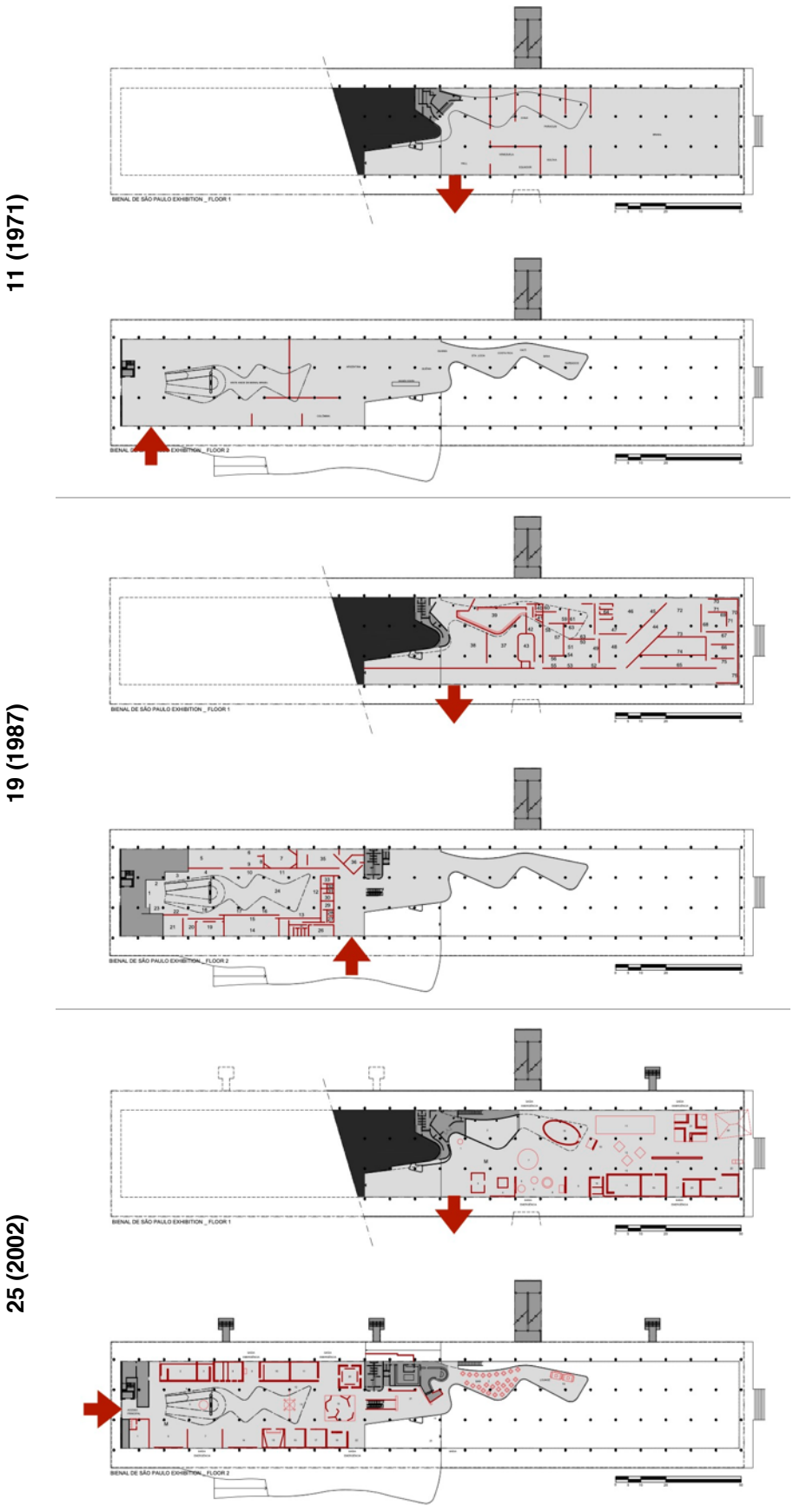


Figure 134. BSP 11, 19 and 25 – Entry/exit of exhibitions (floors 2 and 1).

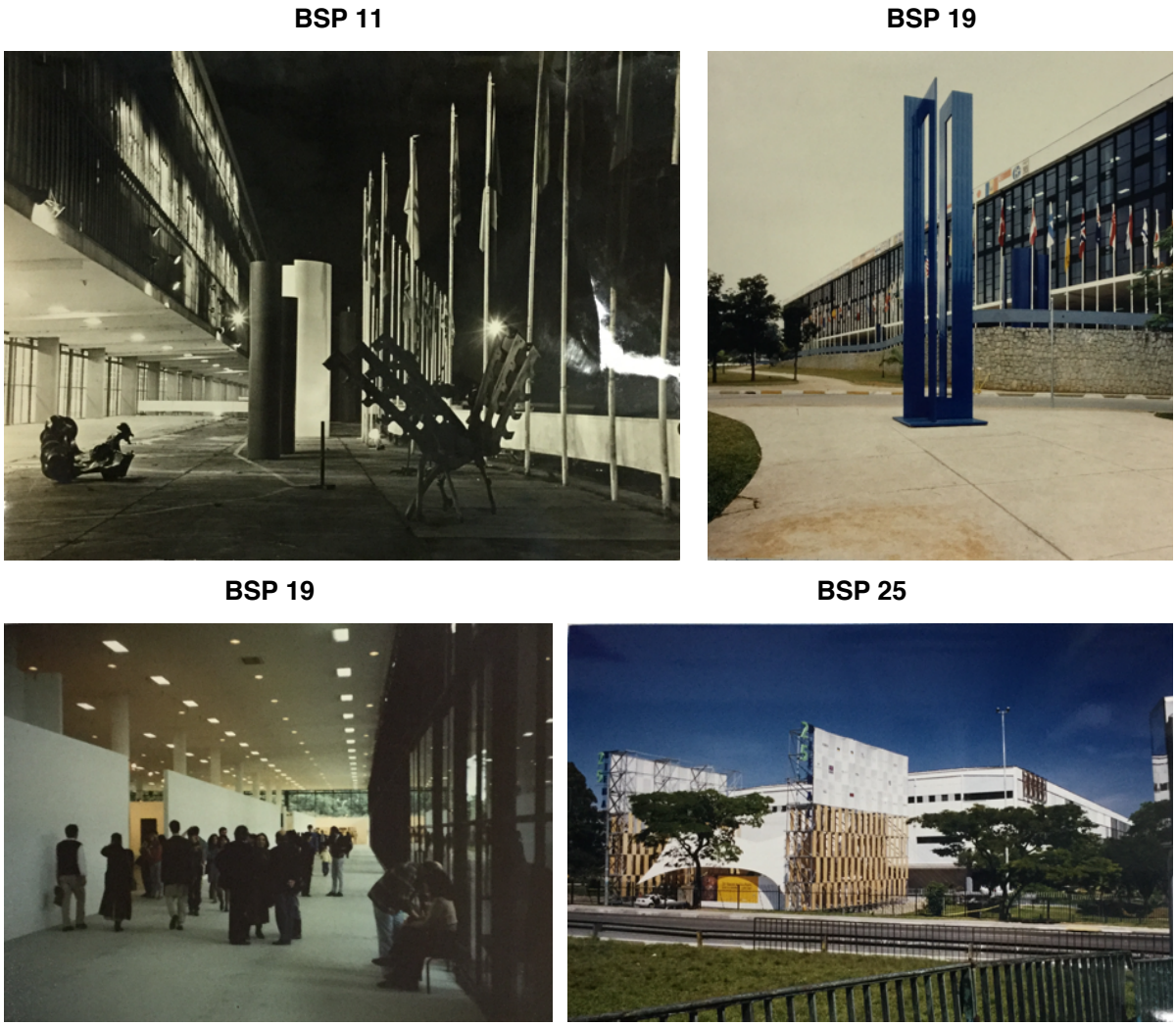


Figure 135. BSP 11, 19 and 25 – Indoor and outdoor spaces for entry/exit (AHWS/FBSP).

In BSP 11 and 19 the entrances were placed on the same façade (the former near the end of the building and the latter on the right end of the floor), on a platform where the flags of the participating countries are traditionally hoisted. In BSP 25, the entrance was positioned on the shorter façade, on the longitudinal axis of the building. This variation, although subtle, suggests significant changes in the navigation of the exhibitions. The entrance of exhibitions 11 and 25 is very close to the ramp, possibly being the first visible element at the entrance to the building. In BSP 11, the elevator also seems to be accessible to visitors, since there is no barrier separating it from the exhibition spaces.

In the case of BSP 19, the entrance opens onto a space from which both the stairs and the descent ramp to the first floor can be accessed. Adjacent to this arrival space, auxiliary functions were placed, such as ticket office, information desk, luggage storage, educators' room, VIP room, bookstore, BSP store, and artworks sales counter (Figure 135).

Although the plan of this edition does not show this information, by deduction it is suggested that to the right of the stairs, on the mezzanine, was the bar, whose name appears in the list of uses, but the number is not marked on. the plan. Furthermore, it is observed that the in this BSP (19) the uses defined for the spaces adjacent to the entrance are not for the exhibition of artworks, but to support the event, several of them with a commercial inclination. If the ticket office was a constant until the BSP 26 (2004) (when admission to the event became free), other uses are not necessarily mandatory items in an exhibition program (although increasingly frequent in contemporary exhibition spaces).

One use draws special attention, which is the shop for the sale of artworks. This activity was identified in the catalogues since BSP 1 (1951)[189], although in the plans of this edition the existence of a such space could not be identified[190]. The existence of such use and regulation and the identification of this use in this specific case (BSP 19) leads us to reflect on the interaction between culture and commerce, or art and capital, through space.

In general, it can be argued that this relationship was more explicit in the exhibitions held up to the 1990s, since, although the awarding of artists was eliminated at BSP 15 (1979), this space for the sale of artworks still existed at least until BSP 19. The disappearance of this space in the following biennials, in turn, leads us to think about the changes in the relationship between art and market that take place in the context of contemporary art, which seem to adopt less explicit and more diffuse and complex mechanisms of attribution of value and exchange (Braden and Teekens, 2019; Jafari et al., 2013).

Although this aspect is not the object of specific study of this thesis, it was mentioned to underline that this is a biennial where the visitor does not start the visit appreciating artworks, but rather being confronted with various choices, both in terms of uses and circulation. Together, these uses constitute a barrier between this arrival space and the void/circular ramp, with only a narrow connection space between them. This, in turn, suggests that the start of navigation should be done via the stairs, as access to the curved ramp is occluded. However, there is no way to say whether this really happened (since the visitor could be guided to the ramp in other ways – by people or graphic signs, for example). In addition, the interest of this research does not lie in understanding the order of visitation, but how the elements to be visited were spatially connected to each other.

---

189 Which in its catalog highlights, for example, the fact that the artist must indicate in his registration form at the event whether the artwork is for sale, if it is competing for prizes under an acquisition clause and that this declaration cannot be canceled later nor its price can be increased (FPSP, 1951).

190 Since this edition only presents the first-floor plan (when in fact it had 2 floors).

Although BSP 19 is discussed in conjunction with BSP 11 and 25 due to the similar entry/exit system, this exhibition presents another aspect that makes it unique from the point of view of the spatial changes it undertakes in the building. In this exhibition, the existing horizontal connection between the ramp and the stairs on the third floor was cut, which in turn seems to reinforce the route suggestion announced upon its arrival. This was the only case in which such a change was made.

With this segregation of the third floor, the visitor needs to go up through one element of vertical circulation and down through another, either the stairs or the curved ramp, configuring a rout that forms a ring that starts and ends in the entrance space (because to pass from one side to the other of the third floor it is necessary to change the floors, up or down, and chance circulation element, ramp or stairs) (Figure 136).

If at BSP 11 the entrance led directly to a retrospective exhibition named *20 anos de Bienal Brasil* (Twenty years of Bienal Brazil), at BSP 25 the entrance was also preceded by auxiliary spaces for the exhibition (as in BSP 19). However, in BSP 25 this logic is slightly different. If in BSP 19 these auxiliary spaces for the exhibition were placed inside the pavilion, in BSP 25 they configured a volume external to the building, with proportions similar to that of the pavilion. Although the floor plan of this external volume has not been found in the catalog and in the AHWS/FBSP, it is possible to infer from the photos that it housed the ticket desk and uses that preceded the entrance to the building.

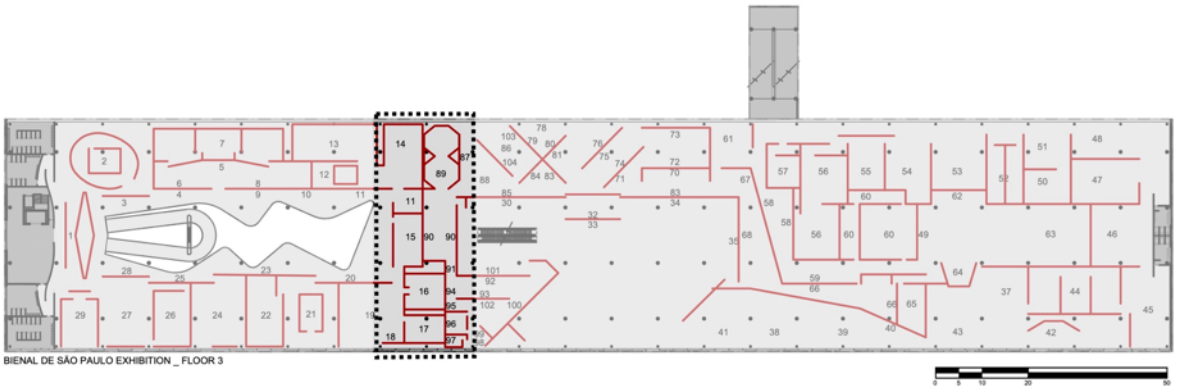


Figure 136. BSP 19 – Segregation between ramp and stairs on floor 3.

The creation of this ephemeral volume, something unique in the architectural history of these biennials, in addition to connecting the building with the avenue, can be understood as a symbolic gesture of affirmation of the event, which returns after an institutional crisis

that defined an interval of four years since the last edition. This was also the first edition to be curated by an international professional, which, although it drew a lot of criticism, also seems to have been part of the attendance success of this event[191].

If, on BSP 25, the entrance gives direct access to the exhibition spaces[192], its exit route gives access to the bookstore, another complementary use, positioned below the mezzanine, relatively close to the exit. Regarding the spaces near the exit, it can also be mentioned that while in BSP 19 a long wall with very few connections hides all the content displayed on the first floor, on BSP 11, in addition to the countries of South America, the Brazil sector was positioned precisely in the deepest part of this floor.

In general, the discussion contained in the examples of these cases raises the importance of demonstrating how the exhibition layout can subvert some apparently fixed features of the building (such as the first floor entrance or the horizontal connection between stairs and ramp) while using other strategies to mitigate the effects of such subversion in the spatial system (by placing the exit on a floor different from the entrance or creating a space in which the visitor is faced with various choices, of use, but mainly of movement).

In other words, the layout of these exhibitions appears to have made significant changes to the building's minimum circulation path, which in turn required the use of attraction strategies to calibrate new movement economy they configured. Although using different spatial strategies, as discussed in the cases of the following topic, this is in fact the main point that characterizes these five cases, and in turn the facet of capital.

---

191 German curator Alfons Hug, whose exhibition were visited by over than 650,000 people, a record attendance (http://bienal.org.br/exposicoes/25bienal).

192 Being preceded only by a space called "Projeto ASA", whose detailed use could not be identified, but which in the caption of the plan is marked as a non-exhibition use.

6.1.2.2 BSP 23 and 29

BSP 23 (1996) and 29 (2010) are discussed together as both proposed significant changes in the occupation of the fourth floor of the building. The first, BSP 23, for having cut the connection between the third and fourth floors by stairs, making it accessible only through the curved ramp. In addition, the spaces adjacent to the stairs configure a sector (which corresponds to the building's air-conditioned area[193]), which, in turn, delimits an area between it and the auditorium, accessible only by a corridor.

The latter, BSP 29, is similar to BSP 23 at this point, as it occupied a deep and relatively segregated part of the building. In the case of BSP 29, this area (also adjacent to the auditorium) is confined due to the MAC-USP storage (non-exhibition space), which, like the museological space, configures a volume that leaves only a single between sector A (void) and this deeper portion of sector C. In BSP 29, the definition of a sector adjacent to the stairs is also observed, due to the air-conditioned area. However, in this edition, the connection between floors 3 and 4 by the stairs was maintained (Figure 137).

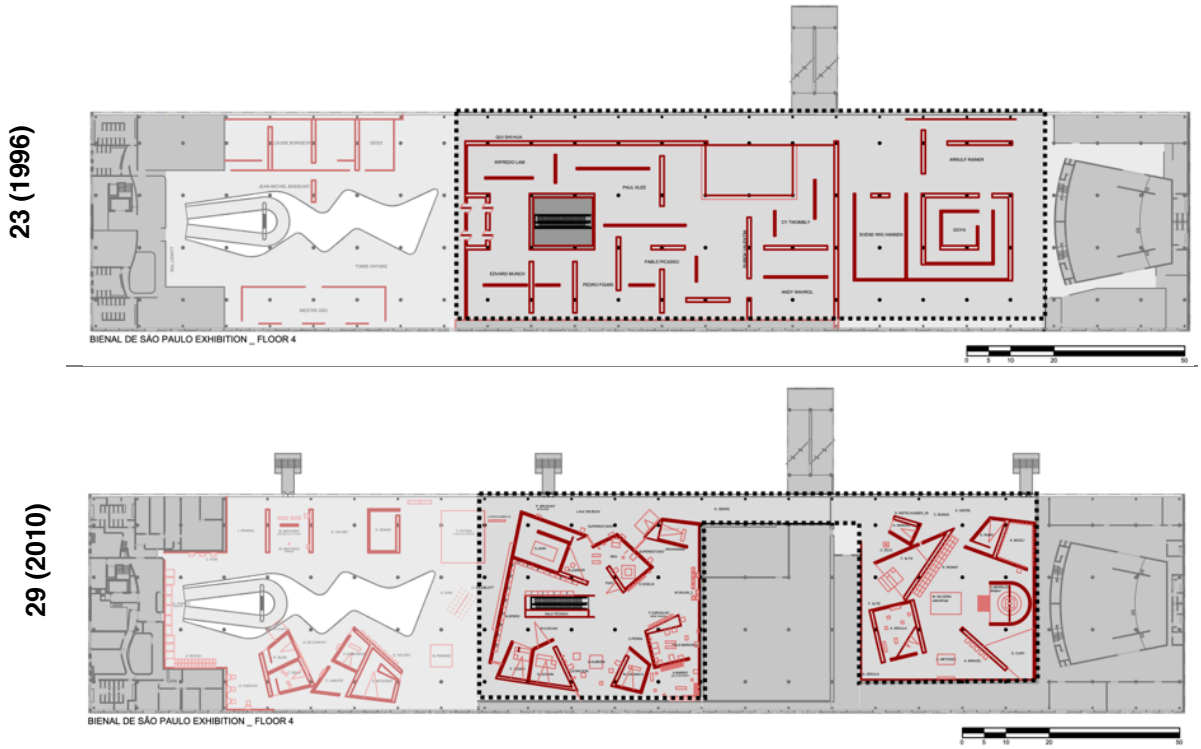


Figure 137. BSP 23 and 29 – Museological space (left) and space adjacent to the fourth-floor auditorium (right).

[193] As already mentioned, this area, known as "museological space", was created to meet the exhibition requirements of artworks requested by museum, gallery insurers and private collectors who lent their pieces for the exhibition.

The figure 6.21 highlights the areas that justified the choice of these cases. In BSP 23, closing the stairs also seems to be related to the need for greater control over the artworks exhibited in this sector (since, in addition to this closing, an antechamber precedes the access to this sector). In the case of BSP 29, although there are also two similar segregated sectors (one adjacent to the stairs and the other to the auditorium), the reasons for such segregation are diverse. The spaces adjacent to the stairs, although clearly distinct from sector A (which also suggests the same need for control), remain accessible by the stairs that lead to the third floor. Therefore, the segregation between these two sectors is due to the creation of non-exhibition areas between two sectors of the exhibition.

Examination of the plans suggests that this climate-controlled area was created in BSP 22 (1994)[194]. However, BSP 23 is the first to define closed rooms in this area and to cut the connection between floors 3 and 4 via stairs, something that also happens in BSP 24[195]. BSP 23, together with 29, helps to shed light on some common points of these three exhibitions, both with regard to changing the minimum circulation path (by cutting part of the communication between floors 3 and 4), as well as the strategies to reduce segregation between sectors A and C (due to the air-conditioned area and the MAC-USP storage).

Both solutions, the closing of the stairs and the occupation of this deep area, suggest that the navigation through these exhibitions, BSP 23 and 29, requires more time, as its spatial models seem to become longer, something to be better observed in analytical studies. And that to compensate for this increase in depth/length, artworks with the potential to attract visitors to this portion of the building were exhibited. Whereas the museological space is natural a sector in which artworks with the same potential are already displayed.

In general, it is observed that both situations displayed artworks by artists widely recognized by national and international audiences. Although such recognition is hard to address, it can be inferred from plans, catalogs, texts and photos (Braden, 2018). If the artworks exhibited in the enclosed space were placed there due to restrictions imposed by their owners, the artworks placed in the posterior area, possibly duet to the absence of such restrictions, act as attractors of visitors to that space. The passageway between these two spaces, in turn, also seems to benefit from such a condition, also exhibiting works.

---

[194] When, in addition to well-delimited spaces adjacent to the stairs, there is also the creation of a non-exhibition area on the façade (probably to house the equipment).

[195] This BSP, however, was not taken as a case study because, in addition to the obvious similarity with BSP 23, it was not possible to confirm the occupation of the sector adjacent to the auditorium (where there are some labels without displays). It is important to emphasize that these two biennials, 23 and 24, were designed by the same architect, Paulo Mendes da Rocha (as shown in the list of organizers, curators, and architects in the appendices of this work).

	Adjacent to the stairs	Passageway	Adjacent to the auditorium
23	Andy Warhol; Cy Twombly; Edvard Munch; Pablo Picasso; Paul Klee; Pedro Figari; Rubem Valentim	Qui Shi-Hua	Arnulf Rainer; Goya; Svend Wig Hansen
29	Archigram; Artur Barrio; C. Perna, E. Almeida, Flávio de Carvalho, F. César, Leonilson, M. A. Rojas, marginal room, M. Galan, Miguel Rio Branco, Nelson Leirner, Nan Goldin, Nancy Spero, Oswaldo Goeldi, Pixo, Rex, Superestudio, T. O. Group	J. Ault/M. Beck, K. Geers, Paulo Bruscky, Superestudio	A. Manuel, A. Miceli, A. Sekula, Cildo Meireles, C. Zílio, D. Cury, F. Alÿs, G. Metzger, K. Geers, Marcelo Silveira, R. Rennó, S. Ramos, S. Ristelhueber

Table 9. BSP 23 and 29 – Artists exhibited in the same three spaces on the fourth floor.

Table 9 gathers the artists exhibited in these spaces in BSP and BSP 29. Although careful research on each artist and artwork is important to understand this relationship more deeply, this list, by presenting the names of world-renowned artists, sheds light on the relationship between configuration, attraction, and movement that characterize these spaces.

The photographic records of both exhibitions suggest that some of the artists and artworks exhibited in both spaces (museological/auditorium) of the three cases share a high reputation both nationally and internationally. The case of BSP 23 is emblematic, as this reputation is also expressed in the existing photos of this event, which show advertisements with the names of some artists exhibited in that edition, such as Edward Munch, Pablo Picasso, and Francisco de Goya (the first two exhibited in the museological space and the third exhibited in the posterior space, adjacent to the auditorium).

In addition to these external images, some photos of the museological space of the BSP 23 were also found, which show both the segregation relationship of this space with the void, and some of its rooms, namely Andy Warhol and Pablo Picasso (Figure 138).

It is interesting to note that in BSP 23 the depth condition of the spaces adjacent to the auditorium seems to be amplified by the spiral layout that receives the works by the Spanish painter Francisco Goya (BSP 23). This arrangement, in turn, refers to the idea of a labyrinth, a metaphor used to describe the fully close layout, the idea of a closed work and the deterministic type of movement (Choi, 1999; Hillier, 1996b; Hillier and Tzortzi, 2006; Psarra, 2009), as it gives the visitor little or no choice in terms of movement and consequently of interpretation.



Figure 138. BSP 23 – Advertisements with exhibited artists, access to the museological space, and special rooms Andy Warhol and Pablo Picasso (AHWS/FBSP).

In the case of the BSP 29, even though the photos are not as explicit as in BSP 23, it is also possible to identify a similar curatorial strategy. For example, in the museological space of this edition, the presence of Brazilian artists Artur Barrio, Flávio de Carvalho, Miguel Rio Branco and Oswaldo Goeldi stand out. The work of international artists and architectural movements, such as Nan Goldin, Archigram (UK) and Superestudio (Italy) is also highlighted. In the space adjacent to the auditorium, in turn, the works of the Brazilian artists from different movements and generations can be found, such as Cildo Meireles and Marcelo Silveira (Figure 139).

Although the photos in this edition do not provide a panorama of the space as wide as in the previous case, it was possible to identify that, among the photos that appear on the

FBSP website[196], some recorded artworks that were exhibited in these two spaces, such as the historic room by Artur Barrio (in the museological space) and the works by Marcelo Silveira and Rosângela Rennó (in the back space).



Figure 139. BSP 29 – Works exhibited in the museological space (Artur Barrio, left) and in the space adjacent to the auditorium (Marcelo Silveira, right) (AHWS/FBSP).

Evidently, such curatorial strategies cannot be reduced to the positioning of recognized artists in configurationally unattractive spaces (or the other way around). In other words, the messages intended to be exchanged through the links between the works, as well as the coexistence of artists with different degrees of recognition and reputation, are also part of this set of curatorial strategies. This last aspect, to some extent, even benefits the less recognized artists in the long run, both in terms of historical recognition and in terms of the value of their works in the art market (Braden, 2018; Braden and Teekens, 2019).

At the same time, this are aspects that cannot be ignored, as they show the interaction between curatorship, exhibition layout and building layout, the main reason for discussing these examples.

***

[196] Since the photos in the catalogue record the artworks out of context or installed in other places (possibly because the catalogue was prepared before the completion of the assembly of the exhibition, as in several other cases).

Together, these nine cases may demonstrate the different but concomitant facets from which we want to understand these exhibitions. The one that takes its curatorial discourse as a starting point, which in turn leads to how the exhibition layout materializes this discourse, without neglecting the relationship between the exhibition layout and building layout – which constitutes the facet of the narrative (BSP *4*, 16, *27* and *33*). And another that, taking as a starting point the resulting configuration of the exhibition, allows us to understand how it is constituted by the interaction with the configuration of the building, which in turn goes back to the curatorial discourse that gave rise to it – conforming the facet of capital (BSP 11, 19, *23*, 25 and 29).

It is not, therefore, a question of verifying whether these examples are suitable for each facet, as these were only the starting point for its characterization (that is, the cases in which these aspects were evidenced by the simple examination of their plans, photos, and catalogues). Rather, it is about building a bisociative approach (as proposed in chapter 2) that allows addressing the three layers that constitute the exhibition spaces, which can be simply described as the curatorial discourse, the layout of the overlying exhibition and the underlying building layout. Once these facets and cases are characterized, the framework and procedures for analyzing them (in Chapter *7*) are discussed in the following topic.

6.2 Analytical framework

The second part of this chapter develops a framework to be used to analyze the selected cases in a structured and in-depth manner. Such framework is characterized by an analytical matrix (6.2.1) and analytical steps (6.2.2). The first describes a representation model that allows comparing cases of different facets and their different dimensions (building layout and exhibition layout), individually or together. And the second describes how this model will be used in the development of analyses, which aim to characterize the ways in which spatial mediation occurs in the cases studied (Figure 140).

It is noteworthy that the studies developed throughout chapters 4 and 5 have also analyzed the Pavilhão Bienal and its exhibitions diachronically. However, these analyzes did not have a pre-defined structure, since they sought to make a first investigation of the entire set of cases. It was this autonomy that provided a comprehensive knowledge of the object (especially in chapter 4), as well as allowed to test some tools that were fundamental for the design of this analytical framework.

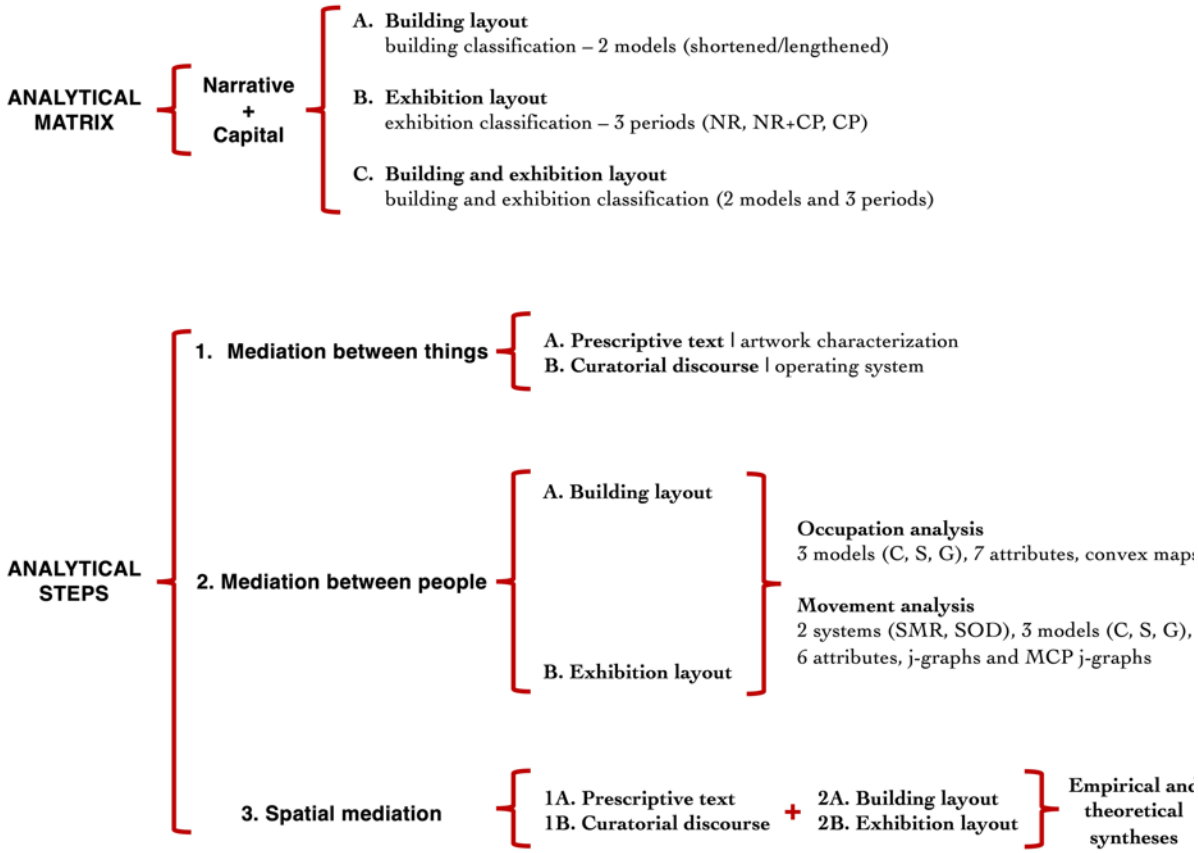


Figure 140. Analytical framework.

6.2.1 Analytical matrix

The definition of a matrix to support the analysis of cases in chapter 7 aims to create a representation model from which these cases can be described and compared in different directions. This matrix is nothing more than a tool that to be used at different stages of the analysis, as discussed in the next section.

The need to develop such a tool came from the realization that the data about the building and its exhibitions (especially plans, convex maps and j-graphs) are too large to be represented separately and in sequence, which would make it difficult to understand the whole set[197]. Therefore, this matrix defines a platform where all cases can be observed altogether, regardless of the type of data represented. This platform considers that the building is the constant element (although it suffers spatial changes) and that its exhibitions are the variable elements of this object of study, as illustrated in Figure 141..



Figure 141. Building and exhibition plans of selected cases and their facets – Narrative (top) and capital (bottom).

[197] This thesis was designed to be read in a digital environment. Therefore, the images along the text have enough resolution to zoom in. However, larger versions of these plans and matrices are also available in the appendices to this document.

The starting point for its conception was to allow a joint assessment of the cases, regardless of the facet to which they were associated. That is, to create an architectural framing that simultaneously relates the cases of the narrative facet (BSP *4*/1957, BSP 16/1981, BSP 27/2006 and BSP 33/2018) and of the capital (BSP 11/1971, BSP 19/1987, BSP 23/1996, BSP 25/2002 and BSP 29/2010). The need to represent the cases together is based on the principle that this facet was only a lens for its initial selection, but that all cases, to a certain extent, can present elements related to the two facets.

In addition, they should reflect the temporal order of cases, as well as existing classification systems. That is, for the two dimensions of the object of study, exhibition layout and building layout, there are classifications that can be useful for its understanding (namely, the three classification periods of the event and the two models that characterize its underlying buildings). In view of these demands, two matrices were created, one to represent the building layout data (6.2.1.1) and the other for the exhibition layout (6.2.1.2), which in turn can be unified to represent both layouts simultaneously (6.2.1.3).

6.2.1.1 Building layout

The analytical matrix designed to represent data relating to the building's layout, in addition to describing the time sequence of cases (arranged from oldest to most recent), and the facet to which they are initially associated (narrative – upper cases; capital – lower cases) also represents in its central line the two models that characterize the stage of the building in the year of each exhibition, shortened (dark grey) or lengthened (light grey).

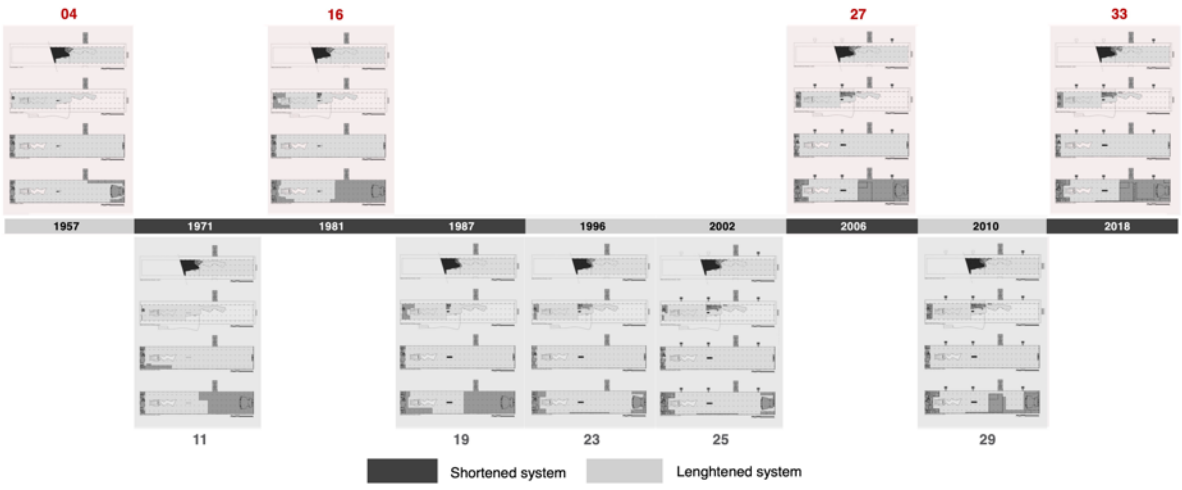


Figure 142. Analytical matrix – Building layout.

The matrix in the figure 6.27 exemplifies this arrangement from the building plans, where these two building models (shortened/lengthened) are distributed in a non-linear and interspersed manner. That is, the 1957, 1996, 2002 and 2010 buildings are the longest in the system, whereas the 1971, 1981, 1987, 2006 and 2018 buildings are the shortest. In fact, the 1957 building had its exhibition areas reduced in relation to the built project (1954). However, this classification considers only the analyzed set. therefore, in relation to these nine cases, this is one of the longest buildings in the ensemble.

The terms shortened and lengthened, instead of the expressions short model and long model (Hillier, 1996b), are used precisely because they describe the state of alteration of the spatial configuration of the building in the year in question which, as discussed in chapter five, can be represented either in a short way (generic model) or in a long way (complex model).

6.2.1.2 Exhibition layout

The analytical matrix that gathers data regarding the layout of the exhibitions adopts the same principles as the previous matrix in terms of chronological distribution of cases (linear) and representation of the facets to which they are associated (narrative – superior; capital – inferior). The only difference between them is that its central line represents the three classification periods of the event, taken from the Fundação Bienal de São Paulo's own description of these exhibitions on its website, which is reinforced in the existing literature on the event (Alambert and Canhête, 2004; Farias, 2001; Herbst, 2011) (Figure 143).

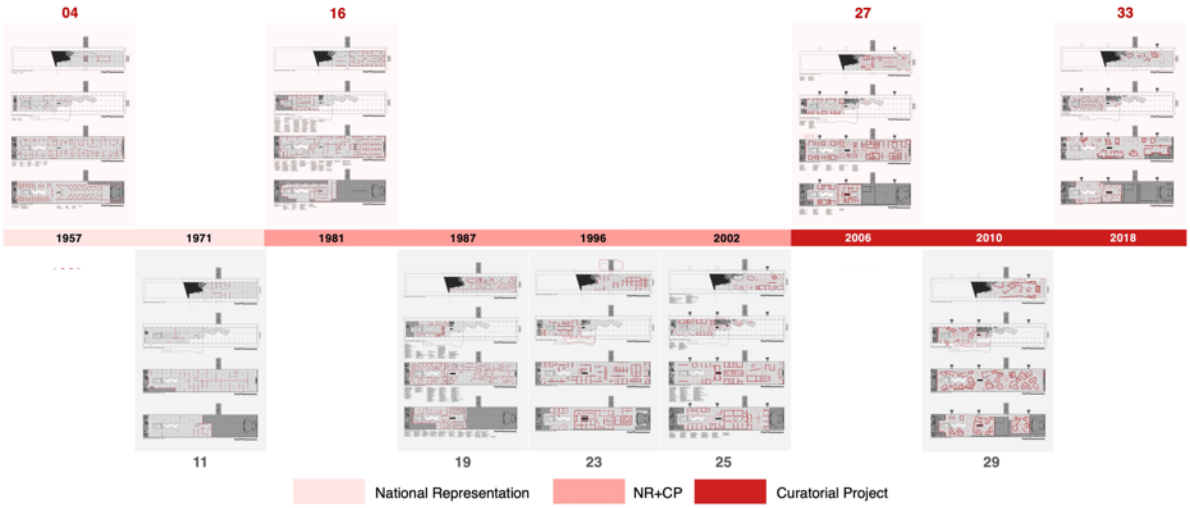


Figure 143. Analytical matrix – Exhibition layout.

Differently from the classification elaborated for the buildings, this one is linear, where:

1. period 1, national representations (NR), in which the exhibitions were mostly artworks were classified based on the artists' countries of origin, fits BSP 4 and 11;
2. period 2, national representations + curatorial project (NR+CP), classify the artworks based on the countries of origin of the artists and on the principles of the curatorial project simultaneously, in which BSP 16, 19, 23 and 25 are contained;
3. and period 3, curatorial project (CP) classifies works exclusively based on curatorial project principles, where the BSP 27, 29 and 33 are included.

6.2.1.3 Building and exhibition layout

Finally, the analysis of the building and exhibition layouts can be done simultaneously from the junction of the two previous matrices. In this case, the building (constant element) is represented in the central row and its corresponding exhibitions in the upper or lower rows, according to their facet. In the upper and lower interfaces between buildings and exhibitions, respectively, their classification systems (3 periods for exhibitions and 2 models for buildings) are represented (Figure 144).

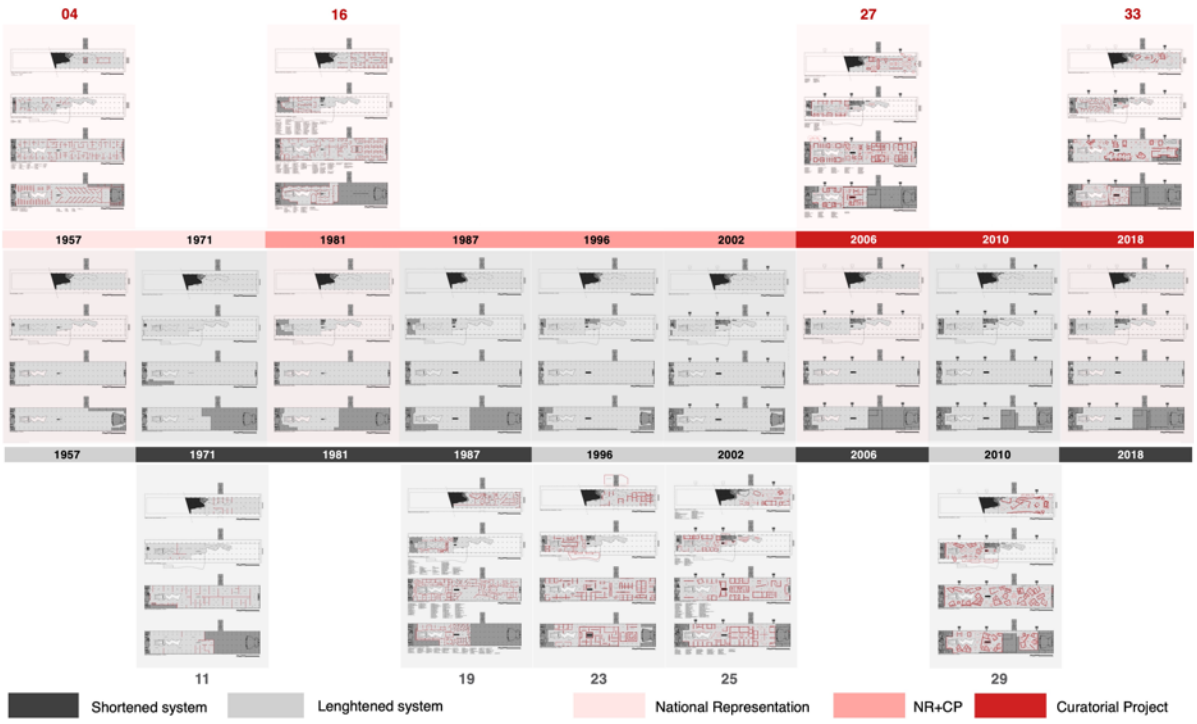


Figure 144. Analytical matrix – Building and exhibition layout and classification.

6.2.2 Analytical steps

According to the analytical framework described in figure 6.25, the steps for approaching the selected cases are divided into three: mediation between things (6.2.2.1; mediation between people (6.2.2.2); and spatial mediation (6.2.2.3). Such division is based on elements spatially mediated in exhibitions (as spaces for the exchange between people and things), as discussed and exemplified in Chapters 2 and 3, and its aim is to develop a gradual and cumulative approach to the object.

6.2.2.1 Mediation between things

This first analytical step refers to the description of the main elements that constitute the things that are spatially mediated in the context of its empirical object, that is, the artistic artifacts on display and the logics that guided their classification and arrangement. Thus, in addition to an overview of the artistic movements comprised by the event (predominantly associated with modern and contemporary art), it is especially important to understand the spatial implications that such artifacts constitute for the design of the exhibitions. Such spatial implications include both the physical characterization of these artifacts, as well as the way in which they were classified in space.

Therefore, this first step, which takes up aspects and findings of chapter 4, seeks to provide a characterization of the prescriptive text of each exhibition, as well as the curatorial discourses from which these texts originated. Prescriptive text, in this context, means a general characterization of the displayed artifacts, in quantitative and qualitative terms, for which a specific classification system was developed, according to their physical and temporal characteristics (discussed in chapter 7). such characterization of the works also contemplates the observation of how they were described in their catalogues, which provide clues about their classification in space.

This prescriptive text, in turn, gives rise to a curatorial discourse that can be clearly observed when describing the operating system of these exhibitions (as defined in chapter 4 as the sum of the organizational and classification systems of these exhibitions), which define two main eras in which the event can be understood: pre-curatorship (1957-1979) and post curatorship (1981-2018). Although most of the cases take place after 1981, the cases between this year and 2004 are highly ambiguous, since in this period works continued to be selected and classified according to the logic of national representations.

Therefore, such operating systems are described with the help of justified graphs, which are not spatial in nature, but exclusively textual[198], that is, extracted from the literature. These textual graphs seek to characterize the institutional vision that guided the development of each of the studied biennials, since they describe aspects related to the organization of the event (that is, its organizers and hierarchy among them), combined with information on the stratification of the event (when there are several biennials within the same biennial, for instance) as well as the criteria for classifying artists and artworks (by countries, by selection criteria – registered or invited, etc.).

Together, these two main aspects, prescriptive text, and curatorial discourse, seek to provide a characterization of the principles that guided the mediation between things, spatially observable in the next step, mediation between people.

6.2.2.2 Mediation between people

The second analytical step was described as mediation between people since it is argued that, by defining a system of barriers and permeabilities for the display of artifacts, a system of encounters and avoidances between people is also created. Therefore, even if the emphasis of this step is on people, since the main objective of these exhibitions is to be experienced by their visitors, it is noteworthy that this step, particularly the study of exhibition layouts, encompasses aspects of the previous step.

Such step consists of approaching the two dimensions of the Bienal de São Paulo, that of its pavilion (building layout) and that of the event (exhibition layout). In chapter 7 these dimensions are studied first separately, in this step, and then together, in the next analytical step. The choice to study them separately first is due to the complexity of the exhibition layouts, which require the resumption of aspects about the text and discourse of these exhibitions. In addition to providing an autonomous view of these two types of layouts, this separate analysis aims for the comparative discussion to pick up only the points necessary for a joint understanding of these layouts.

The study of both types of layouts (building and exhibition) is conducted according to the same structure, elaborated from the analyzes in Chapter 5: occupation analysis and movement analysis. As highlighted in Chapter 5, it is understood that such a division,

198 A resource also used by Markus (1987, 1993) when approaching buildings as devices for classifying people, things, and knowledge.

which reflects the generic functions of space (Hillier, 1996b), is a methodological approach for structuring the analyses, and that the limits of such functions are difficult (and perhaps unnecessary) to define. However, such division is reflected in the procedures developed for each function. That is, the occupation analyzes take convex maps as the main instrument of representation (since such spatial unit facilitates the understanding of the possibilities of occupation), whereas the movement analyzes are essentially based on justified graphs (which, although translated from convex maps, facilitate the description of movement possibilities – by emphasizing the paths that constitute such networks).

That said, the occupation analysis includes the description of each case according to its three spatial models (complex and generic – building; specific – exhibitions), whose convex maps are analyzed for the same seven attributes as in chapter 5: integration, connectivity, intelligibility, mean depth, choice, control, and controllability. In this analysis, the complex and generic models seek to describe the apparent minimum and maximum limits of occupation of the building, references to further understand how the exhibition layout is situated in relation to these limits.

The movement analysis, in turn, defines the maximum and minimum limits of movement based on the notions of system of multiple routes (SMR) and system of origins and destinations (SOD), respectively. Such systems are drawn from the theory of natural movement and of cities as movement economies (Hillier, 1996a; Hillier et al., 1993), which in this case refer to buildings as movement economies, and their descriptions are made using: 1) justified permeability graphs (j-graphs), in the case of the SMR, which describe the maximum possibilities of movement in the three models; 2) and j-graphs of the minimum circulation path (MCP j-graphs), for the SOD, that describe the minimal possibilities of movement (by representing only the spaces contained in a possible minimum circulation path).

As concluded in chapter 5, these models and procedures seem to be able to capture the main phenomenon that characterizes the Bienal de São Paulo, which is: the transformation of an apparently complex spatial system, but which embeds in its configuration a high degree of genericity, in a spatial system of great specificity, since it responds both to the demands of its displayed contents and uses and/or modifies the spatial resources offered by the building. Together, the evidence obtained in these first two analytical steps are discussed comparatively in the third step in order to characterize the notion of spatial mediation.

6.2.2.3 Spatial mediation

Finally, the third analytical step comparatively discusses the results of the two previous steps, gathers their results in the form of empirical synthesis, and formulates a theoretical synthesis that supports the characterization of types of spatial mediation. Therefore, this step works predominantly as a discussion, in which some descriptions are also elaborated.

The empirical synthesis seeks to describe how the spatial systems of the exhibitions (specific) are situated in relation to the spatial systems of their building (complex and generic). To this end, they compile the results of the nine cases and their three models obtained for the 13 attributes of the two analytical layers, occupation, and movement. These thirteen attributes are composed of the seven attributes of the occupation analysis (integration, connectivity, intelligibility, mean depth, choice, control, and controllability) and the three elements of movement analysis (topological levels, convex spaces, and connections). These three elements are considered twice since the movement analysis takes place in two sub-layers, system of multiple routes (SMR) and system of origins and destinations (SOD) and generate different sets of results.

The theoretical synthesis seeks to identify underlying principles common to these cases and attributes that allow characterizing different types of spatial mediation. This synthesis is exemplified through excerpts from the layout of these exhibitions which minutely manipulated the spatial attributes of the underlying building. Such synthesis and examples, finally, can be enlightening for the approach not only of other cases of exhibition spaces, but also of other spaces and building types.

* * *

This chapter discussed the modelling of the analytical studies to be developed in the following chapter (*7*), which in turn is based on previous studies developed in Part II of this thesis. Unlike the studies done in Chapters *4* and 5, which approached the whole set of cases in an exploratory way, the cases and procedures discussed in this chapter seek to define a sample and outline an analytical framework that provide evidence for the following discussion.

In the choice and characterization of cases, several aspects were taken into consideration. The main one is that the two groups of cases should reflect the two facets of the studied object. In this sense, the four cases that make up the narrative facet, BSP *4*, 16, *27* and 33, stand out from the whole set for presenting quite distinct exhibition discourses, an aspect widely recognized by historiography (especially in the cases of BSP 16 and *27*). The cases of the facet of capital, BSP 11, 19, 23, 25 and 29, in turn, were chosen because they present intriguing spatial characteristics that were addressed by previous studies. These cases also stand out for not having been the object of specific studies also regarding their curatorial discourses, which reinforces their distinction in relation to cases of the previous facet. The quantity and distribution of cases allows both an overview of all the exhibitions held at the Pavilhão Bienal, whose spatially striking features were exemplified in order to introduce the reader to these cases. These examples do not intend to exhaust the analyses, on the contrary, they can shed light on aspects that will be better dealt with in the next chapter.

The second part of this chapter, analytical framework, described the matrix used to represent the different types and layers of information and discussed its stages of development. This matrix allows approaching the different dimensions of the Bienal de São Paulo (as a building and as a set of exhibitions) in an autonomous and interdependent manner. The analytical steps, in turn, the analytical steps, in turn, suggest an approach to the cases according to their spatially mediated elements, that is, things and people. These two analytical steps, where the first focuses on the description of the curatorial discourse of these exhibitions and the second on the way in which the layouts of the exhibitions and their underlying buildings were structured in terms of occupation and movement, allow us to develop empirical and theoretical syntheses that finally, in the third analytical step, guide the characterization the notion of spatial mediation and its different types of manifestation.

7 SPATIAL MEDIATION IN BSP 4, 11, 16, 19, 23, 25, 27, 29 AND 33

The third part of this thesis, which comprises Chapters 6 and 7, analyzes nine specific cases of BSP exhibitions and their respective buildings, discussing them, making interpretations, drawing some conclusions, and raising perspectives for future research. In this chapter specifically, the notion of spatial mediation is empirically investigated through following cases: BSP 4 (1957), 16 (1981), 27 (2006) and 33 (2018) – selected according to their curatorial discourses, therefore associated with the facet of the narrative; and BSP 11 (1971), 19 (1987), 23 (1996), 25 (2002) and 29 (2010) – selected due to the way they economically used the spatial resources of the building, associated with the facet of capital.

Although the cases belong to two distinct groups, they are analyzed together to provide an integrated view of the entire sample, considering that the aspects that characterize each facet can be observed, to a greater or lesser extent, in all cases. The analyzes are structured in three steps, which reflect the components of the notion of spatial mediation.

Step 1, mediation between things (7.1), describes the displayed artworks and their classification principles, in order to raise possible implications of these elements on the spatial configuration of the exhibitions. Step 7, mediation between people (7.2), configurationally describes the layout of the exhibitions and their buildings, in terms of occupation (based on the analysis of seven attributes from their complex, generic, and specific convex maps) and movement (based on the j-graphs and MCP j-graphs of the three spatial models of buildings and exhibitions, which describe their layouts as systems of multiple routes and systems of origins and destinations). Finally, step 3, mediation between people and things (7.3), comparatively discusses the main findings of the two previous steps, as well as characterizes two types of spatial mediation.

7. 1 Mediation between things

This section describes the elements that constitute the prescriptive text of the exhibitions and their structures, which are understood to be in the domain of the mediation between things. To this end, a general characterization of the displayed artifacts and their classification system (7.1.1), as well as the structure of the operating system (which includes classification and organization principles) of each edition (7.1.2) is drawn. The objective of this first analytical step is to provide an overview of the aspects that informed the spatial conception of each exhibition.

7.1.1 Artworks, formats, and classifications

The broad period covering the nine cases (1957-2018) also encompasses major changes in the field of art, in addition to attesting to the emergence of new disciplines and fields, such as curatorship and architecture of exhibitions (Jones, 2016; Lagnado, 2015; Sartorelli, 2019). From the point of view of art, the Bienal de São Paulo is undoubtedly an event of modern origins, but it witnessed and fostered the formation of contemporary art in Brazil, in addition to making artworks produced in periods long before its own creation, accessible to much wider audiences.

BSP's long span in time, as well as its scale, also encouraged the development of disciplines beyond art, such as curatorship, as is more evident, but also as the very notion of exhibition design as a specialty of architecture. This last aspect can be observed both in an apparent growing elaboration of exhibition project, and in the importance given to these professionals in the catalogues (whose names can be found in the appendices of this work).

In this context, this first topic seeks to provide an overview of the artworks exhibited in each of the nine BSP studied, as well as to discuss their relationship with the three periods of the classification system (NR, NR+CP, CP) that guided their distribution in space. To this end, the quantitative data of the nine cases – artists, artworks, and participating countries, are gathered in Figure 145.

In the figure, the groups to which the cases belong (narrative/capital) and the three periods of the exhibition classification system were also highlighted. The data were represented separately and in different scales as there were thousands of artworks, hundreds of artists, and tens of countries.

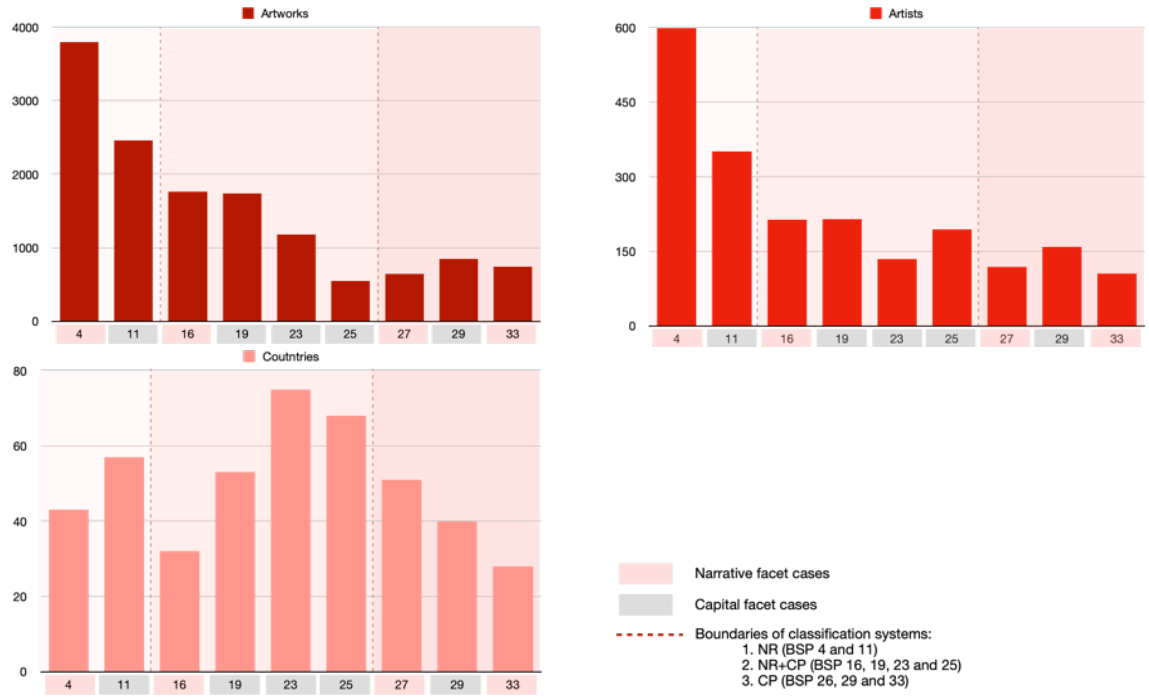


Figure 145. Nine cases – Number of artworks, artists, and participating countries.

In general, the distribution of the number of artworks and artists follows a similar pattern, that is, it decreases with time. Whereas the number of participating countries is greater in the intermediate period (NR+CP) and smaller in the first (NR) and third (CP) periods of the exhibition classification system, respectively.

This increase in the number of participating countries, mainly in the BSP 23 and 25 can be attributed to the overlapping of the classification systems, since in these editions international commissioners and curators were responsible for the selection of artists and artworks (which in turn seems to have expanded this territory of selection). However, at BSP 16, edition with the fewest participating countries, the selection was still largely made by the international commissioners (since the role of the curator in this edition, Walter Zanini, is attributed to the classification of artworks), which in turn suggests that the curators win autonomy to also make the selection during this period.

The biennials that precede the change in the classification system (BSP 23 to 26) are marked by a large volume of publications, which refer to the parts of the exhibition that were organized by the international commissioners, as well as those of the curators[199].

[199] This aspect is reflected in the spatial configuration, for example, of the BSP 24 (1998) which presents plans that classify the artworks both by the name of the artists (floors 3 and 4) and by their countries of origin (floors 1 and 2).

Regarding the number of artists and artworks, it can be observed that they tend to decrease over time, in a pattern that reflects the three periods of the classification system. The biennials of the first period (BSP 4 and 11) show how the editions of the NR period were marked by the idea of universal exhibition. The high number of artworks represent, presumably, the state of the art of each participating country.

Although the biennials of the intermediate period, BSP 16, 19, 23 and 25 (NR+CP), present numbers of artists and artworks close to those of the third period (CP), in this last period this reduction is still quite significative in the latter, going from 1500 to 750 artworks (on average). However, this numerical decrease in the number of artworks does not necessarily translate into less complex spatial arrangements, since several artistic formats emerge throughout this period, as well as new curatorial practices and the field of exhibition design are amplified. That is, biennials with a smaller number of exhibited works do not necessarily mean simpler or emptier biennials[200], as with the appearance of site-specific contemporary works, a single artwork can occupy an area previously destined for an entire country (which could exhibit tens or hundreds of works).

To better describe the heterogeneity of the artworks through time, both quantitatively and in terms of diversity of formats**,** another analytical procedure was carried out. Diversity is a variable considered in several urban studies as an indicator of the capacity and capital of space, and as a by-product of spatial configuration, both in terms of movement and occupation (Bobkova, 2019; Hillier, 1996a; Hillier et al., 1993; Marcus, 2010). In these studies, diversity can refer both to aspects of urban form (such as age, type and morphology of buildings and plots), and its processes (social, economic or environmental), many of them taking Jane Jacobs' (1961) ideas as a starting point (Sayyar and Marcus, 2013).

In the context of this discussion, diversity refers to the variety of artistic formats presented throughout these nine editions, as it argued that understanding this diversity can shed light on "the material dimension of the curated encounters" (Gronemeyer, 2015, p. 248), in turn, contributing to research that proposes a material and spatial turn in curatorial practices and studies (Gronemeyer, 2015; Lagnado, 2015; Tzortzi, 2016). In

[200] Something that happened at BSP 28 (2008), which displayed only 54 works, which, however extensive they were, did not manage to occupy the entire building (having left the third floor completely empty).

addition, a sensory turn in artworks and displays also seems to affect the spatial typology of museums (Tzortzi, 2017), a reasoning that also affects the morphology of exhibitions.

Thus, the artworks are classified into four groups according to their spatial and temporal properties, that is: 1) 2D and static (such as painting, photograph, printing); 2) 3D and static (installation, sculpture); 3) 2D and dynamic (projection, video); 4) 3D and dynamic (performance, video installation)[201]. This classification sought to account for the great variety observed in the study of catalogues, as well as the characteristics that may have greater implications for the need of physical support and for the definition of space. In this context, all the works exhibited throughout these nine biennials, 13.727 in total[202], were analyzed and classified as shown in Figure 146.

It is noteworthy that the data from the BSP 23 and 25 quantify the formats exhibited per artists, but not the total number of artworks (since their catalogues only inform whether the artist worked with sculpture, video, painting, performance, etc., and illustrate some of the works, but not all). This may explain why these two cases had a smaller number of type 1 artworks (paintings), lower than 50%, since this format usually constitutes a small collection. However, the description of the other types seems to be close to what was exhibited, since installations, videos and videoinstallations (the main formats that constitutes types 2, 3 and 4 in these editions) often represent single works. Even so, formats 1 and 2 constitute most of the exhibited content (as in other editions).

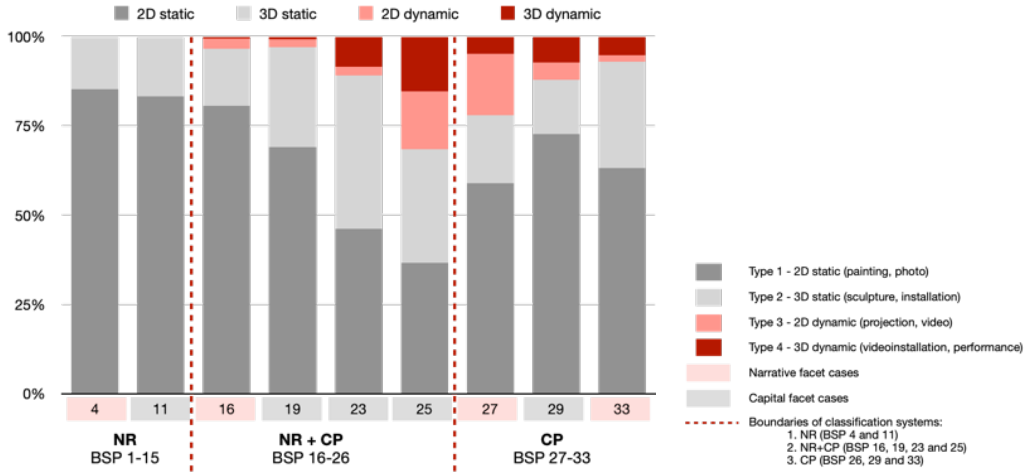


Figure 146. Nine cases – Diversity of artwork formats.

[201] Evidently this classification is a simplification, since, strictly speaking, all works are three-dimensional or require a three-dimensional environment to be experienced (such as videos and music). In addition, it was also considered the fact that many of the catalogues highlight the measurements of artworks, describing their two or three dimensions.
[202] BSP 4 (3.800), 11 (2.4590), 16 (1.766), 19 (1.740), 23 (1.181), 25 (546), 27 (645), 29 (850) and 33 (740).

The other seven cases, BSP 4, 11, 16, 19, 29, 29 and 33, in turn, describe the total number of works exhibited and from them it is possible to drawn some observations. The first is that this diversity of formats tends to increase over time, from BSP 16 to 27, period in which the curatorial project is introduced as the event's classification system (albeit partially in the case of BSP 16, 19, 23 and 25). In BSP 27 the four types of artworks are found in expressive proportions (59%, 19%, 17% and 5%). In fact, this is a very rich period in terms of contemporary artistic production, in which this type of event (large-scale perennial exhibitions, such as biennials and triennials) is often described as the territory that gave rise to the very notion of contemporary art (Gardner and Green, 2016).

In more recent editions, such as BSP 29 and 33, when the curatorial project is the only conceptual framework used to select and classify artworks, this diversity of formats diminishes again, although they do not return to the level of the editions of the national representation system, BSP 4 and 11 (where more than 80% of the artworks are of type 1, and the rest are of type 2, especially sculptures), as represented in Figure 147.

It is interesting to note that, of the three biennials of the CP period, the one with the greatest diversity is BSP 27, which inaugurates this classification system, presenting a significant number of videos (type 3, 2D dynamic). On the other hand, BSP 16, although known for exhibiting new artistic formats, presents only 4% of the types 3 and 4 artworks (and 16% of type 2 and 81% of type 1).



Figure 147. Type 1 and 2 artworks – Paintings by Egon Schiele (Austria) and sculpture by Franz Weissmann (Brazil) at BSP 4 (AHWS/FBSP).

It is interesting to note that, of the three biennials of the CP period, the one with the greatest diversity is BSP 27, which inaugurates this classification system, presenting a significant number of videos (type 3, 2D dynamic). On the other hand, BSP 16, although known for exhibiting new artistic formats, presents only 4% of the types 3 and 4 artworks (and 16% of type 2 and 81% of type 1).

This decrease in diversity, however, does not mean that these editions (BSP 29 and 33) have returned to exhibiting paintings and sculptures as predominant formats, but rather that these new formats, although not numerically expressive, can acquire large proportions and expressiveness in a given exhibition. This is the case, for example, of site-specific installations, which in many cases seem to occupy the pavilion's more open spaces, such as the first floor (with double height ceiling) and the void (which visually connects floors 2 to 4). Therefore, a single work can occupy a significant part of the building, as in the case of BSP 27, where the void was filled by the work On air, by Tomás Saraceno, and in BSP 29, which exhibited the work *Bandeira Branca* (White Flag, an installation that contained birds inside, therefore classified as type 4), by Nuno Ramos, in this same space (Figure 148).



Figure 148. Type 2 and 4 artworks – Encore, encore (Choijeonghwa, BSP 24) and White flag (Nuno Ramos, BSP 29) (AHWS/FBSP).

Although many other aspects can be highlighted about the artworks exhibited in the BSP exhibitions, at this point what matters to understand is how extensive and variable the contents exhibited during this period are. This classification into four types of main works allows us to understand that works sometimes associated with the same type may have quite different physical characteristics, which in turn may require different spatial conditions for their display and appreciation. However, even in face of this variety, it seems possible to conclude that the richest period in terms of diversity of artworks is precisely the one in which the two logics of selection and classification overlap (BSP 16-26).

In this context, just as the diversity of artistic formats was greater in the biennials of the intermediate period (NR+CP), the elaboration of their curatorial discourses also seems to have been more complex in this period. This is evident when analyzing the publications of each case studied. That is, the number of publications dedicated to their description[203] also increases in the NR+CP period and then decreases again in the CP period. This is evident when the main and the additional publications of each case are arranged together, as illustrated in the figure below (Figure 149).

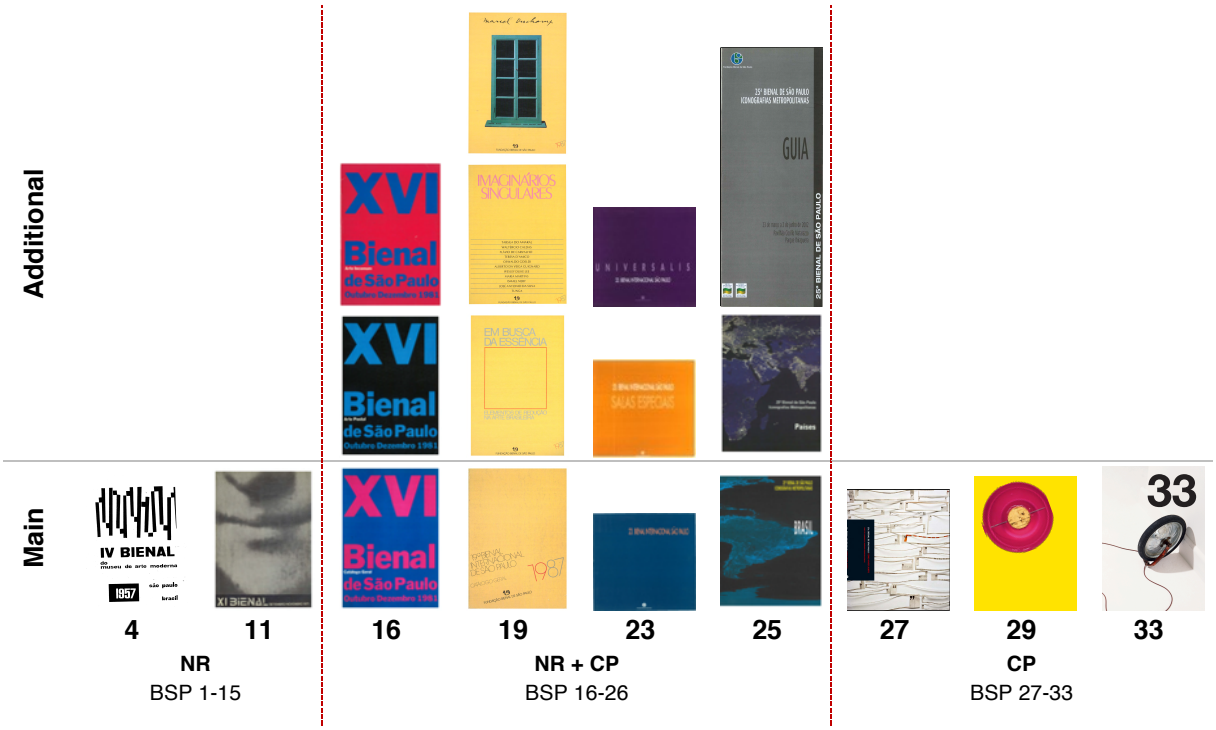


Figure 149. Nine cases – Main and additional catalogues by edition (AHWS/FBSP).

[203] That is, publications exclusively dedicated to the description of artworks (thus excluding other types of materials, such as guides, maps and educational publications).

This number of publications suggest that, while the first (NR) and third (CP) period biennials seem to describe their artworks relatively simple (as they present only one catalogue), the intermediate period BSP (NR+CP) provide more elaborate descriptions.

The similarities between the NR and CP catalogues (BSP *4* and 1; BSP *27*, 29, *33*), however, are only numerical. In other words, the fact that they only present a single catalogue does not mean that the description of their artworks and curatorial projects are similar. That is, if BSP *4* and 11 present their artworks and artists according to their countries of origin, eventually highlighting special rooms or sectors of the exhibition, BSP *27*, 29 and *33* have quite different curatorial projects (even though they present their artists throughout the catalogue in alphabetical order).

Even tough BSP 11 does not have a curatorial project it is possible to identify some peculiar sectors of the exhibition. These sectors were identified in its catalogue, such as the special room dedicated to the 50th anniversary of the 1922 Brazilian modern art week (within the Brazil sector), the rooms "20 years of BSP" and "Propositions" (Figure 150).

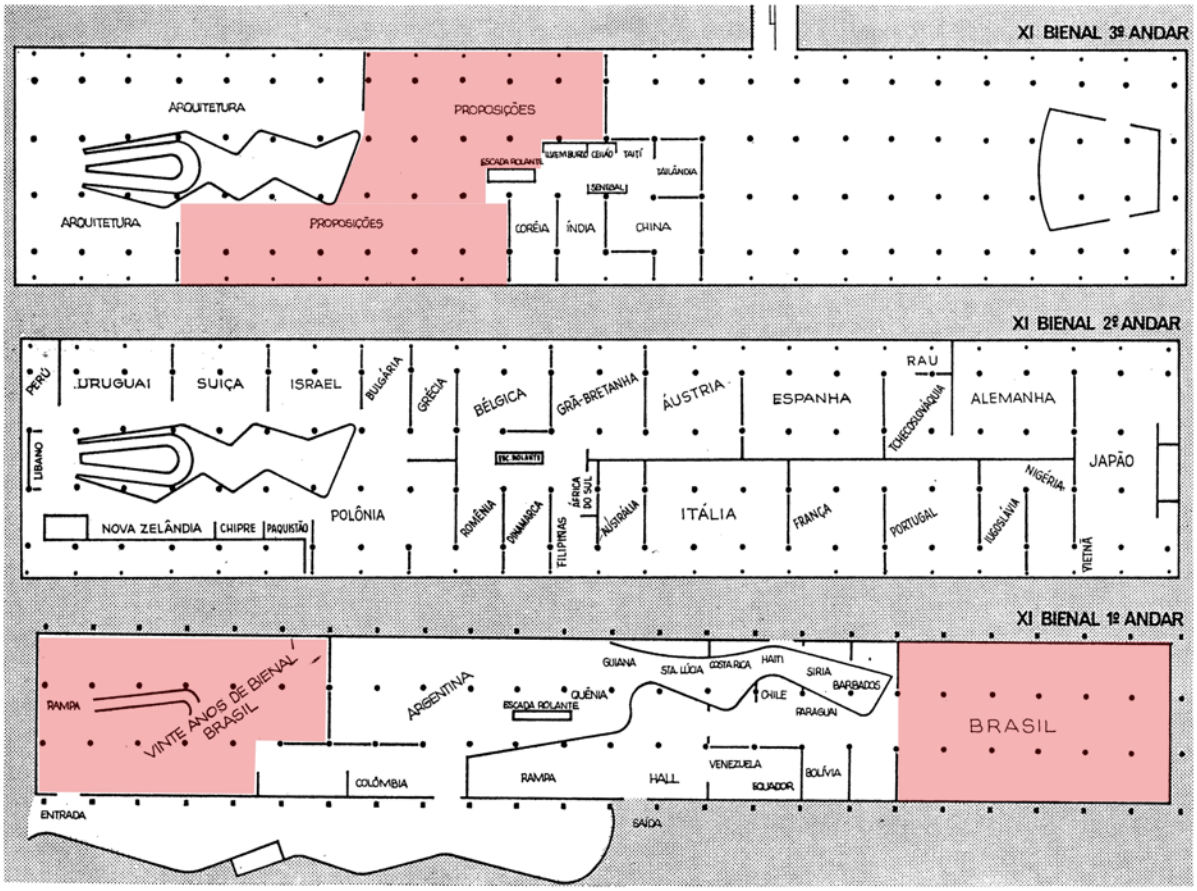


Figure 150. BSP 11 – Special rooms that correspond to specific sections of the catalogue (AHWS/FBSP).

The room "20 years of of BSP" (*Vinte anos de Bienal Brasil*), which exhibited works by Iberê Camargo, Carybé, Flávio de Carvalho, Danilo Di Prete, Felícia Leirner, and Mabe, was located next to the entrance door, which in this edition was on the second floor. The special room for the 1922 week, with works by Anita Malfatti, Di Cavalcanti, Goeldi, and Victor Brecheret, was located on the first floor, in its deepest portion in relation to the entry point. And the Propositions room (*Proposições*) was positioned on the fourth floor, between the stairs and the void.

Specifically about the curatorial project of BSP 29, the only one of the 3 cases studied in the CP period not yet commented, it can be highlighted that the educational bias of this edition extrapolates the political inclination of its artworks, and can be observed also in its publications, which include educational material and two architectural publications: folder-map (with the exhibition plans and the artists' names) and portolano[204]. The latter is particularly interesting for suggesting six different routes through the archipelago shaped by the exhibition layout[205], where it is suggested that navigation start on the ground floor.

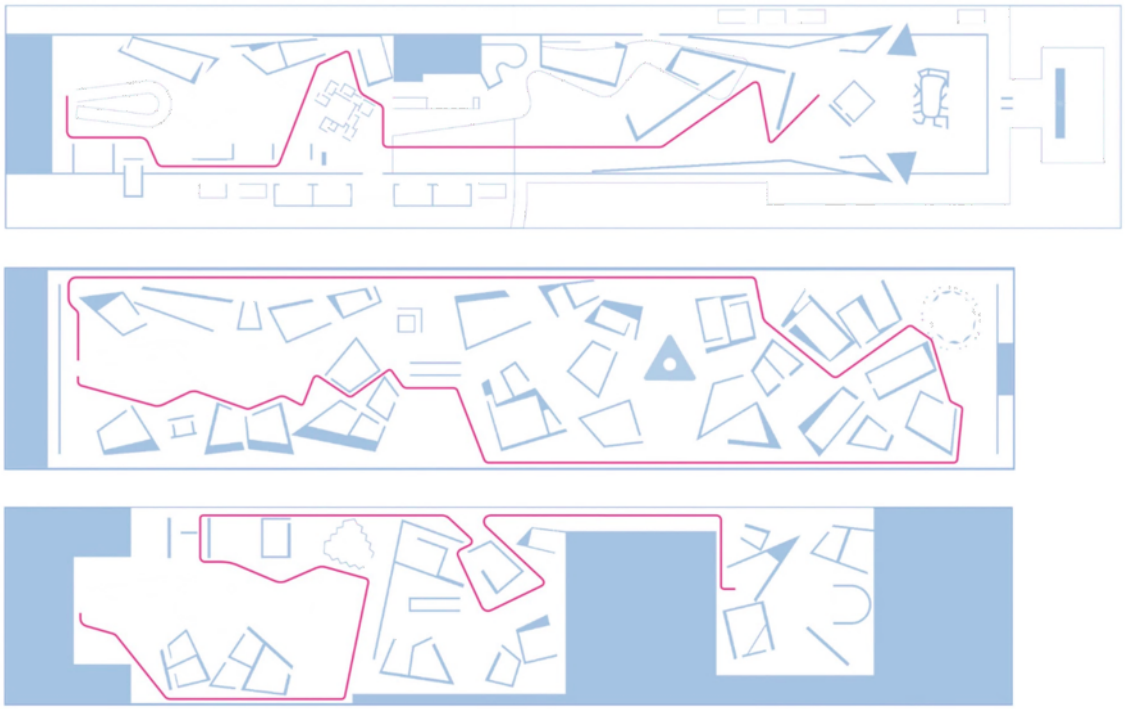


Figure 151. BSP 33 – One of the six routes suggested in the additional catalogue Portolano (AHWS/FBSP).

[204] 1. Sailing chart used by Mediterranean seafarers in Antiquity. 2. A descriptive atlas of the Middle Ages, giving sailing directions and providing charts showing rhumb lines and the location of ports and various coastal features. 3. Shipmaster's guidebook containing a collection of maps describing seaports, harbor depths, tides, and routes of entry and exit, etc. (FBSP, 2010b, p. 4).

[205] Whose architectural project, by Marta Bogéa, is discussed by her in a text in the main catalogue, as highlighted in chapter 4.

Figure 151 illustrates the sixth route, called *Longe daqui, Aqui mesmo* (Far away, right here), which proposes a "reflection on utopias or their opposite, dystopias" (FBSP, 2010b, p. 13). In this itinerary are exposed works by the artists Jean-Luc Godard (first floor), Hélio Oiticica (third floor) and Archigram.Group, Oswaldo Goeldi, Paulo Bruscky, and Superestudio (fourth floor). In addition to the theme explored, these routes differ in the way they traverse the archipelago formed by the partitions, whether on the periphery of the building or on its central portion, but they all travel the path from start to finish (that is, from the entry point on floor 1 to the end of floor 4).

The catalogues of the NR+CP period, stand out not only for their greater number, but for the themes to which they are dedicated. Whereas BSP 4 and 11 presented only a single catalogue (even though they had special rooms[206]), BSP 19 presents its artworks across four different catalogues, namely: general catalogue, Marcel Duchamp, *Em Busca da Essência* (In Search of Essence), and *Imaginários Singulars* (Singular Imaginaries).

In Search of Essence, curated by Gabriela S. Wilder in partnership with Sheila Leirner (general curator), explored the theme of reduction in Brazilian art, with works that nowadays could be labeled as minimalist, featuring artworks by 20 artists and the sector of the building where they were located (central portion of the first floor) (Figure 152).

Singular Imaginaries, in turn, also located on the first floor (next to the aforementioned exhibition), displayed artworks by Tarsila do Amaral, Ismael Nery, Flavio de Carvalho, José Antônio da Silva, Alberto da Veiga, Guingnard, Oswaldo Goeldi, Teresa d'Amico, Maria Martins, Tunca, Waltércio Caldas, and Wesley Duke Lee. This sector of the exhibition, curated by Sônia Salzstein and Ivo Mesquita, exhibited little-known, surreal, fantastic and strange works by well-known artists.

These two sectors of the exhibition which were subject of specific publications, were located in the portion of the path that could eventually not be covered – bearing in mind that the entrance to this exhibition was located on the second floor and the exit was located on the first floor, adjacent to the ramp (in the shallower portion of this floor, as illustrated in the following figure (152). Marcel Duchamp's works, in turn, were located in the diagonal space that connects these two sectors of the exhibition.

[206] For example, at BSP 11, approximately 20% of its artworks (479) were displayed in special rooms. This data, however, was not possible to obtain for all cases.

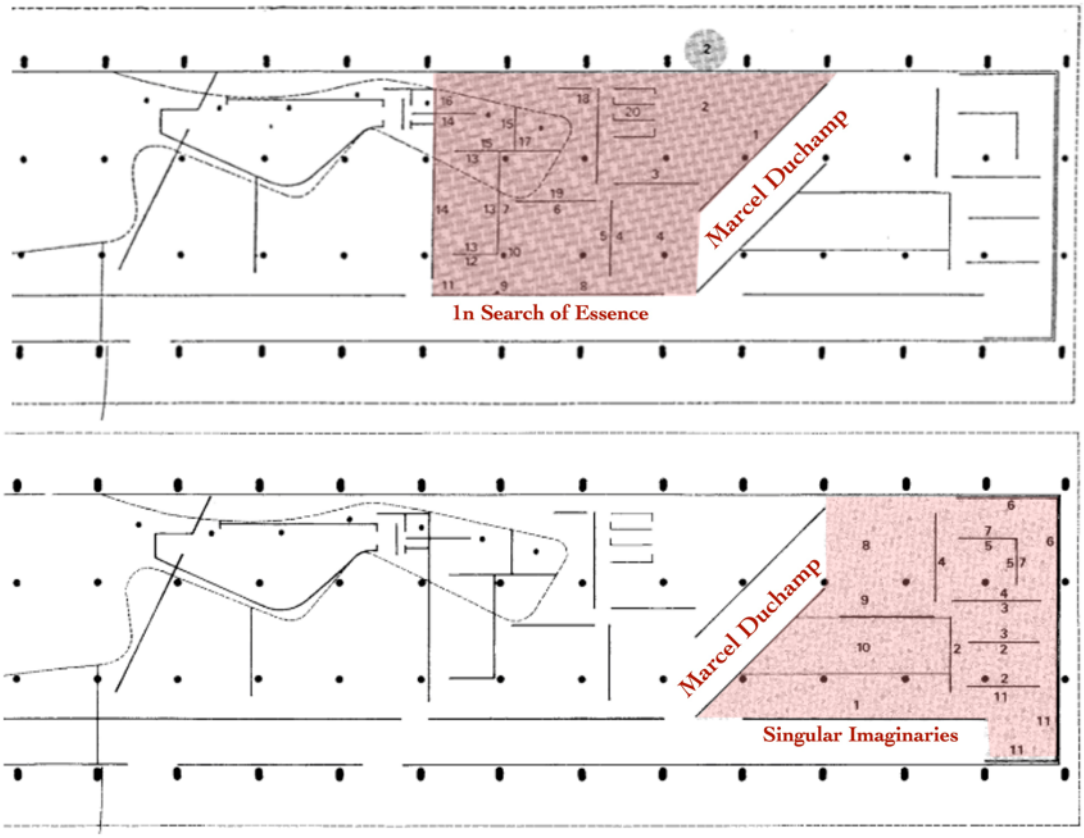


Figure 152. BSP 19 – Special rooms corresponding to additional catalogues (AHWS/FBSP).

This in an interesting aspect, since such observation had been made only for the cases in the narrative facet (i.e., BSP 16). However, it appears that even in exhibitions selected for other reasons (as the cases of the facet of capital), such curatorial attraction strategies can also be identified by examining their catalogues.

The same aspect is observed in BSP 23 and 25, with three catalogues each. The BSP 16[207] was discussed in chapter 4, in the context of the discussion of catalogues as a source of socio-spatial information. BSP 23 presents 2 catalogues, which, in addition to the main catalogue, describe the Special Rooms and the Universalis Exhibition.

Special Rooms was the name given to the publication that contained all the artists and artworks displayed in the rooms located on the fourth floor of the pavilion. In addition to the artists whose works were positioned inside and behind the museological space, mentioned in chapter 6, around the void were the works by Gego, Jean-Michel Basquiat, Louise Borgeois, Mestre Didi, Sol Lewitt, and Tomie Ohtake.

[207] Which, in addition to the main catalogue, also presents the catalogues of the Postal Art and Uncommon Art exhibitions.

Universalis Exhibition, in turn, differs from the main catalogue precisely in that it records works selected by "experienced curators", unlike the main catalogue, which contains artworks classified by countries and selected by international commissioners. In this catalogue, the artworks were classified into seven territorial regions (Brazil, Africa and Oceania, North America, Latin America, Asia, Occidental Europe, and Oriental Europe), preceded by texts by each curator that problematize art in these regions. Although this is a bold move compared to previous biennials, the classification is still very linked to geopolitical criteria. The artists in this publication were located on floors 1 and 2 of the pavilion, and the third floor housed all the works described in the main catalogue.

The case of BSP 23, therefore, shows that, although the catalogs classified artists and artworks according to different criteria, the building also seems to have played a role in this classification, as each floor corresponds to a publication: floors 1 and 2 – Universalis Exhibition; floor 3 – main catalogue; floor 4 – Special Rooms.

BSP 25 was made up of three publications, the main catalogue, a Guide (which gathered all the works by axes in a succinct way) and a catalogue named Countries. This division of the main catalogue in two also makes clear the division between those responsible for selection (international commissioners or curators) and classification criteria (NR or CP).

The difference between BSP 23 and BSP 25 is that the main catalogue of the latter classifies the artists selected by curators by their names (and not by their countries/continents of origin). This catalogue also highlights the special rooms (Carlos Fajardo, Karin Lambrecht, and Nelson Leirner), and an exhibition called Net Art.

In addition, the main catalogue of BSP 25 contains works selected by the curators (and the secondary catalogue, Countries, contains works classified by countries and selected by international commissioners). This inversion, where the main catalogue is the one that classifies the artworks according to the principles of the curatorial project, also suggests an inversion of principles that after the BSP 27 would be eliminated. The catalogue Countries classified artworks according to the country of origin of the artists, along with their names. In it, each country displayed the work of a single artist, and a special room was also dedicated to African video art, with works by six artists.

In this edition, BSP 25, the classification of artists in the building seems to follow more complex criteria. That is, the publications do not correspond directly to the building floors, as in BSP 23. However, it is possible to identify some correlations. For example, the Net

Art exhibition, part of the main catalogue, was located in the museological space, on the fourth floor. It featured works by artists Sean Scully, Carlos Fajardo, Nelsol Leirner, Jeff Koons, Vanessa Beecroft, Thomas Ruff, Andreas Gursky, and Julião Sarmento.

The artists from Brazil were all exhibited on the fourth floor, in spaces adjacent to the void, among them Cao Guimaraes, Chelpa Ferro, Gil Vicente, Helmut Batista, and Marepe. Artists from the two other axes, Cities and Countries, were displayed along floors 1, 2 and 3, with the majority of artists from the Countries axis on the third floor.

The original plans of this edition (BSP 25) divided each floor into 15 areas (3 longitudinal and 5 transversal), so that the visitor, with the help of the printed guide, could locate the artworks – described with a code (A1, B3, C5) and a color (representing the curatorial axis – special rooms, Brazil, cities, countries, and Net Art) (Fig. 153). Although this is a mediation resource, which takes advantage of the building's architecture, we are interested in understanding how the configuration of the space itself can guide the visitor.

In this context, the comparison of these artistic formats and catalogues provides a good overview of the curatorial projects of these editions, especially the cases of the capital facet (BSP 11, 19, 23, 25 and 29), which were not selected according to this criterion. They also constitute a first approximation of how things were classified in space. However, it is important to understand how these elements together, which embed aspects related to the selection and classification of artworks, constituted the operating system of each exhibition, which in turn can inform relevant aspects of their spatial configuration, as discussed next.

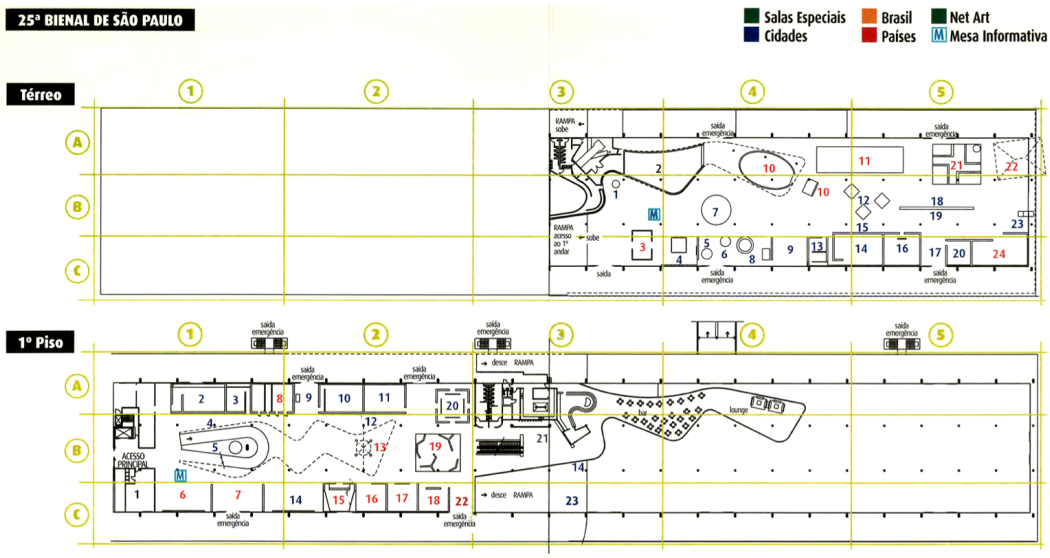


Figure 153. BSP 25 – Curatorial axes and architectural axes (floors 1 and 2) (AHWS/FBSP).

7.1.2 Exhibition operating systems

As the nine cases selected for this analytical study are relatively evenly distributed over the entire studied period, they are, to some extent, able to provide evidence to discuss the main patterns and trends regarding the operating system of these exhibitions.

It is noteworthy that the operating system of the BSP was defined throughout this thesis based on the overlap between the three phases of the classification system (National Representations, NR+CP, Curatorial Project), as defined by the FBSP, and the four eras of the organization system (Museum, Matarazzo, Curators, and International Professional Curators) (Alambert and Canhête, 2004; Di Carlo, 2016), simplifying these seven categories into two operational periods, one pre and one post curator.

These two periods of the operating system, in turn, define a milestone in the event timeline, where: BSP 1-15 (1951-1979) operated without the figure of a general curator (that is, they were organized by the FBSP together with the international commissioners) and BSP 16-33 (1981-2018) were operationalized based on the figure of a general curator (or group of curators). The term curator (instead of curatorship) is used because it was found that the BSP 14, and to a lesser extent the BSP 15, classified their artworks according to thematic axes, as well as previous biennials had thematic rooms that to some extent also constituted curated sectors of the exhibition.

In this context, the operating system of each of the nine cases was extracted from an examination of the catalogues and the description and technical file of each BSP as shown on the FBSP website. Each system was represented in the form of justified graphs that, although following the same logic as space graphs, were based on strictly textual information. This exam allowed us to identify some basic categories that are common to all studied exhibitions.

For the operating systems to be comparable to each other, some definitions needed to be established. The first one was the classification of these common categories into five layers, namely: 1) institution – which describes the institution responsible for organizing the event (MAM-SP or FBSP); 2) event – which represents both the edition in question (BSP 4, 11, 19 etc.) and its subdivisions (architecture, art, book, theater etc.[208]); 3) organizers – layer that breaks down those responsible for their organization (international commissioners,

[208] Since the first editions had several biennials within the same biennial. That is, the BSP becomes an exclusively art biennial from BSP 13 (1975), when its catalogues and plans no longer subdivide it into several biennials.

curators) and if/how they were grouped (board, committee, council, jury etc.); 4) participants – which in general are the artists, but that the older exhibitions made a distinction of nationality (whether Brazilian or foreign) and by mode of selection (if invited or spontaneously registered for competition, for example); 5) exhibition – which represents the point from which this operating system translates into space.

The first and the last layers of this model, institution and exhibition, functions as source and destination nodes, that is, from where its operation starts, and to what extent it is predominantly social in nature, since the objective is to understand the background of these exhibitions that may have an influence on their spatial configuration. These number of layers represents the minimum depth that each of these graphs can have, since the intermediate layers (2-4) can unfold into more layers. That is, the same exhibition can have sub-categories of event (as discussed above), but also of organizers and participants.

Just like space graphs, the organization graphs also reflect the rules adopted for each exhibition. For example, deeper graphs suggest a more stratified organizational system, as well as its general conformation (whether more open or more closed, with many or few intercommunications) can reinforce or circumvent this stratification.

Figure 154 represents a graph model of the operating system made for the BSP 4 (1957), the first of the nine cases, where: the institution and exhibition layers (source and destination nodes) are represented in black and dark red, respectively; the event layer is represented by the grey nodes; the organizers in pink; and the participants layer in red.

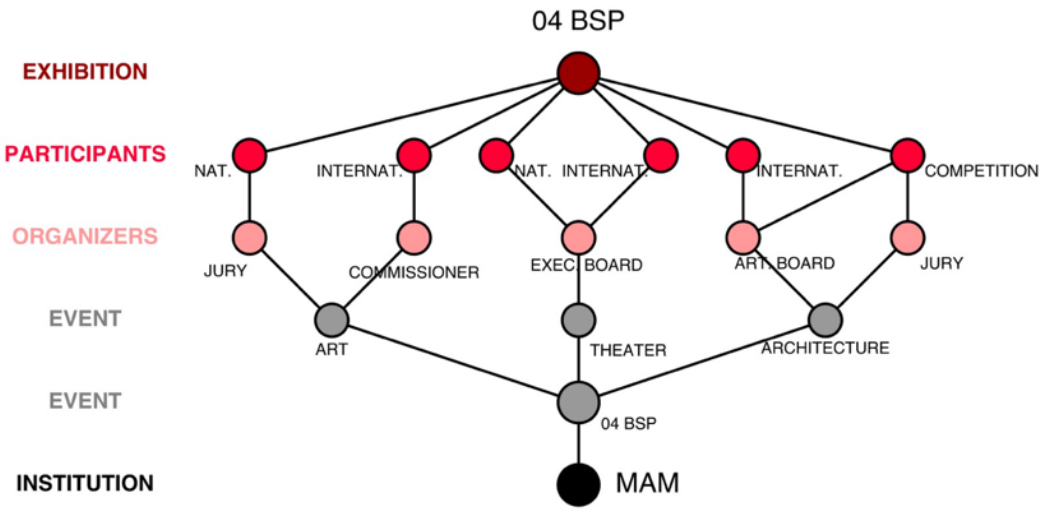


Figure 154. Operating system – Model j-graph (textual).

From this graph it is possible to see: 1) the organizing institution (MAM-SP); 2 and 3) the edition of the event (BSP *4*) and its three subdivisions (art, theater and architecture biennials); *4*) its organizers, distributed in five groups according to the subdivision of the biennial for which they were responsible (art – jury and commissioners/theater – executive board/architecture – artistic board and jury); 5) and its participants, divided into national and international (in the case of art and theater biennials) and into international and competition (architecture biennial); 6) and finally the exhibition they gave rise (also labeled 0*4* BSP).

Although layers 1 and 6 (event and exhibition) have the same label, it was considered important to represent them in two distinct layers because the event includes not only the exhibition of artworks, but also other activities carried out inside or outside the pavilion (such as lectures, seminars, courses etc.) that are not object of this study.

Once these issues of representation are clarified, the graphs of the nine cases are presented together so that is possible to have an overview of the set of cases, before analyzing this specific case of the model graph (BSP *4*).

The nine cases are grouped according to the analytical matrix defined in the previous chapter, that is, horizontally representing the temporal order of the exhibitions (1957, 1971, 1981, 1987 etc.) and vertically differentiating the cases that constitute each facet (BSP 2, 16, 27 and 33 – top; BSP 11, 19, 23, 25 and 29 – bottom). In the central timeline, the three periods that correspond to the classification system (NR, BR+CP, CP), which also embed the two periods of the operating system (1957-1979, 19812018), are also highlighted (Figure 155).

In general, it can be observed that the more recent the exhibition, the simpler its graph. By simple we mean shallower and narrower and with fewer sectors and intersections. In this context, three main types of graphs can be identified, those more branched and open, like a tree (BSP *4* and 11), those that are narrower and more linear, such as BSP 27, 29 and 33, and those that constitute hybrid models between the two (BSP 16-25). About this last one, they have a general structure that resembles graphs of more recent biennials (BSP 27-33), but still has some ramification and sectorization (as in the graphs of BSP *4* and 11).

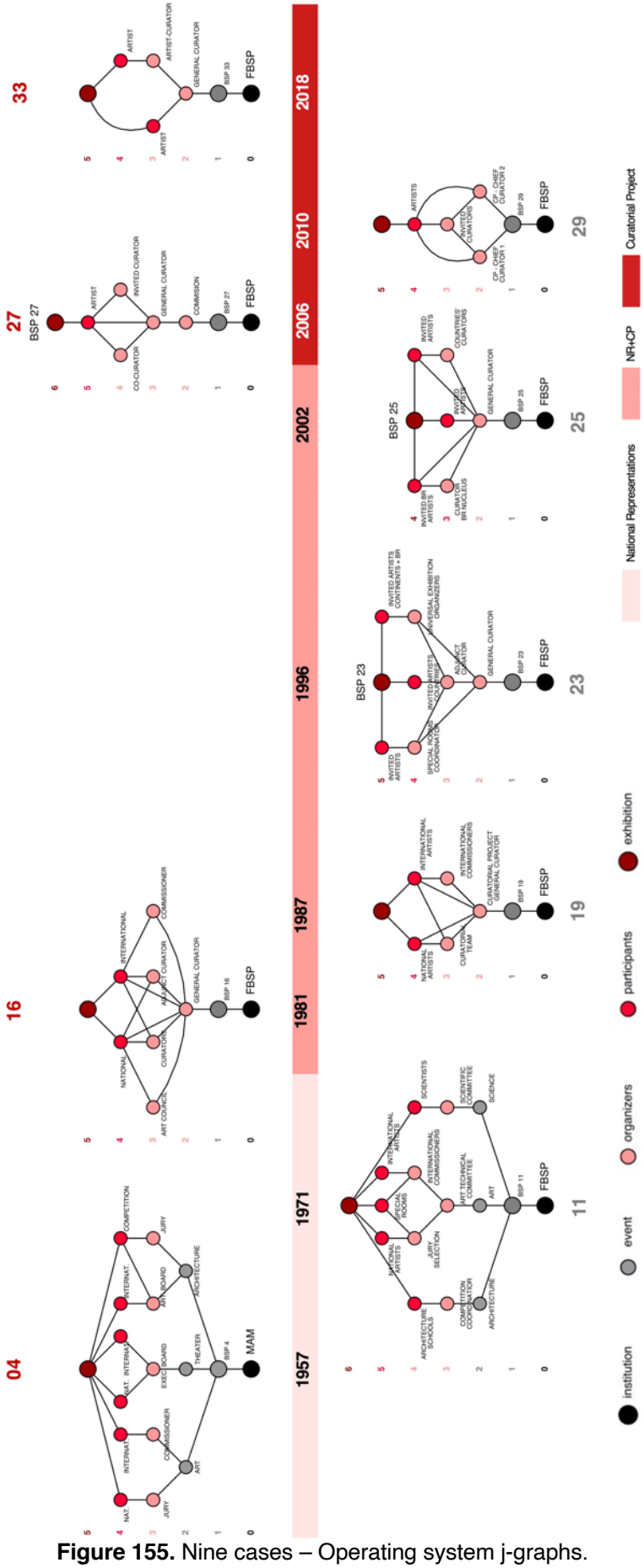


Figure 155. Nine cases – Operating system j-graphs.

This pattern seems very consistent with classification systems, which are divided precisely into three periods, where: 1) the graphs of the BSP *4* and 11 refer to exhibitions that adopted the system of national representations (NR) and whose selection of artworks was made mainly by international commissioners; 2) the graphs of the BSP *27*, 29 and *33* represent the exhibitions organized by general curators and whose artworks were classified according to the principles of the curatorial project (CP); *3*) the graphs of the intermediate exhibitions, BSP 16-26, represent the period in which both systems (NR+CP) and organizers (commissioners and curators) coexisted.

If on the one hand the introduction of the curator represents a centralization of this operational mode (as these graphs tend to be narrower), on the other hand, the persistence of the system of national representations and its commissioners still produces some sectorization and intersections.

For example, in the BSP *4* graph one can observe the existence of three sectors that correspond to the three biennials contained in the same biennial (art, architecture and theater). Despite its very symmetrical distribution, some asymmetries can also be highlighted, such as the fact that the theater biennial was organized by a single group of people (directly linked to FBSP – which controlled both categories of participants – national and international), or the fact that, in the architecture biennial, the artistic board had control over the two categories of participants (international and competitors).

In BSP 11, this subdivision into three biennials (architecture, art, and science) is maintained, but its organizers and participants are slightly simplified (where the architecture and science biennials had only one category of organizers and participants). The exception is the art biennial, which stratifies its organizers into selection jury and international commissioners, and its participants into national artists, international artists, and special rooms (the latter organized by both jury and commissioners).

From BSP 16 onwards, the biennial subdivision disappears, as well as the curator (or group of curators) becoming the main person responsible for organizing the event. However, the third and fourth topological levels of the graphs from the 16 to 25 BSP (organizers) still express the coexistence between curators and international commissioners, by branching into 2 (BSP 19 and 25), 3 (BSP 23) and *4* (BSP 16) kinds of organizers – including assistant curators, curators' team, international commissioners, and curators of specific nucleus or exhibitions.

The artists of these biennials (BSP 16, 19, 23 and 25) continue to be subdivided into national and international in most cases, with exception of the BSP 23 and 25 (the latter, the first BSP to be curated by an international professional, Alfons Hug), which distinguish the artists both by their nationality and by the fact that they have been invited or selected by a jury through a system of inscriptions – which is further evidence on the overlap between the logics of national representation and curatorial project systems.

Quite symmetrical, in these operating systems (BSP 16-25) in general a group or organizers took care of the selection and or/invitation of national artists, and another group were responsible for the international artists. A relevant asymmetry is the fact that in the BSP 16 and 19 the Brazilian curators, Walter Zanini and Sheila Leirner, respectively, interfered with the selection/invitation of artists of national and international origin, whereas the commissioners, whereas the influence of the commissioners was limited to international artists.

The graphs of the BSP 27, 29 and 33 show subtle but significant differences. For example, at the BSP 27 there are three levels of organizers, as well as at BSP 23, curated by Nelson Aguilar, as a commission (level 2) selected the curatorial project of a general curator, Lisette Lagnado (level 3), who in turn worked together with a group of co-curators and guest curators (level 4). The artists of this edition (as well as the following one, BSP 29) are presented without distinction of country or mode of participation (invitation or selection), as this is something that disappears from the event's regulations.

The BSP 29 was organized by two general curators, Agnaldo Farias e Moacir dos Anjos, who in turn worked with a group of invited curators, who, according to its catalogues, also seemed to have an influence on the invitation and distribution of the artists.

About the 33 BSP, a curious asymmetry reflects an essential aspect of its curatorial project, which is the fact that its general curator, Gabriel Pérez-Barreiro (level 2) invited a group of artists[209] to work as curators, which generated a subdivision in the participating artists, as each of these two types of organizers invited their artists based on the "Affective affinity" (the title of this biennial) they had with them (as discussed in Chapter 6).

[209] Alejandro Cesarco, Antonio Ballester Moreno, Claudia Fontes, Mamma Andersoson, Sofia Borges, Waltercio Caldas, and Wura-Natasha Ogunji (http://bienal.org.br/exposicoes/33bienal).

7. 2 Mediation between people

This second part of the chapter analyzes how mediation between people takes place. This mediation is embedded in the system of encounters and avoidances between all those who navigate the exhibition spaces (whether visitors or inhabitants), being the result of both the proposed layout for the display of artifacts and the underlying layout of the building (in addition to reflect the mediation between things, as discussed in the previous topic).

This topic is divided into: *7*.2.1) study of building layouts in the respective years of each Bienal (1957, 1971, 1981, 1987, 1996, 2002, 2006, 2010, 2018); *7*.2.2) study of the layouts of the nine exhibitions (BSP *4*, 11, 16, 19, 23, 25, 27, 29 and 33). In both parts, the building layout and exhibition layout are discussed as follows: as complex (building) and specific (exhibition) spatial systems – described by means of convex maps; as systems of multiple routes – depicted using j-graphs; and as systems of origins and destinations – described using MCP j-graphs. This subdivision into three analytical steps, in turn, seeks to address the three dimensions that characterize both types of layouts.

In the case of complex and specific systems, this description highlights aspects related to the occupation of the building. Complex convex maps can capture the apparent maximum occupancy capacity of each version of the building[210], as well as specific convex maps describe how the occupation was characterized in each studied exhibition.

The other two analytical steps, system of multiple routes (SMR) and system of origins and destinations (SOD), guide the discussion on how the possibilities of movement in the building and in the exhibitions were structured. Although both systems are addressed using justified permeability graphs (j-graphs)[211], in the case of SMR these j-graphs describe all convex spaces that constitute the complex, generic[212], and specific spatial systems of buildings and exhibitions, whereas in the case of SOD the j-graphs describe only the convex spaces that constitute the minimum circulation path (MCP j-graphs) – the main elements that characterize these spatial systems in terms of origins and destinations. With these analyses, buildings and exhibitions are independently characterized, so that they can be discussed comparatively in the third section (mediation between people and things, *7*.3).

---

210 Aware that each building module can be subdivided, and that, therefore, this capacity may be extrapolated.
211 Which, to some extent, describe origins and destinations.
212 That guide the description of the apparent minimum capacity of the building, which eventually can be further reduced.

7.2.1 Building layout

The analysis of the building layouts aims to describe how their spatial configuration was constituted at the time of each exhibition, considering that, as analyzed in chapter 5, the building undergoes spatial changes over the six decades studied. This analysis is subdivided into two parts, which allow discussing how these generic functions of space can be performed and are affected by changes in each spatial system studied.

The first part, (the Pavilhão Bienal) as a complex spatial occupation system, seeks to characterize the occupancy potential that the building provides in each of its nine versions. To this end, the building layout is described using convex maps based on its complex model, considering that this representation allows capturing the maximum occupancy potential of the building. These maps are analyzed in terms of integration, connectivity, intelligibility, mean depth, choice, control, and controllability (the same attributes used for the analysis of the seven building layouts in chapter 5).

The second part, (the Biennial Pavilion) as a hybrid movement system, describes the double aspect that characterizes this building, which simultaneously presents a spatial system that allows the configuration of multiple movement routes, as well as pre-defined spaces of origins and destinations (namely entrances/exits, ramps and stairs). The expression hybrid, therefore, refers to its simultaneously complex and generic configuration, whose models are used for the elaboration of the j-graphs (that describe it as a system of multiple routes, as it represents all the convex spaces of the two models) and MCP j-graphs (that describe it as a system of origins and destinations, as it represents only the convex spaces that connect entrance/exit, ramps, and stairs). These graphs, in turn, are analyzed in terms of their general structure, as well as the attributes of topological levels, convex spaces, and connections.

Before discussing these analyses, the main spatial changes that the nine versions of the studied building underwent are summarized in the analytical matrix (which brings together their plans, indicating the periods in which exhibition spaces increased or decreased) and in graphics that show the quantitative variation of these areas (by floor and in total). In general, it can be observed that the buildings from 1957, 1996, 2002 and 2010 are longer (that is, their exhibition areas are very close to those foreseen in the built project) and the buildings from 1791, 1981, 1987, 2006 and 2010 they are shorter (that is, their exhibition spaces are reduced) (Figure 156).

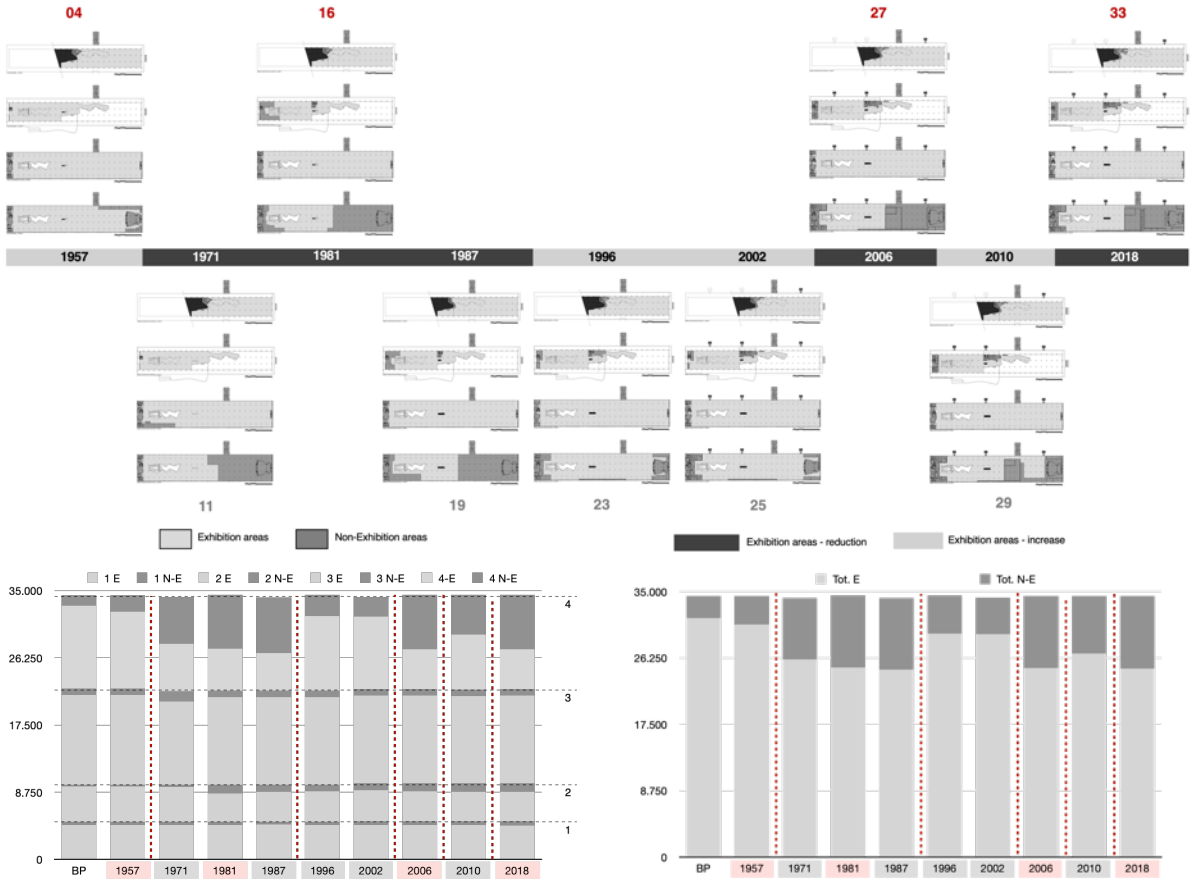


Figure 156. Building layout – Plans and periods of the spatial system (shortened/lengthened) and variation of exhibition areas (by floor/total).

This shortening/lengthening of the exhibition spaces is mainly due to the introduction or removal of the MAC-USP storage, although there are also variations in the exhibition spaces on the second and third floors (around the void and the stairs). In this set of cases, only the 2010 and 2018 buildings have identical configurations. Thus, the building region that varies the most over the years is floor 4/sector C (columns), which was reduced by half in the years when the exhibition spaces are shorter (1971, 1981, 1987, 2006, 2018), with approximately 10.000 square meters of non-exhibition areas[213].

The 2010 building deserves to be highlighted because, although the MAC-USP storage remains, the space between it and the auditorium was also used for exhibition purposes. This area, however, is quite segregated from sectors A and B, connecting with them by a long and narrow corridor, which is why it may not have been used in previous years.

[213] The exhibition/non-exhibition areas of the built project (BP) were included in the charts for comparison purposes only.

7.2.1.1 As a complex occupation system

The study of the nine different layouts of the Pavilhão Bienal is based on the analysis of some attributes that can shed light on the possibilities of occupation embedded into its configuration, as well as the impact of its spatial changes, both in local and global terms. These analyzes are based on the convex maps of these buildings, represented in their complex model (which describes their spatial system considering all the barriers at knee level, including the pillars).

The choice for such a representation model, which could also include its generic model, is due to the fact that, as concluded from the analyzes in chapter 5, this model better captures the local nuances of attribute variation, as it describes the building with as much detail as possible. This detailed description, in turn, also seems to represent a maximum capacity in terms of occupancy, as it presents the highest convex partition possible to be extracted from the existing barriers of the building. However, it is understood that this capacity can be exceeded, since the building modules (10x12 and 10x6 meters) can still be subdivided by the layout of the exhibitions.

The attributes and their analysis sequence are: 1) integration, connectivity, and intelligibility; 2) mean depth and choice; 3) control and controllability[214] (same attributes and sequence of analyzes performed in chapter 5, whose decision discussed in the modeling of this study, in chapter 6). The analyses are supported by the convex maps of each case (arranged according to the analytical matrix drawn in chapter 6, which highlights the group to which the cases are associated and the periods in which the exhibition spaces were shortened or lengthened), as well as by the synthesis of their numerical results, normalized so that different attributes can be compared using the same numerical scale (from 0 to 1). The results of these analyzes are summarized in Figures 157, 158 and 159.

After the analysis of each pair of attributes[215]**,** some correlations are made, that is, they compare all the attributes with each other, in order to assess how they contribute to the characterization of the building layout in terms of occupation and which ones are most affected by the identified spatial changes (especially in global terms[216], as this is a numerical synthesis).

---

[214] All attributes were analyzed considering their average values, except for control and controllability (max / min values).

[215] Since intelligibility is a measure extracted from the results of connectivity and integration.

[216] Global in this context refers to the numerical variation of the spatial system, which can be observed either for attributes of a local nature (that is, which consider a given space in relation to its immediately adjacent spaces) or of a global nature (which consider a given space in in relation to all other spaces in the system).

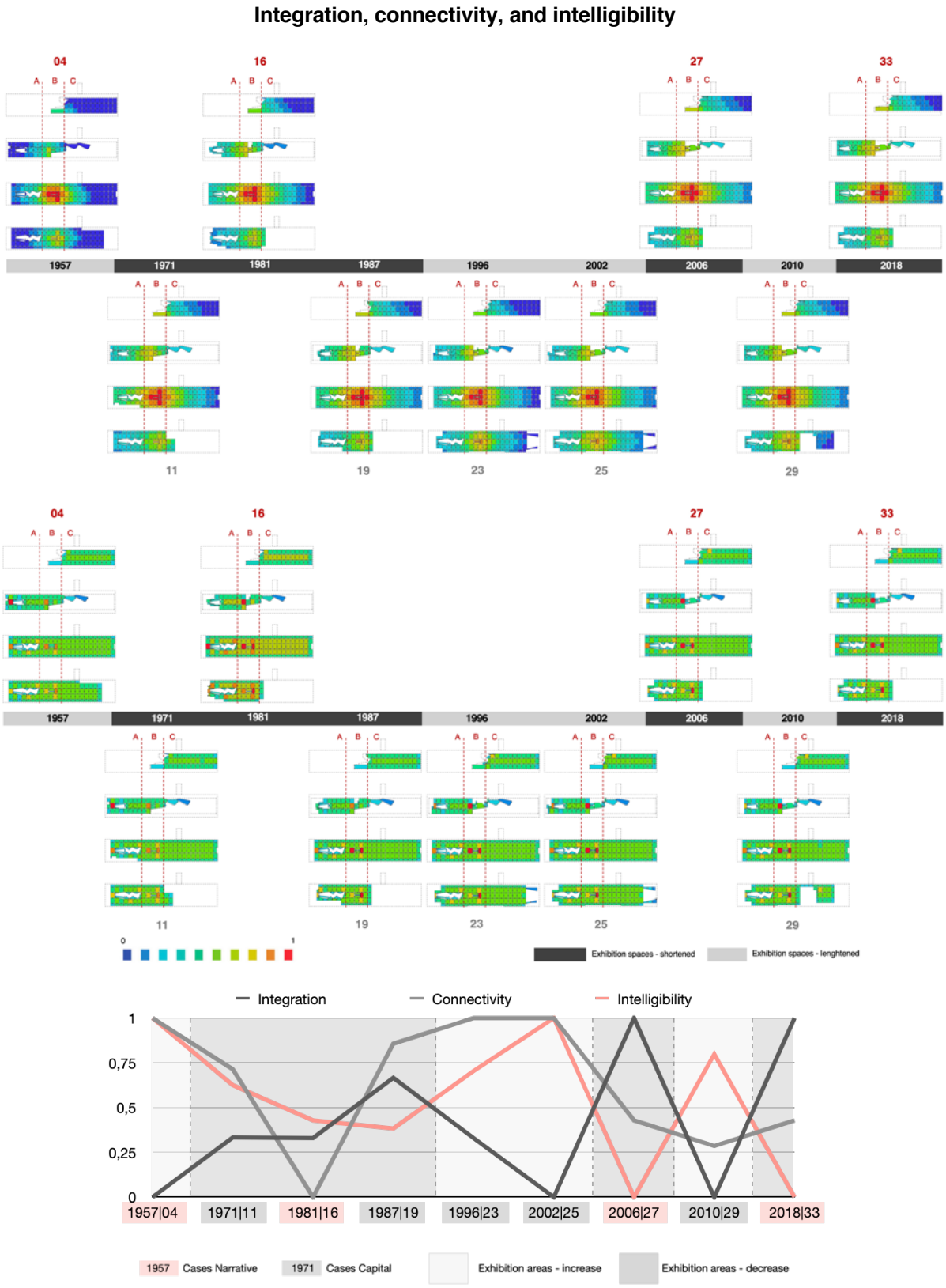


Figure 157. Building layout – Occupation analysis (integration, connectivity, and intelligibility).

The analysis of the integration and connectivity attributes allows concluding that, in global terms, spatial changes produce significant differences between the studied versions. However, when observed locally, these changes are not very significant, that is, the more and less integrated/connected spaces of the systems remain practically the same (Fig. 157).

The building's integration increased in the years when its exhibition spaces were reduced, especially in 1987, 2006 and 2018 (these last two with the same configuration). This reduction in exhibition spaces occurs mainly on the fourth floor/sector C, its most repetitive and deep portion, reducing the size of the system and making it more integrated. When observing this variation in the convex maps, however, in the nine versions the most integrated spaces are concentrated in sector B (adjacent to the stairs), most of them on floor 3, configurational center of the system (in red). The most significant difference between the shorter (1971, 1981, 1987, 2006 and 2018) and the longer versions (1957, 1996, 2002 and 2010) is that the number of convex spaces with low integration (represented in blue) increases significantly in longer models. This increase occurs mainly at the right portion of sector C (opposite the interface with sector B), on floors 1, 3 and 4. In the 1957 building, however, sector A also had spaces with low integration, especially on floors 2 and 4. This is due to the fact that this is the version of the building where sector A is longer, since in the other versions exhibition spaces on these floors are reduced (for the inclusion of new uses, such as cafeteria, on floor 2, and facilities of FBSP, on floor 4).

On the other hand, the pavilion's connectivity increased in the years when the building had its exhibition areas expanded (1957, 1996, 2002 and 2010). This can be attributed to the fact that, in its complex representation, most of the spaces in the pavilion are connected to 3 or 4 other spaces (spaces of the external structural modules and spaces of the internal structural modules, respectively). Therefore, as their exhibition areas increase, especially on fourth floor/sector C, so does their connectivity. However, the 2010 building is an exception, as the expansion of its exhibition spaces has not occurred to the same extent as in other years (1957, 1996 and 2002), since the MAC-USP storage continues to occupy a portion of this floor, which makes this area both poorly integrated and poorly connected.

Intelligibility, in turn, was higher in the years when the building was longer, especially in 1957, 2002 and 2010, where connectivity was high and integration was low. In these years, the building's spatiality becomes more repetitive (as the fourth floor/sector C expands). This makes apprehension of the entire system through the navigation of a part of if more likely to happen (since sector C accounts for a large area of the building).

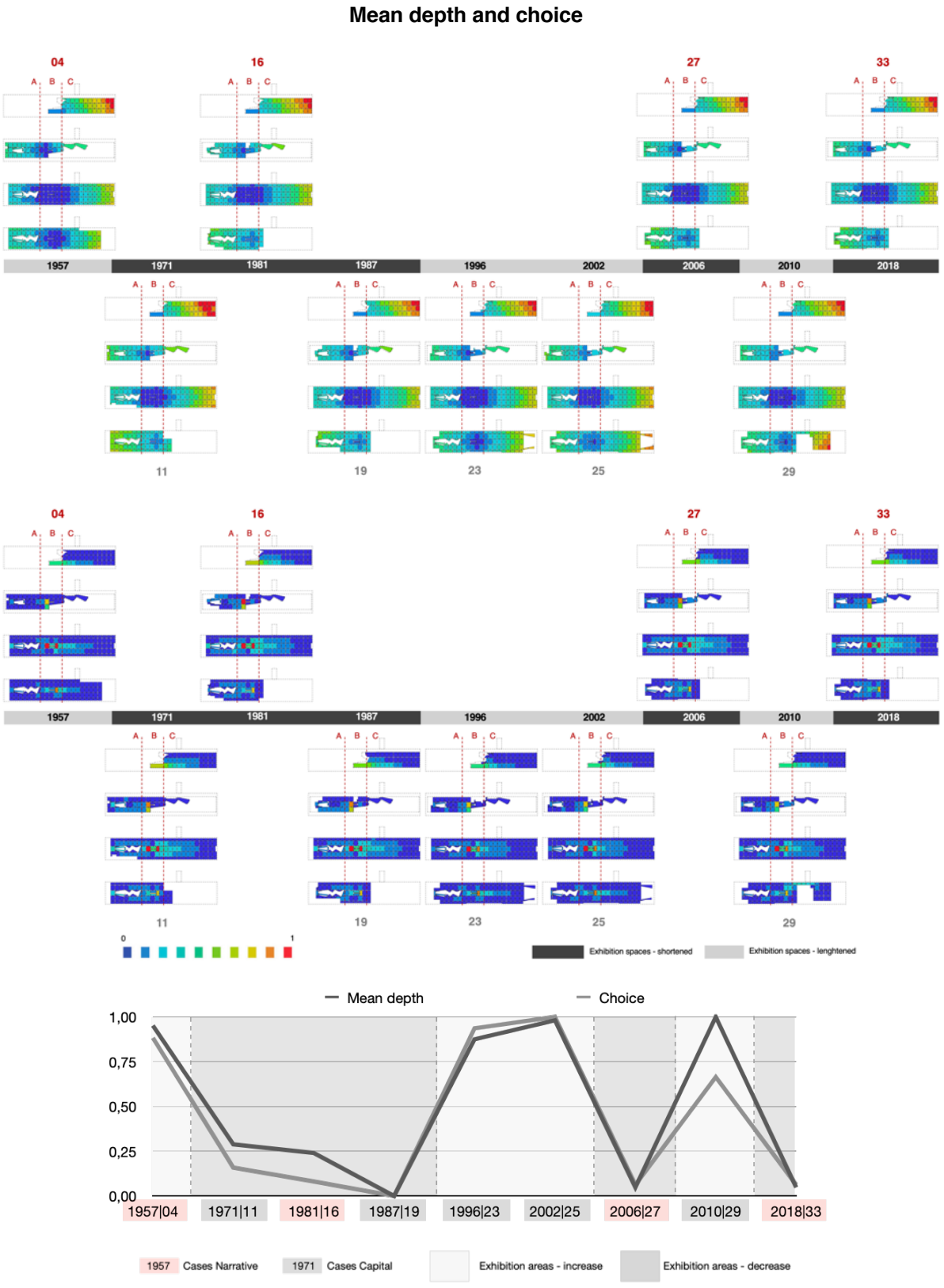


Figure 158. Building layout – Occupation analysis (mean depth and choice).

The attributes of mean depth and choice varied quite similarly among the cases studied. As observed in the analysis of the first group (integration, connectivity, and intelligibility), this variation is also related to the lengthening or shortening of the spatial systems. In this case, the global values of these two attributes, mean depth, and choice, are higher in periods when the building's spatial system is longer (Figure 158).

In the previous group, especially with regard to the integration attribute, the longer the building, the less integrated its system. If, on the one hand, this is expected for the mean depth attribute, as it is inverse to the integration attribute, on the other hand, it was considered important to continue working with these two attributes, since conceptually they can support the discussion of different aspects, especially with regard to the conception of the exhibitions**.** When observing their convex maps, it is noticed that the shallowest spaces of the system are in sector B, mostly on floor 3, in all nine versions. The deeper spaces of the system are placed at sector A, most of them on floor 1, and some on floors 3 and 4 (in the case of longer versions). The low integrated and low connected expansion that takes place in the 2010 building also results in spaces with high depth in this portion of the fourth floor.

With regard to the attribute of choice, the 2010 building also stands out as a version that, despite being longer, does not have its choice value as high as the others (1957, 1996, 2002), due to the way in which this increase takes place. That is, there is only one path between sector B and sector C on the fourth floor. The local distribution of spaces with highest choice value of the systems, in turn, is not much affected by the shortening or lengthening of the system. These spaces are located adjacent to the vertical circulation elements in sector B (stairs and ramp from floors 1-2), which throughout the years did not change (as well as their adjacent spaces[217]).

It is interesting to note that the central structural module of the building has a higher choice value than the side rows, suggesting a layout for the exhibitions that would be embedded in the building layout (on floor 3/sector C, and floor 4, in the case of longer versions). That is, its central row seems to have a greater potential for housing circulation spaces, while lateral/peripheral rows seem more susceptible to occupation by rooms and artifacts (although in exhibition spaces these two functions often overlap).

[217] The stairs, which in the original project were two (each facing a different side of the floor), for a long time remained one. When the second was introduced, in 1981, it was installed in the same direction as the first, being a fixed ladder and an escalator.

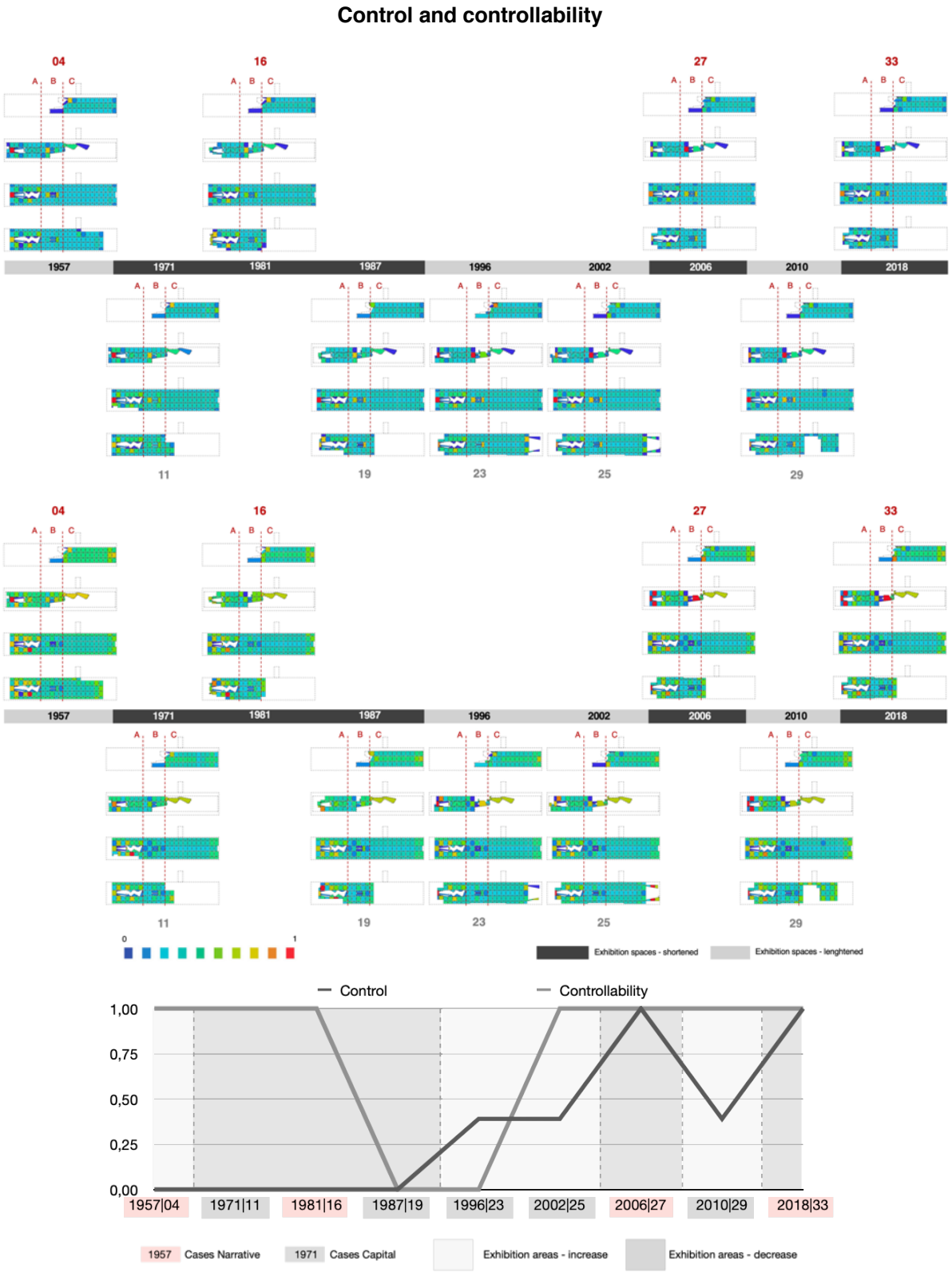


Figure 159. Building layout – Occupation analysis (control and controllability).

Finally, the control and controllability attributes, as their names suggest, describe visually dominant and visually dominated areas, respectively (Turner, 2004). This conceptual opposition is also expressed in the values obtained for the two attributes throughout the analyzed cases, which in general tend to be low for the control attribute (except for the 2006 and 2018 buildings, the only two versions with equal configurations in the set) and high for the controllability attribute (except for the 1987 and 1996 buildings) (Figure 159).

In other words, most spaces in the building, due to their open spatiality, tend to have low control (that is, they are spaces from which one can see and be seen simultaneously), which explains their general representation in cyan and blue (low control) and their global values between 0 and 0,39 in most cases (1957, 1971, 1981, 1987, 1996, 2002 and 2010). The increase in the global control value in the years 2006 and 2018 can be explained by the combination of building shortening (especially in sector A, floor 2, in addition to sector C/floor 4) and the introduction of the staircase that connects floor 1 to mezzanine on the second floor, aspects that only overlap since 2006[218]. In fact, this stairway was introduced in 1996, which may explain the fact that from this year onwards, the space adjacent to the stairs on the second floor is one of the spaces with the greatest control value in the system.

With regard to controllability attribute, the spaces with the highest controllability value are concentrated in the access to the ramp on floors 2 and 3 (in all versions), as well as the back of the stairs on floor 2, in the stretch between the stairs and the mezzanine. In general, spaces with a high controllability value are situated adjacent to internal building barriers, such as ramps and stairs, which obstruct visibility. It is interesting to note that some spaces tend to have a high value of control and controllability simultaneously (as in the case of ramp access on the 3 floors), while others have opposite values, as in the case of stair access spaces on the floors 2 to 4 (which have a high control value and low controllability value) [219].

This understanding of which spaces have greater or lesser control and controllability of the system seems to be a fundamental aspect for the characterization of attractive areas for the display of artifacts, depending on the curatorial intentions.

---

[218] Although this staircase is only used for non-exhibition purposes (for example, supplying the restaurant) it was considered as part of the entire system since it is part of the exhibition spaces (and therefore may be used for exhibition purposes).
[219] The balconies that surround the void are represented as spaces of low control, but in practice it is known that these have visual domain of the entire sector. The same logic applies for the controllability attribute.

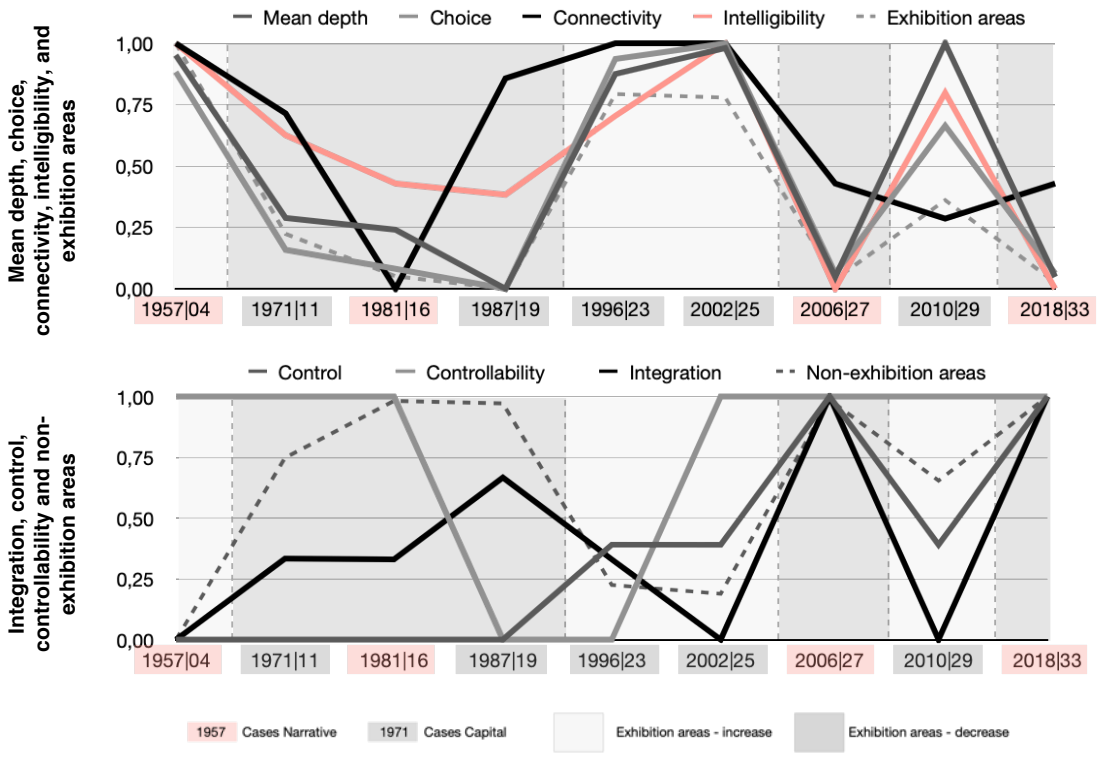


Figure 160. Building layout – Summary of occupation analysis.

The comparative analysis of these seven attributes, allows us to identify some correlations that become evident when the variation of exhibition and non-exhibition areas is highlighted (as described in Figure 160), which in practice describe the same phenomenon. In other words, the variation in certain attributes is directly related to the increase/decrease of non-exhibition areas (such as integration, control, and controllability), as well as others are closely linked to the increase/decrease of exhibition areas (mean depth, choice, connectivity, and intelligibility).

In global terms this variation of attributes is significant (as demonstrated in the charts). However, in local terms, the spatiality of the building remains, to a large extent little altered. That is, when the distribution of spaces with the highest or lowest values of each attribute is observed through their convex maps, it is clear that the building retains much of the values foreseen in its built project (1954), although some exceptions can be pointed out, as discussed throughout the analyses. This is an interesting aspect, which, to some extent, demonstrates a certain inertia of the building's spatial system. In addition, these analyzes allowed a better understanding of the relationship of each attribute with the floors, sectors or specific spaces of the system, fundamental knowledge to understand how the exhibition layouts took advantage of this when defining their occupation.

7.2.1.2 As a hybrid movement system

The analysis of the layouts of the Pavilhão Bienal in terms of movement is based on the translation of its spatial systems into j-graphs and MCP j-graphs. These were the languages chosen to describe the building's spatial configuration as constituted by a system that can be traversed from a multiplicity of paths, which in turn embed a common minimum circulation path. That is, although the movement through the spaces of the building can acquire different configurations (where its floors and sectors can be covered in different extensions and sequences), these configurations are strategically structured by some key spaces (namely the entrances, stairs, and ramps of the building).

This duality of building were related with the concepts of system of multiple routes and system of origin and destinations, defined in the studies on natural movement and cities as movement economies (Hillier, 1996a; Hillier et al., 1993). In this context, the system of multiple routes (SMR) is described through the j-graphs (which represent all the convex spaces of contained in the complex and generic convex maps of the building) and the system of origins and destinations (SOD) is discussed based on MCP j-graphs (that describe only the spaces contained in the circulation path between the access and vertical connection spaces, both in their complex and generic model).

Unlike the previous analysis, which considered only the complex representation of the building[220], this analytical step considers both descriptive models, complex and generic, as it understands that the minimum circulation possibilities are also of great importance and can be observed in both systems (of multiple routes and of origins and destinations). Thus, the analysis of the biennial pavilion layouts as a system of multiple routes comprises the elaboration of the complex and generic justified graphs of its nine versions and the quantification of its main attributes - topological levels, convex spaces, and connections[221] (summarized in Figure 161). And the analysis of the biennial pavilion layouts as a source system contemplates the same steps but describes the systems using MCP j-graphs (as represented in Figure 162). In the first analytical (system of multiple routes), the MCP is highlighted to show hoe the systems are structured around it, as well as to provide a common basis for comparison between the extensive networks (especially those of the complex model).

---

[220] Which best described the variation of attributes and the maximum occupancy possibilities throughout the system (since the minimum occupancy would be not to occupy it at all – as happened at BSP 28 (2008), which left the third floor entirely free and remained known as the empty biennial).

[221] Whose values were represented according to the minimum and maximum values obtained for each attribute in both models.

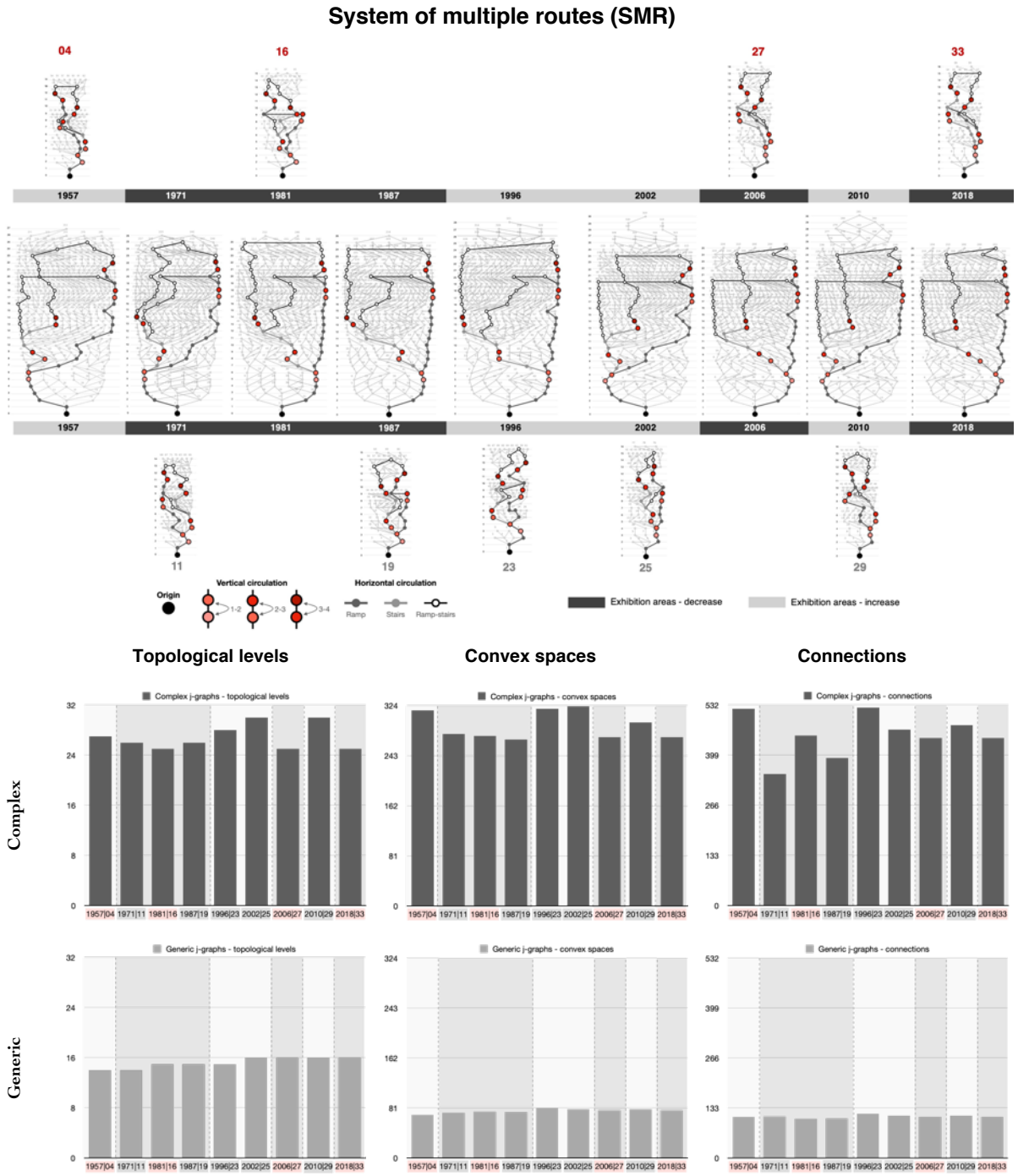


Figure 161. Building layout – Movement analysis (systems of multiple routes) and variation of attributes (topological levels, convex spaces, and connections).

The idea of the building as a system of multiple routes seems to become evident when these spatial systems are represented by j-graphs, which due to their general structure illustrate the high degree of possibilities of movement contained within the building. Evidently such possibilities are greater when the building is described in all its complexity, than when it is represented in a generic way (since many of its spaces are unified).

The generic j-graphs, top and bottom rows of the matrix (to illustrate the group of cases they are associated with – narrative/top, capital/bottom), constitute much shorter representations of the building's spatial systems. This shortening is evident in the number of topological levels (which reduces by about 50%), convex spaces and connections (reduced by about 75%) between the complex and generic models of the building.

This smaller reduction in terms of topological levels can be attributed to the MCP configuration, highlighted in all j-graphs. In other words, in both models, the MCP practically covers the entire system in terms of topological levels, reaching the last levels in most building versions. The versions in which this does not happen are those in which the building was longer, 1996, 2002 and 2010, where the last 3, 5 and 6 topological levels, respectively, are not covered by the MCP. Therefore, it can be concluded that the MCP covers about half the depth of the building's spatial system, from which is possible to have a visual domain of the entire system (when deprived of the supports added by the exhibitions). In other words, the generic j-graphs seem to describe the minimum configuration into which these spatial systems can be reduced (considering that the system is vertically connected by both ramps and stairs).

The complex graphs from the years 1996, 2002 and 2010 have the particularity of being the deepest (with 28 and 30 and topological levels each), they also have few spaces on these levels, which describe the spaces for access to the auditorium and restrooms (in 1996 and 2002) and the space between the MAC-USP storage and the auditorium/restrooms (in 2010). It is noteworthy that the 1957 complex j-graph, although it is also a long building, did not have the same characteristic, as the floor plans of its exhibition (BSP 4) described the auditorium and bathrooms as spaces not accessible to visitors (therefore considered as non-exhibition areas). However, if these spaces are considered as exhibition areas, the graph would probably have the same characteristics as the 1996 and 2002 graphs. In all complex j-graphs, the first topological levels have fewer nodes, which represent floors 1 and 2, also smaller in area in relation to floor 3 and 4 (in the case of the longer versions).

In general, the spatial changes that the building undergoes over the years are observed with greater emphasis in its complex j-graphs, which are longer the larger the building's exhibition areas. This is especially evident in the last topological levels of the j-graphs of the 1996, 2002 and 2010 buildings, whose sparse number of spaces refers to the auditorium and restrooms accesses (in 1996 and 2002) and to the segregated spaces between two non-exhibition areas, the MAC-USP storage and the auditorium (in the 2010 building).

The analysis of the MCP from the j-graphs shows that the transitions between floors are situated at approximately the same topological levels in all cases and models, as well as its general structure is the same (an initial straight path, between floors 1-2, and two large circulation rings, between floors 2-3 and 3-4). These paths, however, become more readable when represented separately, as described in Figure 162.

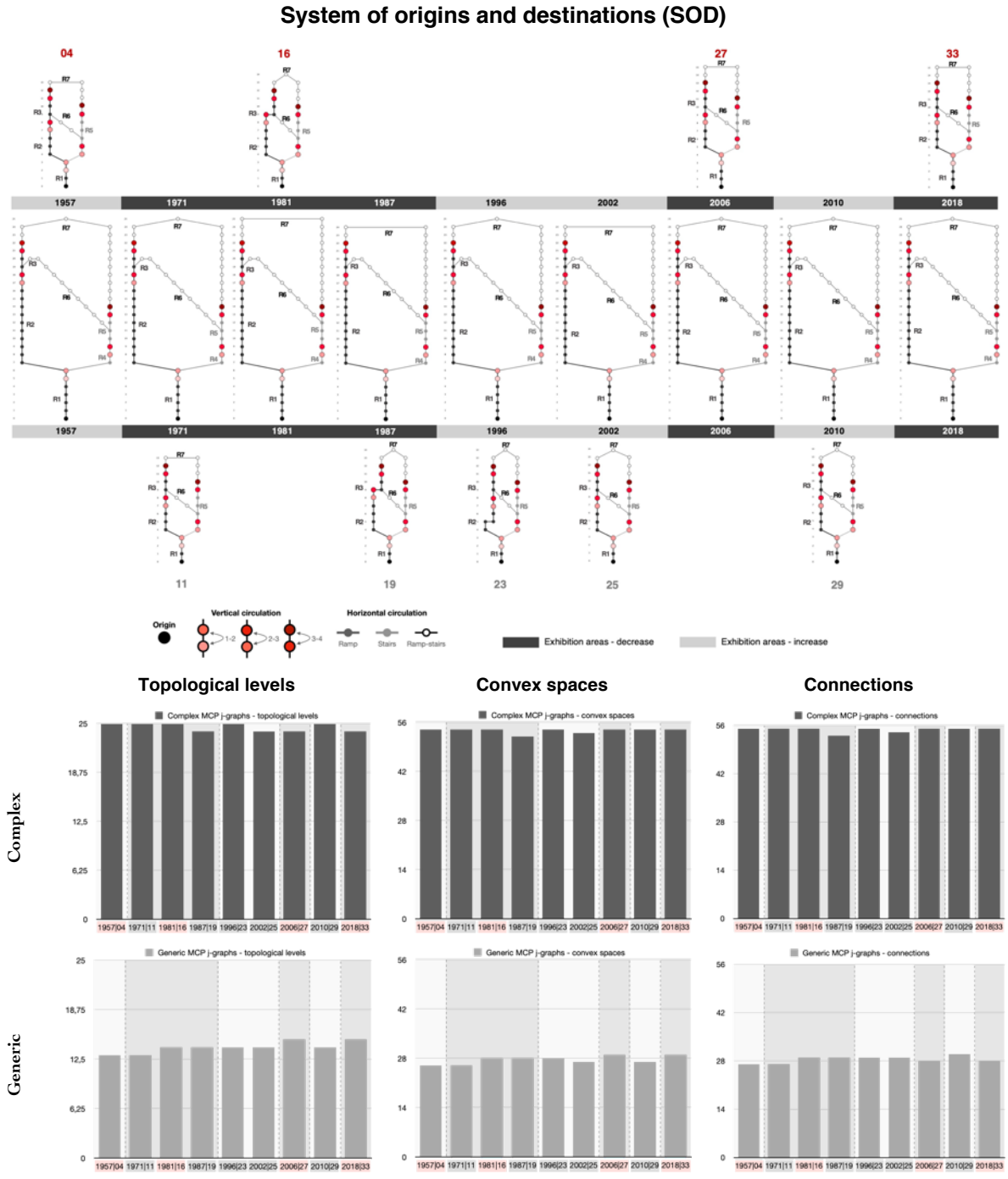


Figure 162. Building layout – Movement analysis (systems of origins and destinations) and variation of attributes (topological levels, convex spaces, and connections).

The complex and generic MCP j-graphs of the nine spatial systems show that the building's system of origins and destinations (represented by the minimum circulation path) has remained virtually unchanged over the years. This is due to the fact that this path does not pass through the areas that suffered the most changes in the system (especially fourth floor/sector C). In this set of graphs, the difference in values between the complex and generic models was about 50% for all observed attributes (topological levels, convex spaces and connections). That is, the translation of the MCP from complex to generic represented the reduction of these spatial systems by half.

In the complex MCP j-graphs the only changes are observed in regions 6 and 7 of the path (horizontal connection between ramp and stairs on floors 3 and 4, respectively), which can be shorter or longer (with 9 or 10 convex spaces in region 6 and 13 or 14 spaces in region 7), depending on changes in the exhibition areas in sector A (such as the introduction of the FBSP facilities, for example). The other regions (R1, R2, R3, R4 and R5) remained unchanged in all systems.

The generic MCP j-graphs also presented the same structure as the complex models, as well as few variations. However, despite being very simple, these graphs also capture the spatial changes that the building has undergone over the years, which can be observed in practically all its regions, albeit in a subtle way.

For example, region R1 becomes slightly larger from 2006 onwards (increasing from 1 to 2 convex spaces), when non-exhibition spaces located on the first floor increase (near the bathroom and the ramp connecting floors 1 and 2 increase). The R2 and R3 regions vary both in size (as in the case of R@, which can have 3 or convex spaces), and in structure, with changes in direction at the same topological level (as in the buildings of 1981, 1987 and 1996). Both situations also reflect the increase/decrease of exhibition spaces in sector A, as well as the fragmentation of these spaces. Region R4 is no longer represented in the generic model (since the ramp access space on floor 2 and the space leading to the stairs connecting floors 2-3 are the same). Regions R5 and R6 are unchanged and region R7 also varies between 4 and 5 convex spaces, depending on the fragmentation of sector A on the fourth floor. Although the variation between these regions for understanding the building layouts is not significant, the precise delimitation of their minimum and maximum sizes is essential to understand how the exhibition layout later changed these limits.

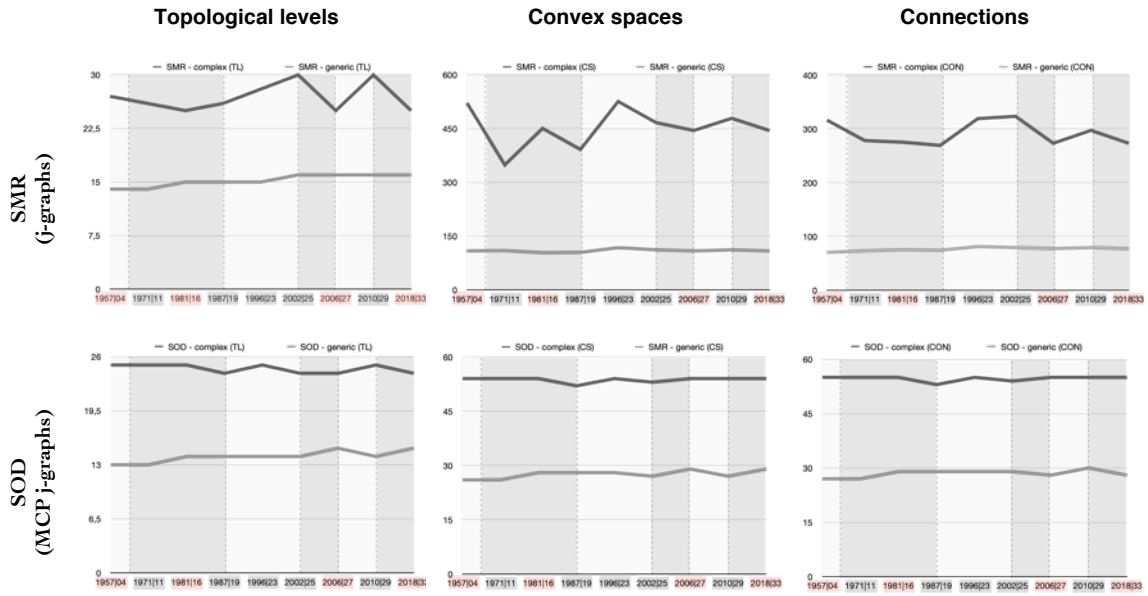


Figure 163. Building layout – Summary of movement analysis

Unlike the j-graphs of the SMR, the MCP j-graphs of the SOD are much less susceptible to the spatial changes that the building undergoes over the years. That is, the distinction between these two characteristics of the Pavilhão Bienal, as a system that allows navigation through multiple routes and at the same time has a minimum route of origins and destinations, becomes evident when the main attributes of these two systems are visualized together (as described in Figure 163).

This synthesis shows that the spatial system that changes the most over time is the SMR in its complex representation, whose increase or decrease in its attributes generally reflects the periods in which the exhibition spaces were also increased or decreased. On the other hand, the system that changes the least over time is the SOD in its generic representation (and whose reductions between the complex and generic models also occur in the same proportion for all attributes).

These four movement description possibilities (complex and generic SMR, through j-graphs / complex and generic SOD, through MCP j-graphs) although they may seem redundant for understanding the layout of the building, are fundamental to situate the layouts of the exhibitions in relation to these apparent minimum and maximum limits of movement embedded in the building's own configuration.

7.2.2 Exhibition layout

The discussion of the nine BSP exhibition layouts seeks to provide a general spatial characterization of their structures, as well as evidence for the discussion developed in the following topic, mediation between people and things (*7.3*), which correlates the findings of this analytical step with the findings regarding the layout of the building and the aspects raised in section *7.1* (mediation between things).

The analysis of these layouts is also developed according to the same procedures as the analysis of exhibition layouts, that is, in two steps that describe the spatial systems in terms of occupation and movement. Unlike the analysis of the building layouts, however, the spatial systems of the exhibitions only have one representation model, specific, because it brings together characteristics of complex and generic models of representation. That is, they partition the spatial system according to building barriers, but also join some convex spaces (when these are only delimited by columns and have the same exhibited content).

The occupation analysis is based on the convex maps of each exhibition, as well as the same seven attributes used to describe the layouts of the buildings (integration, connectivity, intelligibility, mean depth, choice, control, controllability). The analysis of movement possibilities, in turn, is based on the j-graphs and MCP j-graphs of these systems, in order to describe their maximum (as a system of multiple routes, SMR) and minimum (as a system of origins and destinations, SOD) movement possibilities.

These analyzes are discussed using the analytical matrix defined in chapter 6, which bring together the convex maps or j-graphs and MCP j-graphs according to the facet to which the cases are associated (narrative or capital), as well as highlighting the three periods of the classification system (in addition to charts with the numerical synthesis of the results).

Before discussing the results of the configurational analysis, some considerations are made about the plans of these exhibitions, as well as the quantity and distribution of displays added to their respective buildings. When examining the plans of the nine cases together, as depicted in Figure 164, the quantity of displays introduced by each exhibition seems to increase over time, as their layouts, to some extent, become denser. This can be better observed through the quantification of displays (by floor, in linear meters; by sector, in percentage), as represented in the charts of the same figure (164).

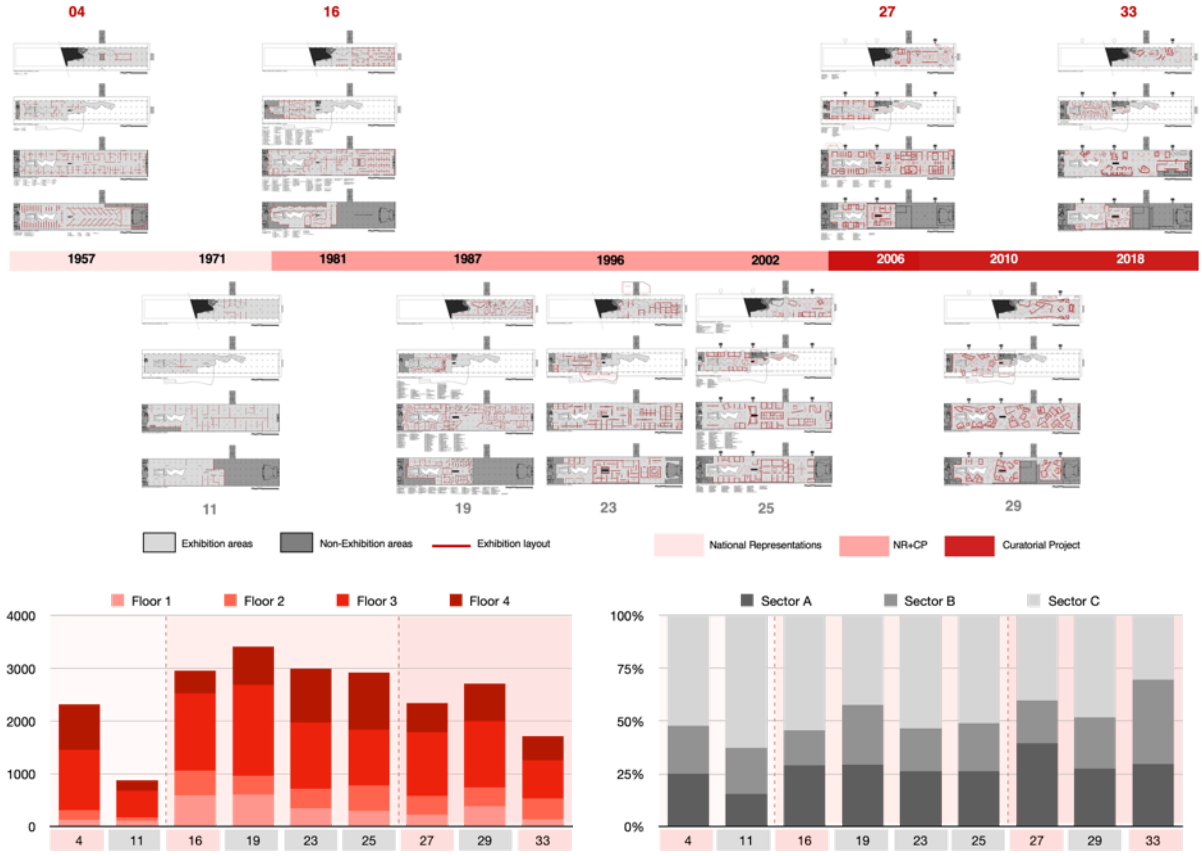


Figure 164. Exhibition layout – Plans and periods of the classification system (NR, NR+CP, CP) and variation in the number of displays (floor/sector).

This quantification demonstrates that the exhibitions corresponding to the NR + CP period (BSP 16, 19, 23 and 25) are those that added a greater number of barriers to the underlying building. This is an interesting aspect, as it is precisely in this period that the two classification systems overlap, as well as a large number of publications were identified (which suggests that the discourses of these expositions, to some extent, are more elaborate and longer). BSP 11 stands out for being the one that added the fewest barriers to the building, and its layout is quite empty compared to the others, followed by BSP 33, which also has a very open spatiality. The cases that most added displays to the fourth floor (BSP 4, 23, 25 and 29) are precisely those in which the exhibition spaces were larger. These displays, in turn, were introduced with greater intensity on floors 3 and 4 (larger and configurationally repetitive), as well as in sector C (largely made up of these floors).

While these aspects provide an initial picture of how occupation and movement were structured in these cases, their configurational analysis can provide evidence that allows for a more accurate characterization of these systems, as developed below.

7.2.2.1 As a specific occupation system

The study of the layouts of the BSP exhibitions in terms of occupation is based on the translation of their spatial systems into specific convex maps. This occupation analysis is based on the argument that the translation of the spatial system of exhibitions through specific convex maps describes how these systems are constituted both by the morphology of the building and the classification of artworks.

In the first group of attributes analyzed, integration, connectivity, and intelligibility (whose results are gathered in Figure 165), there is a correspondence between their configurations and the classification periods of the event. The biennials corresponding to the intermediate classification period (NR+CP), especially BSP 16, 19 and 23, were the least integrated, least connected, and most intelligible. The three biennials of the curatorial project period, BSP 27, 29 and 33, in turn, have low intelligibility, high integration (especially BSP 27 and 29) and low connectivity (especially BSP 29 and 33). Finally, BSP 4 and 11 are similar in terms of integration (highly integrated), but different in terms of connectivity and intelligibility, which are high in BSP 4 and low in BSP 11.

In summary, the cases corresponding to the NR+CP period (1981-2004) have low integration and are highly intelligible, whereas the cases of the CP period (2006-2018) showed opposite results, are highly integrated and poorly intelligible. This aspect, in turn, suggests that the large number of classification criteria that characterize the intermediate period (as noted in its catalogues) contributed to these exhibitions being less integrated, due to the high convex partition of the system, but at the same time more intelligible. The most stinking case in this regard is BSP 23, less integrated and most intelligible of all. Interestingly, this is the only case that shifts the more integrated spaces from the third floor/sector B system to the fourth floor/sector B.

This shift can be attributed to the fact that the vertical connection between floors 3 and 4 via stairs was cut in this edition, possibly for reasons of safeguarding the artworks displayed in the adjacent spaces to the stairs on the fourth floor (air-conditioned area). In addition, this low integration can also be attributed to the fact that this is one of the longest buildings in the set, where, on the 4th floor/sector c, works located at the rear of the air-conditioned area, connected only by a corridor with the sector A (ramp).

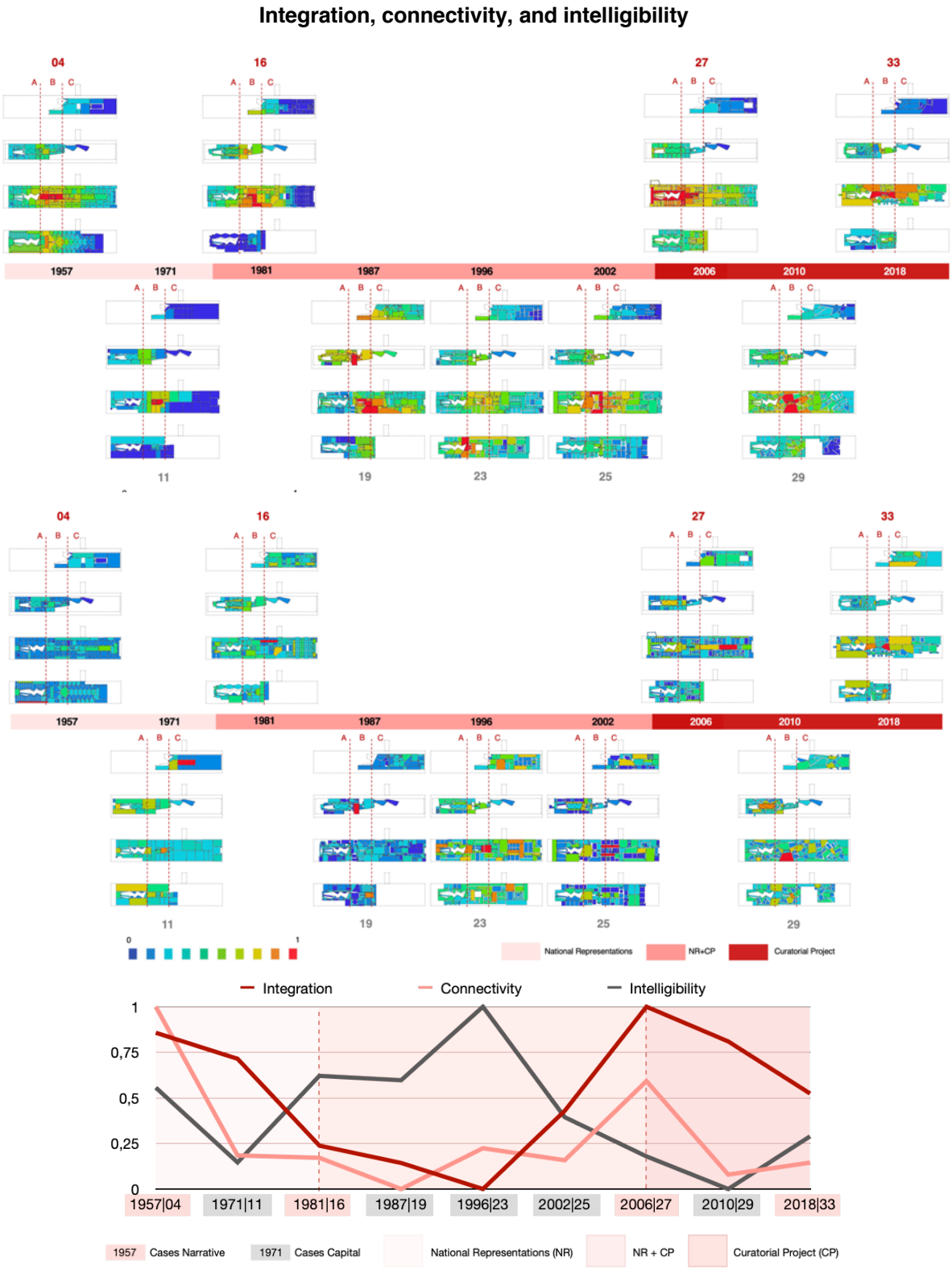


Figure 165. Exhibition layout – Occupation analysis (integration, connectivity, and intelligibility).

In contrast, BSP 27, the most integrated of the set, is the only case in which spaces adjacent to the void, floor 3/sector A, also showed high integration (in addition to the stairs, floor 3/sector B). This aspect can be attributed to the fact that the layout of this exhibition created a slightly elevated square on the third floor/sector B, which connects with sectors A and B in a single point (while connecting sectors A and B directly through side passages to this square). This architectural solution, therefore, seems to have brought sector C (deeper) closer to sectors B and A, increasing the integration of the latter.

The other cases seem to follow the distribution embedded in the complex model of the building, where the most integrated spaces are located on the third floor/sector B and the less integrated ones in the C sector, floors 1, 3 and 4 (in the case of longer cases). BSP 11 and 16, however, stand out for having increased the number of spaces with low integration, which in the latter takes place on the fourth floor, sectors A and B, and in the former, it takes place throughout practically the entire system (that is, all spaces have low integration, except those located in sector B, floors 3 and 2). This increase in spaces with low integration is due to the layout, which in both cases takes the form of large circulation rings, making it impossible for other paths to be taken. BSP 29 also presented spaces with low integration on floor 4/sector C (due to the physical segregation with sectors A and B).

The connectivity attribute had low values in all cases, except for BSP 4 and 27. In both cases, this is due to the presence of circulation spaces that connect to many other spaces, such as on floor 4/sector A of BSP 4 and on floor 3/sector C of BSP 27, the most connected spaces in the entire system. This low overall connectivity value is attributed to the fact that, in the layout of the exhibitions, many of the spaces are connected with only one or two adjacent spaces (whereas in the complex model of the building this connectivity was on average 3 or 4 spaces, in the peripheral and central modules, respectively). In most systems, the most connected spaces were on floor 2, sector B, that is, close to the stairs. However, at BSP 11 it was on floor 1/sector C (a central space that give access to several rooms, the only portion of the layout that is not structured in rings) and at BSP 19 on floor 2/sector B (space adjacent to the entrance, which concentrated many other spaces and uses around).

Several other aspects about these layouts could be highlighted, however, at this point, the main finding concerns the apparent correspondence between these layouts both with the classification periods (in terms of global variation) and with the configuration of their underlying buildings (in the local distribution of spaces with higher/lower values).

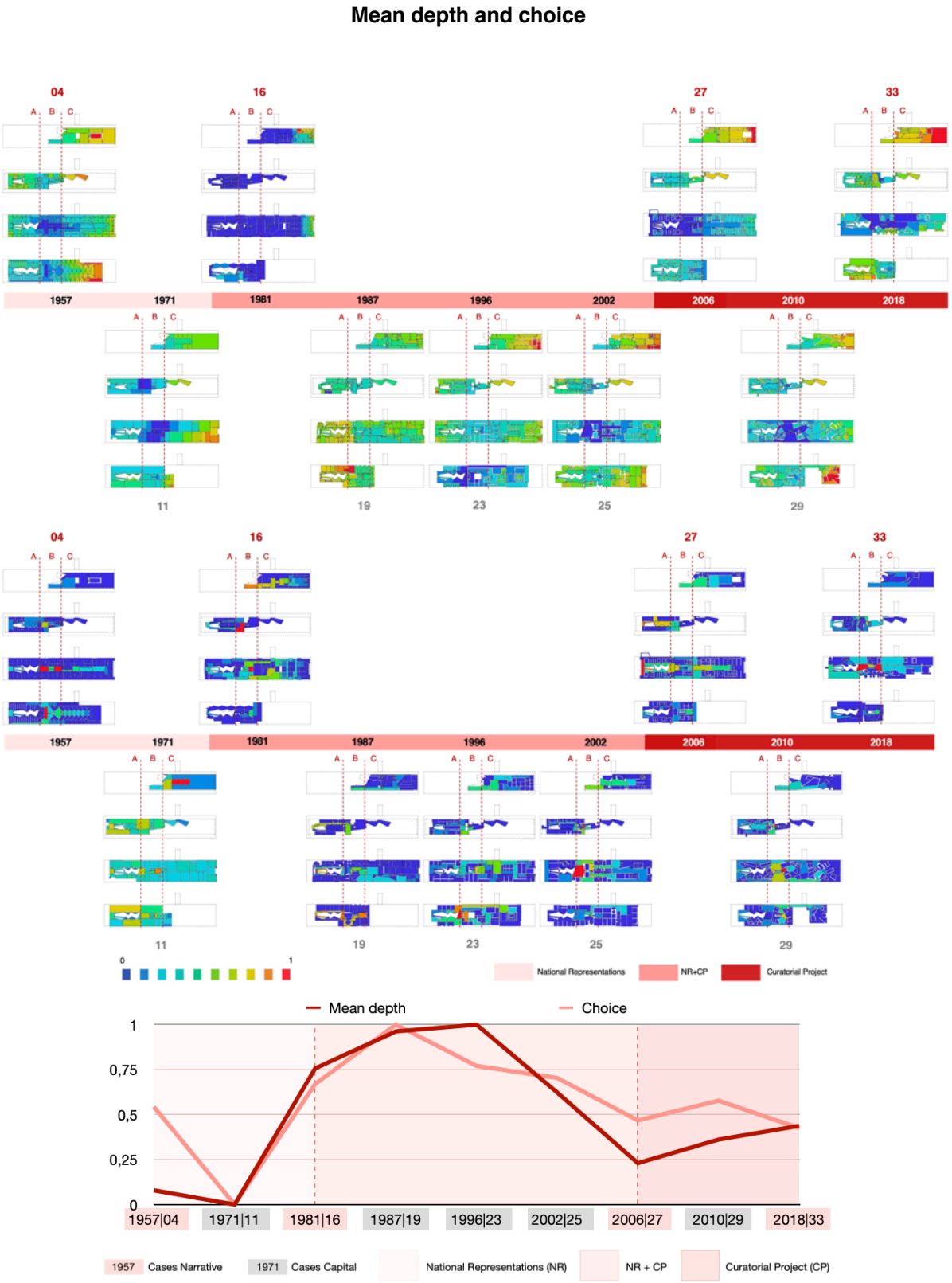


Figure 166. Exhibition layout – Occupation analysis (mean depth and choice).

The mean depth and choice attributes, in addition to showing similar global variation, also show a relationship with the periods of the classification system (Figure 166). That is, the biennials with the highest mean depth and choice values are those of the intermediate period (NR+CP), BSP 16, 19, 23 and 25. The biennials of the first and last periods (NR and CP), in general presented low and medium values for both attributes, respectively (although BSP 4 has an intermediate value of choice and BSP 27 has a lower mean depth value than the others of the same period – BSP 29 and 33). This aspect suggests that the curatorial discourses of the NR+CP period, by minutely classifying artworks and artists, strongly sectored these layouts, which in turn resulted in an increase in mean depth and choice attributes (as well as a decrease in integration and connectivity).

Such an argument also seems to explain the results of BSP 11, case with lower mean depth and choice of all. In this exhibition, were introduced less than 1000 linear meters of displays, a very low value compared to the other cases (as seen in Figure 164). In addition, although this exhibition had a classification beyond the countries of origin of their artists (as seen in the analysis of its catalogues and plans), such classification is not expressed configurationally as in other cases. That is, the entire layout of the exhibition is very homogeneous, with large rooms and ringed circulations, thus not producing a clear sectorization as in other cases. This homogeneity is also observed in the local distribution of choice, where most spaces in the system had intermediate values. Spaces with the highest and lowest values, in turn, are located on floor 1/sector C, a central hallway (high choice) with rooms that open directly onto it (low choice).

Still on the local distribution of the choice attribute, it can be highlighted that most systems presented the spaces with the highest choice value on floor 3/sector B (stair access, as in BSP 4, 16, 25, 29 and 33. BSP 19, 23 and 27, however, shift the space with the highest choice value to floor 4/sector B (BSP 19 and 23) and to floor 3/sector A (BSP 27). In the case of the first two, this shift can be attributed to the profound changes that the layout of these exhibitions makes in relation to the layout of their buildings – dividing the third floor in half (BSP 19) and closing the stairs on the fourth floor (BSP 23). In BSP 27, the square created in floor 3/sector B, mentioned in the analysis of the previous set of attributes, also seems to play a role in this regard. In all systems, spaces with low choice value predominate (frequently also spaces with low connectivity), interspersed with spaces with medium and high choice value, which in many cases resemble spaces of circulation,

(but which in many cases are also occupied by artworks. This is case of the central structuring central axis of floors 3 and 4 of BSP 4, and of floor 3, in the case of BSP 27.

The local distribution of the mean depth attribute in many cases seems to follow the distribution of the underlying building, with shallower spaces in floor 3/sector B and deeper spaces in sector C (floors 1 and 4), as in BSP 4, 11, 25, 29 and 33. However, some exceptions can be highlighted. The main one is BSP 16, which, despite having a high global mean depth value, concentrated the deepest spaces all at the ends of floors 1 and 3/sector C. Practically all other spaces of the system were represented as shallow (blue).

This aspect is also related to the sectorization of the exhibition, which in these two areas acquires a high convex partition. In these areas, the partition contained in the structural module is maintained (i.e., 60 or 120 square meter rooms) or is subdivided into two rooms (in the case of floor 3), which correspond to the *Divergente* sector (first floor) and the *Arte Postal* sector (third floor) (FBSP, 1981a, 1981b), discussed in chapter 4, in the analysis of classification systems and catalogues, as well as in chapter 6, in case characterization. This is an interesting result because, despite the mean depth and integration attributes being conceptually similar, their local distributions showed distinct aspects about these exhibitions, as in the case of BSP 16 (which presented more variation in local terms in the integration attribute).

In contrast, BSP 19, despite having the second highest mean depth value in the set, was the only one that had practically no shallow spaces (dark blue). In other words, it is as if this entire spatial system were deep, which can be attributed to the way its layout structured the route, where the visitor must go up to the fourth floor to be able to go down again (since the third floor was split in half).

BSP 23 shifts the shallower spaces of the system to the fourth floor (by closing the stairs and concentrating the movement of people along the ramp) and BSP 33 expands the shallower spaces to sectors A and B of the third floor. This aspect reflects the sectorization embedded in its curatorial project, *Afinidades Afetivas* (FBSP, 2018), with autonomous exhibitions that distinguished artists selected by the main curator from those elected by the artist-curators. Such a distinction was made by the wide spacing left between them, resulting in an open spatiality in this region which may have contributed to making this whole floor shallower.



Figure 167. Exhibition layout – Specific spatial systems (control and controllability).

Finally, control and controllability attributes also showed intense variation throughout the analyzed cases (Figure 167). In general, it can be observed that in the first period of the classification system, CP, these attributes had values close to each other and between 0,25 and 0,75. Unlike period 3, CP, where the control values tend to 0 and the controllability values tend to 1. Period 2 (NR+CP), in turn, is the one with the greatest variation between attributes and between cases, reflecting, to some extent, the diversity of classification criteria and spatial solutions that constitute this period.

On the two cases of the CP period, the similarity in the control values between BSP 4 and 11 can be attributed to the open spatiality of their layouts. However, if this apparently open spatiality characterizes the entire BSP 11, it is strongly interrupted in some sectors of BSP 4, particularly those of the fourth floor, which represent the architecture and the theater biennial (MAM-SP, 1957), which explains its general differences both in terms of control and controllability. In BSP 11, its overall control value is higher because its layout is arranged in such a way as to configure wide circulation rings, which do not allow for many different route possibilities. Interestingly, the spaces with higher values of control and controllability values are the same in both cases – circulation spaces that give access to several rooms simultaneously – on floor 4/sector A (BSP 4) and on floor 1/sector C (BSP 11). The difference between their controllability values is greater and can also be attributed to the arrangement of displays. Although BSP 4 introduces a much larger number of barriers in the building, these barriers are arranged in a more open way, that is, they allow multiple paths, with central (sector C, floors 3 and 4) or peripheral (sector A, floor 4), circulation spaces with a higher control value that their neighboring spaces. On the other hand, BSP 11, even with a low number of barriers, by arranging their rooms sequentially and in a certain zigzag, reduces, in local terms, the control of the system, as each space connects to only two other spaces at a time, having low physical and visual permeability.

In the three cases from the third period (CP), BSP 27, 29 and 33, their opposite results in terms of control (low) and controllability (high) suggests that their layouts offer the visitor the possibility to traverse through the exhibition from many different paths, as well as to visually apprehend it from many points along the way. In fact, the layouts of the BSP 29 and 33 are the most irregular of the entire set. The latter, by clearly differentiating the artists selected by the curator from the artists selected by other artists, according to the guidelines of its curatorial project (FBSP, 2018a), is constituted by autonomous exhibitions with clearly distinct and distant configurations. The former, having its architectural project

inspired by the idea of an archipelago, consisting of sets of small irregular spaces connected to each other by small squares, the so-called *Terreiros*, where activities took place (FBSP, 2010a). Among the three cases, the BSP 27 is the one with the most orthogonal spatial organization system, whose logics are evident, for instance, in the longitudinal spaces that structure the floor 2/sector A and the floor 3/sector C (spaces with high system control). Even so, its spatiality allows the development of multiple paths, which are also structured in peripheral corridors, since the layout of the exhibition is detached from the building's facades. The fluid layouts of these three exhibitions, in turn, make them systems with a high controllability, since the irregular distribution of their internal spaces generates several spaces that can be visually dominated from specific points of the system, such as the deeper portion of the BSP 29 (floor 4, sector C).

The cases from period 2 (NR+CP), in turn, present very different results from each other, which suggests that these are strongly sectored cases, but also very different in configurational terms. The case of BSP 19 is very instructive in this regard, as it presents an opposite distribution to that observed in the cases of period 3 (CP), high control and low controllability. Such characteristic is easily understood when one observes the local distribution of spaces with the highest control of the system, which in this case corresponds to a single space, the one at the entrance to the exhibition, at which many other spaces in the set converge, as well as a horizontal and vertical transition between sectors and floors. The case of BSP 23 is interesting because, although this edition closed access to the stairs on the fourth floor, this did not result in a high control value in global terms, but locally some spaces play an important role in this regard, such longitudinal spaces (which also function as corridors) on floors 1 and 2, as well as the space that connects the deeper portion of floor 4/sector C with sector B (separated from each other by the air-conditioned area). Finally, BSP 16 and 25 present similar and intermediate control values, with a similar local distribution, especially with regard to the system's greater control space, a corridor located between sectors B and C of floor 3. In terms of controllability, however, BSP16 presents higher values in relation to BSP 25, since the spatial configuration of BSP 16 is more labyrinthine in some points, as on floor 3/sector C (*Arte Postal*), which concentrates some of the spaces with the highest controllability of the system – corners that can be visually dominated from many other adjacent spaces.

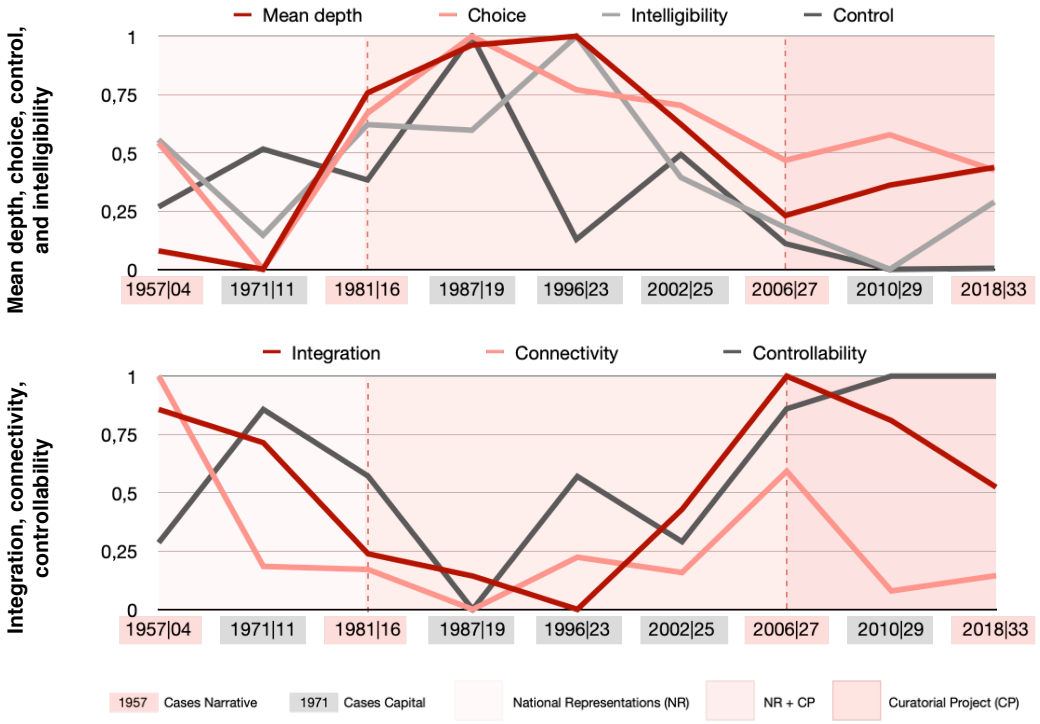


Figure 168. Exhibition layout – Summary of occupation analysis.

By observing the global variation of all attributes together, a certain correspondence with the three classification periods can be identified, where the BSP 16 and 27 seem to constitute milestones in the spatial history of these exhibitions – since the general behavior of these attributes tends to change in the periods delimited by these exhibitions (Fig. 168).

In general, the cases corresponding to the NR+CP period (especially BSP 16, 19 and 23) tend to have extreme values, very high for some attributes, such as mean depth and choice and very low for others, especially integration and connectivity. The control and controllability attributes vary more, but it is still possible to notice a correlation between these and the event classification periods. Such result may indicate that the exhibitions of this period are, to some extent, more strongly mediated spatially, as its attributes seem to be heavily manipulated to classify content and define paths, which converges with the elaborated structures of the publications (catalogues) of this period.

The cases from period 3 (BSP 27, 29 and 33), suggest that these are exhibitions that are more open to different interpretations, since they present, for instance, high integration, high controllability and low control. The first period exhibitions, in turn, tend to follow a similar pattern, although the BSP 4 and 11 are very different from each other. Movement analysis, in turn, can provide more evidence in this regard, developed below.

7.2.2.2 As a hybrid movement system

The analysis of the BSP exhibitions in terms of movement is made through the description of the dual constitution that characterizes its spatial system: as a system of multiple routes (SMR), described through j-graphs, and as a system of origins and destinations (SOD), described through j-graphs of the minimum circulation path (MCP j-graphs), both based on the convex maps of exhibitions.

The results of the first analytical step, the analysis of the exhibition layouts as systems of multiple routes (SMR) are gathered in Figure 169, which, in addition to the nine j-graphs (on which the MCP is highlighted), also describes the variation of its main attributes (topological levels, convex spaces, and connections).

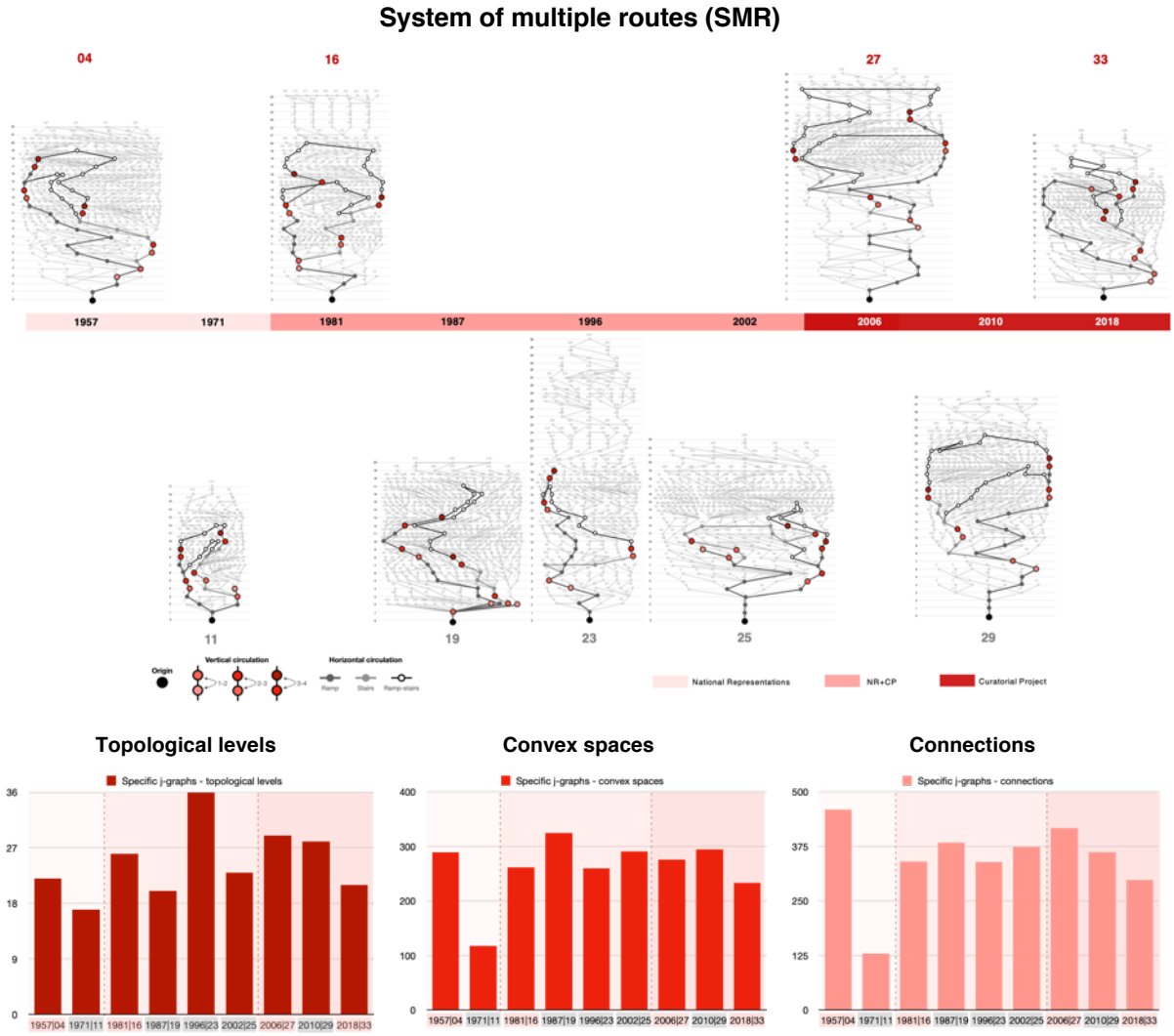


Figure 169. Exhibition layout – Movement analysis (systems of multiple routes, SMR) and attribute variation (topological levels, convex spaces, and connections).

The results of the three attributes observed in these systems, as well as the general configuration of these networks, allow us to discuss some particularities of these networks. The first aspect is that in terms of convex spaces and connections, most cases present similar values, except for BSP 11 (with low values of convex spaces and connections) and the BSP *4*, which, although similar to the others in terms of terms of convex spaces, has a high number of connections.

The high connectivity of BSP *4* can be attributed especially to the occupation of its fourth floor, which housed the sectors corresponding to the architectural (in sector A) and theater (in sectors B and C) biennials (FBSP, 1957). The differentiation and specificity of the contents displayed on this floor, in comparison to the other floors that housed the art biennial, is expressed not only in its high convex partition (which in the graph can be observed in the last topological levels of the system, which are quite dense), but also in its high connectivity, since it was possible to make multiple routes through the floor, along its side (in sector A) and central (in sector B) corridors.

BSP 11, in contrast, is the smallest system, also in terms of topological levels, with only 17 levels. With regard to this last attribute, its differences are less pronounced, approaching BSP 19, with 20 levels. However, the mechanisms that make them spatially similar in topological levels are quite different. In BSP 11 this can be attributed to a very low convex partition of this case (it is the biennial that least introduced barriers in the building among the 9 cases, and possibly among all the cases that were held in the Pavilhão Bienal).

In the case of BSP 19, the number of convex spaces is the highest of all cases, as well as presenting a high number of connections (only lower than BSP *4* and 27). Therefore, what can explain its reduced number of topological levels seems to be precisely the bold changes that this exhibition makes in the configuration of the building, particularly the fact of positioning the entrance on the second floor/sector B (in a central position, while all the others are in sectors A (when located on the second floor, such as BSP 11 and 25) and C, when located on the 1st floor (as in most cases). This aspect seems to be the main responsible for the particular configuration of this case, quite dense from the first to the last topological levels. A similar effect is observed, although to a lesser extent, in BSP 25, whose depth is close to BSP 19, with 23 levels. This biennial (25) also places its entrance on the second floor, although in sector A, on the shortest façade of the building. Thus, the biennials with the lowest number of topological levels are precisely those that placed the entrance on the second floor (BSP 11, 19 and 25).

The layout of BSP 19 still undertakes a second substantial change in the building, which is the third floor division (segregating the horizontal connection between the ramp and the stairs on this floor). However, this aspect does not seem to have a great effect on this reduced number of topological levels. On the contrary, judging by its MCP, such a solution seems to operate in the direction of increasing the depth of the system, if not in terms of the maximum possibilities of movement, in terms of the minimum ones.

Another case that draws attention is BSP 23, the largest system among the nine cases in convex spaces, but mainly at topological levels, with 36 levels (followed by BSP 27, with 29 levels, a considerable difference). Despite the high convex partition of this system, its layout is quite fluid on floors 1-3 (i.e., it allows multiple routes, as well as it consists not only of enclosed rooms, but also of loose partitions). However, the spatial solutions adopted on the fourth floor seem to be strong enough to significantly increase this depth of the system. Such solutions, exemplified in the characterization of this case in chapter 4, refer to the closing of the stairs between floors 3 and 4, and to the definition of a sector largely segregated from the other spaces on this floor, on the perimeter of the air-conditioned area. This sector, known as museological space[222] (FBSP, 2002), segregates sector A from the deepest portion of sector C, located behind it.

Although it belongs to a group of much more recent exhibitions, from the period of the curatorial project (CP), the BSP 33 also presented a short spatial system (with 21 topological levels), compared to the cases that preceded it (BSP 27 and 29). However, unlike BSP 11, 19 and 25, which achieved such a shortening of the system mainly due to the positioning of the entrance on the second floor. In the case of BSP 33, such compactness is largely due to the open spatiality of its layout, which consists of several independent exhibitions, by artists selected directly by the curator or artists selected by other artists (FBSP, 2018a). This distinction between artists is sometimes made either by sectors that are very well delimited spatially (with the addition of several barriers), or by large halls with loose works, as in sector A, on floors 3 and 4 (which displayed the sculptures and installations by Nelson Felix and Denise Milan, respectively), which greatly reduces its convex partition and makes the entire system shorter (FBSP, 2018a, 2018b).

It is also worth noting that other systems have a relatively similar configuration, such as BSP 4, 16, 27 and 29. However, some differences can also be pointed. In the longer

[222] Since it exhibited the most sensitive works in terms of conservation and safety, often by recognized artists and possibly from the collections of large museums, as highlighted in chapter 4 (section 4.3), in the diachronic study of exhibitions.

systems, BSP 16, 27 and 29 (26, 29 and 28 topological levels), this stretching takes place in distinct regions. In the first case (BSP 16) it happens in the last topological levels (which correspond to the Postal Art sector, with a large convex partition), and in the last two cases (BSP 27 and 29) it happens in the first levels, which in these two cases are occupied by few partitions and large artistic installations.

In this set of j-graphs, the minimum circulation path seems to vary greatly. In some cases, this route approaches the last topological levels of the system, as in BSP 27 and 33. In others, this path is much shorter in relation to the entire spatial system, as in BSP 23 and 25. However, the biggest differences are in their general structure, which is quite different between cases. In addition, in them it was not always possible to identify all the regions and circulation elements contained in the MCP originally defined by the buildings.

Such differences become evident when these layouts are described as systems of origins and destinations (SOD). That is, when only the convex spaces and connections contained in the minimum circulation path (MCP) are represented. The MCP j-graphs of the nine cases are grouped in Figure 170, which also brings together the variation of topological levels, convex spaces, and connections of each system.

By observing the variation of the attributes of these networks, it is possible to notice a certain correspondence between their results and the classification periods of these exhibitions, where the last three systems – curatorial project (CP) period, presented a greater number of convex spaces, but also of convex spaces and connections (in the case of BSP 27 and 29).

This result suggests that these exhibitions, although they offer many possibilities for navigation (in which the visitor appears to have great freedom to choose to walk or not), seem to place great emphasis on spaces that would probably be covered by most visitors (that is, those contained in MCP and its surroundings). This emphasis is expressed in this stretching of the MCP, which reflects an increase in the occupation of these areas, as their convex partition increases (which can be understood as a form of control). For instance, in BSP 27 and 29, this is expressed in an apparent stretching of circulation region 1 (R1), which can be attributed to the fact that these editions positioned the entrances at the end of floor 1/sector C. At BSP 33, R1 is quite short because its entrance, despite being made through the same points as BSP 27 and 29, led into a large hall where it was necessary to pass through only one space, a long gallery, to access the second floor.

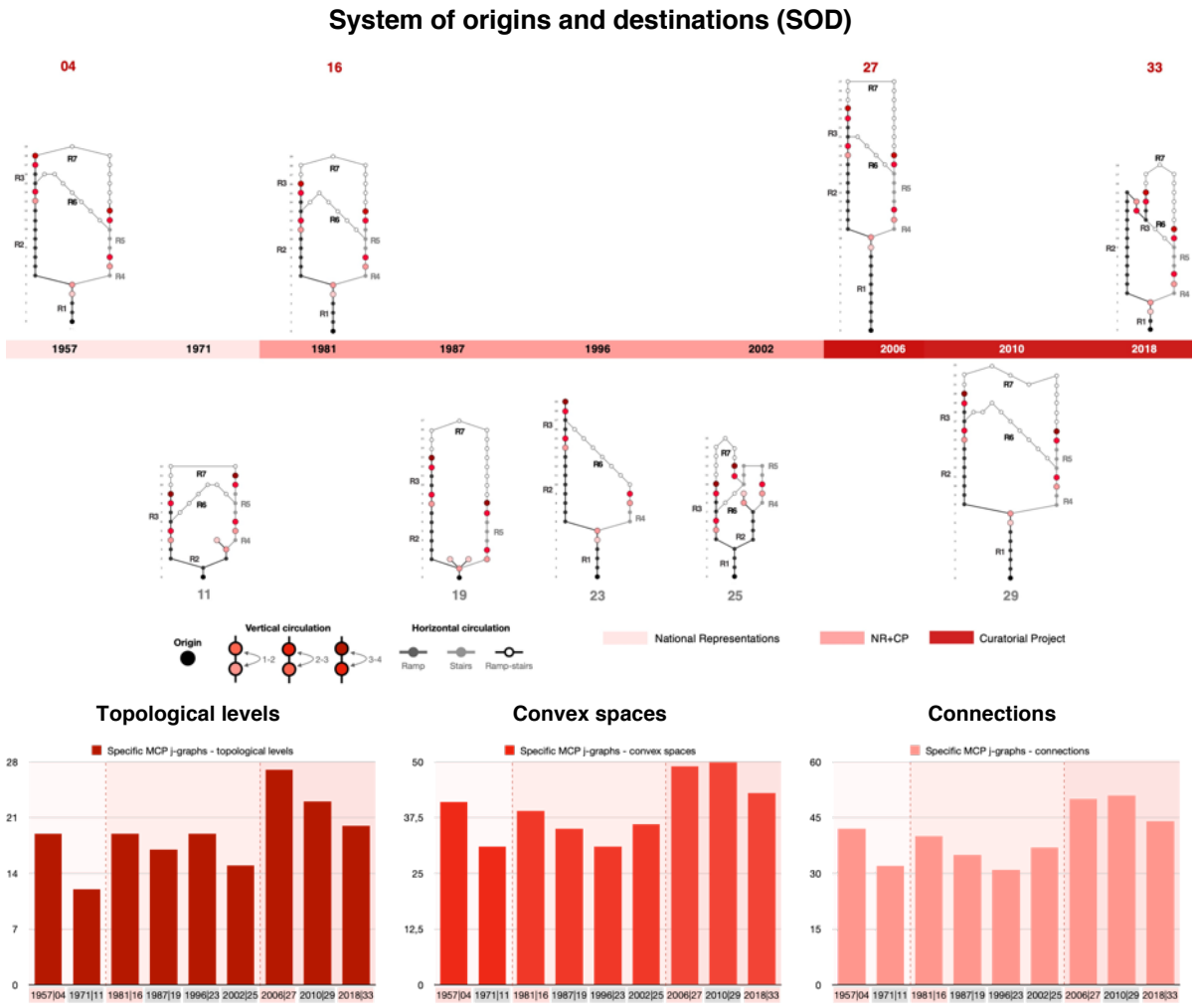


Figure 170. Exhibition layout – Movement analysis (system of origins and destinations, SOD) and attribute variation (topological levels, convex spaces, and connections).

When looking at the configuration of these paths, the systems that were most similar in terms of maximum possibilities of movement (SMR) are also similar in terms of their minimum possibilities (SOD), namely, BSP 4, 16, 27 and 29. That is, they seem to largely reproduce the MCP contained in the building, consisting of an initial straight path (connecting the entrance to the 2nd floor) and two large circulation rings (routes between floors 2-3 and 3-4). However, some differences between them can be highlighted. One of them is the elongated character of the BSP 27, which is due to both the stretching of the R1 and the shortening of horizontal circulation on floor 3. Such shortening can be attributed to the creation of a square around the stairs, sector B, which makes the visitor need to walk a few spaces to go from sector A to sector C (aspect also indicated in the examples of chapter 6, in the characterization of this case).

The BSP 33, although it has a slightly different MCP, is also configured by an initial linear path and two circulation rings. What explains the configuration of its regions R2 and R3, which, unlike all other cases, have changes of direction, is the fact that the layout of the second floor/sector A (R3) is quite long, whereas the layout of the path between ramp and stairs on floor 3 (R2) is quite open. This means that the visitor, to go from the ramp between floors 1 and 2 to the ramp between floors 2 and 3, has to go through many topological levels (which correspond to the labyrinthine exhibition by the artist Sofia Borges), while, upon arriving on the third floor, to go from the ramp to the stairs, the visitor only needs to go through two spaces (the great hall of the exhibition by artist Nelson Felix and the space for accessing the stairs) (FBSP, 2018a, 2018b).

A similar effect occurs in BSP 25, where the path between stairs on floors 3 and 4 (R%) is also lengthened and involves changes in direction (since rooms are installed adjacent to the stairs and the visitor needs to go around them to go from floor 3 to floor 4). On the other hand, the connection between the ramp and the stairs on the third floor is done in a very direct way, as the surroundings of the void are kept, to a certain extent, quite free.

In short, the systems of BSP 11, 19, 23 and 25, are the most distinct in terms of both maximum and minimum possibilities of movement. However, such distinction has different reasons. In the case of BSP 11, it is observed in the absence of the circulation region R1 (since its entrance is made through the second floor – which also happens in BSP 19 and 23), as well as in R4, since to go to the first floor it is necessary to go deeper into the spatial system (that is, to go up, in terms of topological levels), which explains this bifurcation.

In BSP 19 this aspect is further explored since the ramp connecting floors 1 and 2 was split in half in its longitudinal direction (causing this bifurcation in the graph). In BSP 25, the connection between floors 2 and 1 takes place at the deepest point among all cases (levels 8 and 9) since this edition positioned its entry at the end of sector A (the only case among the biennials between 1957 and 2018). In the case of BSP 19, despite its entrance to the central portion of the second floor (sector B), its MCP is deeper (compared to BSP 11 and 25) due to the division of the third floor, which generates this configuration in a long and unique ring that connects floors 2 to 4 – what causes the disappearance of R5.

The strange configuration of BSP 23, in which it seems that part of its constituent elements is missing, is in fact explained by the cutting of the connection between floors 3 and 4 via stairs. What its graph describes is that the visitor can reach the fourth floor

through the ramp and start the return journey from that same point. The possible reasons for this decision, which in practice cuts off the communication between the stairs and the air-conditioned area (destined for the exhibition of works with a higher degree of conservation or safety requirement), were highlighted in the examples in Chapter 6.

Finally, the graphs that present the most variations (BSP 11, 19, 23 and 25) are precisely those in which the layouts of their exhibitions proposed substantial changes in the underlying layouts of their buildings. That is, changed the main entry point, divided floors, and cut the communication between circulation elements. Whereas the BSP 4, 16, 27, 29 and 33, of similar configurations, appear to largely reproduce the MCP of the underlying building. However, despite not having altered the circulation elements, these cases significantly altered the regions of these paths. That is, they lengthened or shortened these regions, as well as proposed changes of direction in the navigation between elements, aspects that are explained not by the apparent obstacles posed by the building (that is, by its fixed elements), but by the way in which its curatorial projects classified their contents.

* * *

This section, mediation between people (7.2) described and analyzed the layouts of buildings and exhibitions independently, to characterize, in terms of occupation and movement, the limits and possibilities offered by the nine versions of the building, as well as understanding what each exhibition actually materialized. With regard to buildings, the spatial changes between the versions have little effect on their configuration (both in the local variation of the seven attributes of occupation analysis, and on their maximum and minimum possibilities of circulation) – which seems to support a multiplicity of layouts. The exhibitions, in turn, presented considerable variations. In terms of occupation, they tend to present a correspondence between attributes and periods of classification, where the cases of period 2 (when there is an overlap of classification logics) are quite different from those of periods 1 and 3. In terms of movement possibilities, in turn, the similarities and differences between these cases, although they are also related to their curatorial discourses, seem to be more related to the way in which the visitors' journey through the artifacts was conceived. This panorama, in turn, supports the following discussion between these two layers of spatial mediation, between things and between people.

7. 3 Spatial mediation

The third part of this chapter discusses the notion of mediation in an integrated way, that is, articulating the other two previous sections (mediation between things and mediation between people) to characterize its forms of occurrence. It is divided into three parts. The first, spatial mediation, occupation, and movement (7.3.1), comparatively discusses the results obtained for both the analysis of exhibition and building layouts in terms of occupation and movement. The second, empirical synthesis (7.3.2) summarizes the results obtained for all previous analyzes. And the third part makes a theoretical synthesis (7.3.3) and characterizes the two types of spatial mediation identified – exhibition as a means and exhibition as an end, resuming some aspects discussed throughout the thesis, to support the characterization, as well as the raised interpretations.

The results are summarized according to the same analytical matrix as the analysis of the building layout and the exhibition layout. In this case, these matrices have 3 or 5 layers of information (among convex maps, j-graphs and MCP -graphs), which allow observing their relationship with the three exhibition classification periods (NR, NR+CP, CP) and the two sizes of exhibition spaces (shortened or lengthened) together (as illustrated in Figure 171).

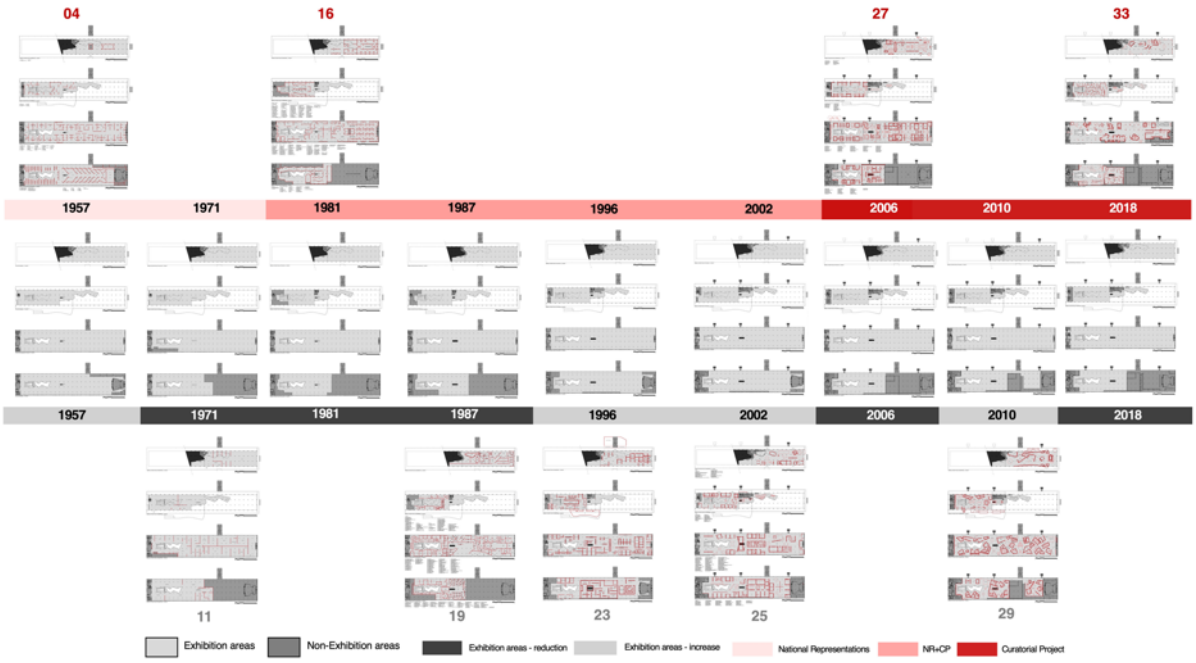


Figure 171. Building and exhibition layout – Plans and exhibition/building classification periods.

7.3.1 Spatial mediation, occupation, and movement

The discussion of the notion of spatial mediation in terms of occupation and movement is based on the comparative discussion of the results obtained from the analysis of the building layout (7.2.1) and the exhibition layout (7.2.2). This discussion makes it possible, in addition to understanding the spatial changes that the Pavilhão Bienal underwent in the nine years, as well as the main differences and similarities between its exhibitions (aspects discussed in previous analyses), to identify how each exhibition reinforced or subverted aspects of the configurations of their underlying buildings.

The comparative discussion of occupation analysis (7.3.1.1) brings together the results obtained for the seven attributes analyzed (integration, connectivity, intelligibility, mean depth, choice, control, controllability) for both layouts, buildings, and exhibitions, in their complex, generic, and specific models. The numerical results of the global analyzes (global values) are gathered in charts that describe the variation of the attribute in question for the three models – complex and generic (of the building) and specific (of the exhibition). The convex maps (the language used for the occupation analysis), in turn, which describe the local distribution of attributes along each system, only compare the specific model of the exhibitions with the complex model of their buildings, as this building model better captures the nuances of attribute distribution throughout the systems.

The comparative discussion of movement analysis (7.3.1.2) is done according to two analytical scenarios, a system of multiple routes (SMR) and a system of origins and destinations (SOD), presenting the j-graphs and MCP j-graphs of buildings and exhibitions together. For each of the scenarios, the attributes of topological levels, convex spaces, and connections are also described.

Finally, a first attempt to synthesize the analysis of these 13 attributes is made (7 of the occupation analyzes and 6 of the movement analyzes – since the 3 attributes that describe the movement analysis are observed for two distinct scenarios) is made, to describe how the layouts of the exhibitions are situated in relation to the layouts of their buildings. This synthesis considers: the complex building model to reference the results of the occupation analysis and the first scenario of the movement analysis (system of multiple routes, SMR) – that is, building as maximum limit; and the generic building model to reference the results of the second movement analysis scenario (system of origins and destinations, SOD) – in which the building is a minimum limit.

7.3.1.1 Comparative discussion of occupation analyzes

The comparative discussion of the occupation analyzes between the building and exhibition layouts is based on their global results (described in the charts) and local distribution (described in the convex maps), gathered in Figures 172, 173 and 174. Such results are presented and discussed following the same previous order of presentation of attributes: integration, connectivity, and intelligibility; mean depth and choice; control and controllability. While charts allow comparing systems globally, convex maps allow observing in detail the local distribution of spaces with the highest or lowest values and the gradation between them.

The analysis of the three figures in general shows that, in global terms, the layout of the building and the exhibitions diverge significantly (although they coincide in some cases of certain attributes), and in local terms, the buildings show little changes between them, but significant changes when compared to their exhibitions.

In the integration attribute, the BSP that presented global values closer or equal to those of their buildings were BSP 16 and 27, respectively, where the first has a low integration and the second has the maximum integration of the set. The biennials that most diverge from their buildings globally are the BSP 4 and 29, with high and medium integrations.

When these cases are observed locally, some aspects can be highlighted. Although the four cases maintain the most integrated spaces of the system on floor 3/sector B, BSP 27 expands these spaces along floor 3/sector A (when creating a slightly elevated square in sector B that topologically approximates sectors A and C) and BSP 16 also expands these highly integrated spaces towards the floor 3 floor/C sector (by creating a very open area in this region in contrast to well-defined sectors on the left and right). Such expansion of these highly integrated spaces through the creation of transition areas between the sectors of the exhibition (which largely coincide with the sectors of the building) also takes place in BSP 19 (whose highly integrated spaces are also observed on floor 2/sector B, entry point of the exhibition that connects with many other spaces horizontally and vertically) and in BSP 33 (due to the alternation between well-defined sectors and wide-open spaces).

Other biennials reduce these highly integrated spaces, as is the case of BSP 4 and, even more, of BSP 11, where these are strictly concentrated around the stairs. BSP 23, in turn, shifts the most integrated spaces of the system to the boundary between sectors A and B on the fourth floor, a displacement that can be attributed, to a large extent, to the closing of

the stairs and the concentration of vertical paths along the ramp. And BSP 25 creates a highly integrated circulation ring around the rooms adjacent to the staircase.

On the less integrated spaces of the system, there is a tendency to be concentrated in the same areas where the spaces of the building are concentrated. That is, at the ends of the floors, especially floors 1 and 4/sector C. BSP 11, in turn, by highly reducing the convex partition of the system and arranging these spaces in a very controlled path, makes such differences in integration accentuated and the whole system seems poorly integrated, with the exception of the stairs and the spaces immediately next to it. However, some cases also present a high concentration of convex spaces with low integration due to the strong classification of their contents (and consequent high convex partition in arrangements that define very delimited sectors), as in the case of BSP 16, where: floor 1/sector C corresponds to the *Divergentes* section; floor 3/sector C to the *Arte Postal* section; and floor 4/sectors A and B to the *Arte Incomum* section (FBSP, 1981a, 1981b, 1981c).

Other cases present very few spaces with low integration, such as BSP 19 and 33, where the less integrated spaces are on floor 4/sector A and on the far back of floor 1/sector C. This scarce presence of spaces with low integration can be attributed to a large extent to the bold changes that these cases undertake in the configuration of the building, modifying its minimum circulation path (as discussed in the analysis of movement), apparently the variable that most influences the distribution of spaces more/less integrated in the system, since the cases that least altered this path are precisely those in which the more/less integrated spaces in the system follow the same distribution as the building. However, the number of spaces and the area of the system they cover depend on the convex partition and its arrangement, which to a large extent reflects the classification of its artworks.

The global connectivity results of buildings and exhibitions seem to present a correlation with the three periods of the classification system, since BSP 19, 23 and 25 present widely divergent values from those obtained for their respective buildings, whereas the others presented closer values. The low connectivity of these systems can be attributed to the double incidence of classification criteria that characterizes this period (NR+CP) results in very well delimited and compartmentalized sectors, whose spaces, although in many cases arranged to allow multiple routes, often communicate with only one or two other spaces. Such divergence is also observed in BSP 11, however for an opposite reason, that is the low connectivity of this layout does not come from the fact that its contents are highly classified, but because its path is highly restrictive, and its rings involve several spaces.

In general, the exhibitions have low connectivity, since, on average, their spaces do not connect with other three or four spaces, such as the complex model of their building. The exhibitions that slightly deviate from this rule are BSP *4* and *27*, which have some highly connected circulation spaces (on floor *4*/sector A and on floor *3*/sector C, respectively). On the most connected spaces of the exhibition system, it is possible to observe both maintenance and displacements. In BSP *4*, 11, 19, *27* these spaces move to different floors and sectors, depending on the convex partition and arrangement, often being spaces that concentrate several other spaces around them, mainly for circulation, but also for exhibition, the same pattern of integration, as these are often interdependent attributes.

The less connected spaces, in turn, are distributed in a very varied way across the systems. Some exhibitions have a large number of spaces with low connectivity, such as BSP *4*, 19, and 25, and BSP *27* and 29, to a lesser extent which represents a large number of spaces connected to only one or two spaces (i.e., many enclosed rooms). Other biennials present spaces that are generally more connected, especially BSP 33, which presents ample free spaces between the different sections of the exhibition.

Regarding intelligibility, in general, exhibitions and buildings presented relatively close values. In some cases, the intelligibility of the exhibition is higher than that of its building (BSP 16, 19, 23 and *27*) and in other cases lower (BSP *4*, 11, 25 and 29), aspect addressed in section *7*.3.2. Intelligibility tends to be high when there is balance between integration and connectivity, in global and local terms. Thus, BSPs with low intelligibility have an imbalance between their values and local distribution, which is especially evident in the BSP 11 and 29. That is, in BSP 11, a considerable part of the system has low integration, although its connectivity is medium in most spaces. In BSP 29, the opposite happens. much of the system has medium integration, but its spaces in general have low connectivity – which can be related to the high number of enclosed rooms and the increase in the exhibition of videos and videoinstallations, which may require greater spatial segregation[223]. The "archipelago" (FBSP, 2010a) that guided its design form small sets of islands with a single connection with the adjacent circulations[224].

[223] In an interview with the architect Álvaro Razuk in 2019, author of the exhibition design of BSP 32 and 33, he highlighted this concern in not creating so many enclosed rooms for the exhibition of videos but delimited by a few barriers that are not necessarily continuous with each other, as in BSP 32 (on floor 3/sector B, in the work *Vídeo nas Aldeias*).

[224] In an interview conducted in 2019 with the author of this Bienal, Marta Bogéa, the architect stated that the project did not provide for so many enclosed rooms, and that in many cases the artists themselves requested their closure. Therefore, it is difficult to know if the reason for this closure was a necessity posed by the specifics of light and sound of the works or a desire of the artists to constitute a scenario more isolated from the other works for their appreciation.

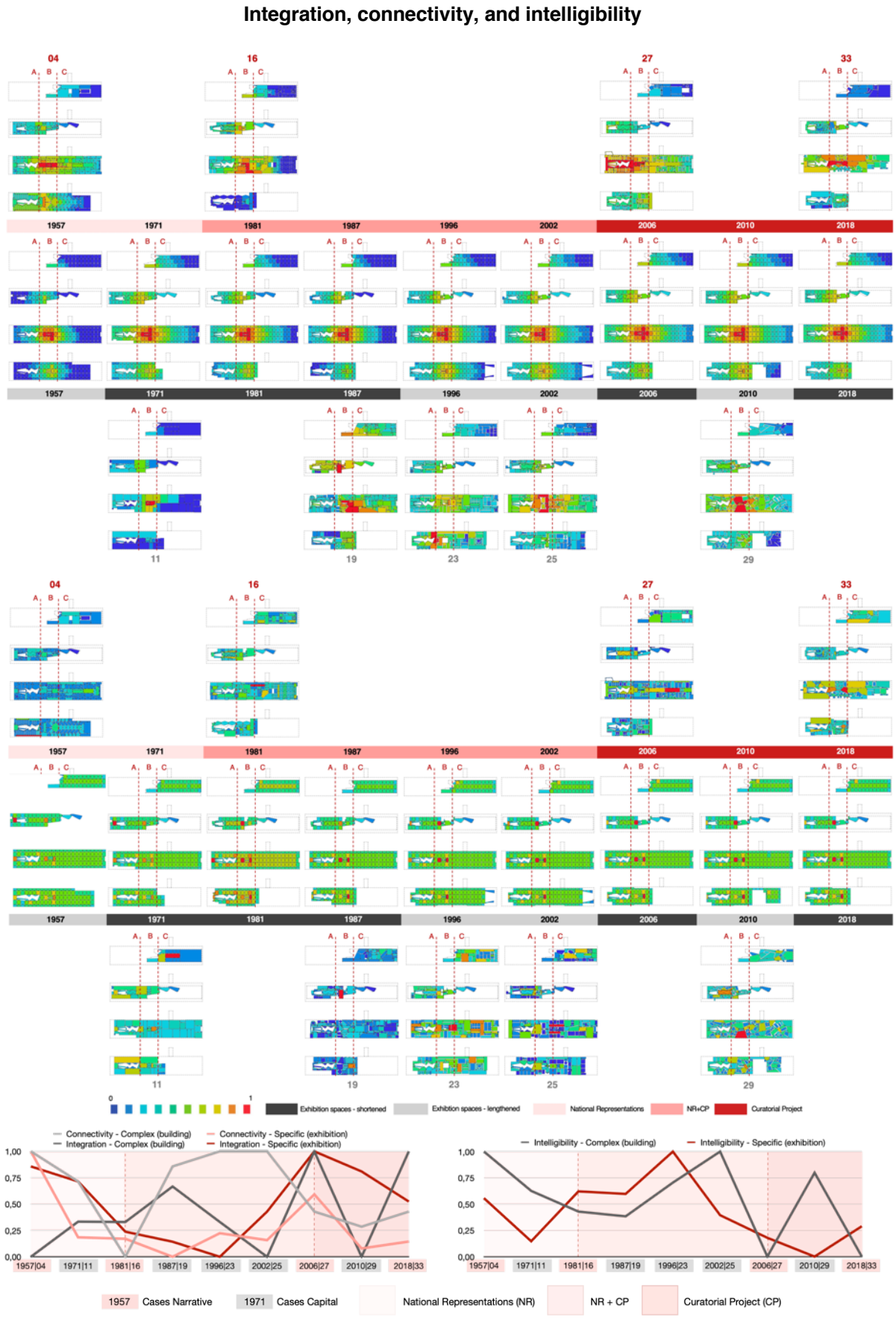


Figure 172. Building and exhibition layout – Integration, connectivity, and intelligibility.

Regarding the mean depth and choice attributes, some cases also presented higher values than those of their building system (complex model). In the mean depth attribute, the biennials with the deepest spatial system are BSP 16, 19 and 23 (between 0.75 and 1). BSP 27, 29 and 33 presented very similar values (between 0.25 and 0.50) and BSP 4 and 44 have the lowest value of the set (below 0.25). This result suggests a correlation with the periods of the classification system, where the biennials of the NR period (closer to the world's fairs) are very shallow, the biennials of the CP period also tend to be shallow, and the biennials of the intermediate period tend to be very deep (Figure 173).

On the local distribution of the mean depth attribute, some exhibitions reproduce, to a large extent, the distribution of the building, such as BSP 4, 25, 29 and 33, where the shallowest spaces in the system are concentrated on floor 3/sector B and the deepest spaces at the ends of sector C, especially on floors 1 and 4. Other biennials, however, tend to present a large number of very shallow spaces throughout the entire system, such as BSP 16, which is actually due to the excessive compartmentalization of the ends of floors 1 and 3/sector C, which seems to unbalance the entire system. In BSP 11, the deepest spaces, which in its building are on floor 1/sector C, move to the end of the floor/sector C, precisely at the point where the visitor returns to the center of the floor (since the occupation of this region is structured in a single large circulation ring). BSP 19 and 23 are interesting because: BSP 19 moves the deepest spaces of the system to the transition between sectors A and B on the third floor (return point on the vertical route, that is, from that point the visitor decides whether to go down using the ramp or stairs); and BSP 23 also moves the shallower spaces to this point (since its fourth floor is very deep and its vertical circulation takes place only through the ramp on this floor), which pulls the centrality of the building to this region (which is also the most integrated).

Regarding the choice attribute, the exhibitions with the highest values also tend to be concentrated in the NR+CP period (BSP 16, 19, 23, 25), the cases in the CP period have intermediate values (BSP 27, 29 and 33) and the cases of the NR period are quite different from each other (BSP 4 has a medium choice value and BSP 11 the lowest choice value of all). On the local distribution of spaces with the highest and lowest choice value, some maintenance and displacements are also observed. The biennials whose layout most reinforces the high value of choice already present in its building, in the spaces adjacent to the stairs on floors 2 and 3, are BSP 4, 16, 25, 29 and 33. The displacements made by BSP 11, 19, 23 and 27, in turn, take place at different points.

In BSP 11, the space with the highest choice value moves to floor 1/sector C, since the arrangement of this region connects virtually all adjacent rooms, except for Venezuela/Equador room, to this central space (which include the Brazil room, the larger room on the far right, and smaller rooms from Latin American countries – Chile, Paraguay, and Bolivia).

In BSP 19 and 23, the spaces with the highest choice value move to the fourth floor, however for different reasons. In the case of BSP 19, the spaces with the highest choice value are adjacent to the stairs, the ramp and on the boundary between these two sectors, since these are key points for choosing how the descending route will be made (if through the ramp or by the stairs), since, once chosen, it is necessary to go down to the second floor to change sides (sector) of the building (since the third floor separated sector A from sectors B and C). In BSP 23, however, this shift happens because the layout of the fourth floor is very deep and very sectored (air-conditioned area and labyrinthine sector located after this area) and the stairs were closed, so the spaces located on the boundary between these two sectors (A and B) in the fourth floor concentrates several possibilities of paths (for instance, enter the climatized area, go to the deepest portion or circle around the void and follow the path downwards).

In BSP 27 the space with the highest choice was the access to the ramp on the third floor (as well as some transition spaces between sectors of the building/exhibition and also central corridors). The topological approximation between sectors A and C on floor 3 achieved with the square around the stairs and the central corridor seems to contribute to this space growing in importance in this sense, by shifting the centrality of the building from the surroundings of the stairs to the area around the void (since this is also the most integrated and shallowest area of the system).

The layout of this exhibition has a particularity not previously mentioned that is the presence of an artistic installation by Atelier Bow-wow (FBSP, 2006a) a suspended wooden walkway (which also functions as a balcony to the park) installed in the upper left portion of the floor 3/sector A. This installation creates a bridge where the visitor can leave and re-enter the building approximately 25 meters later (which does not produce significant effects on the overall system of the exhibition, but which locally can also exert some influence on this control value of the space adjacent to the ramp). It is important to highlight that this artwork was considered in the modeling of this layout because it is integrated with it and expands the limits of the building.

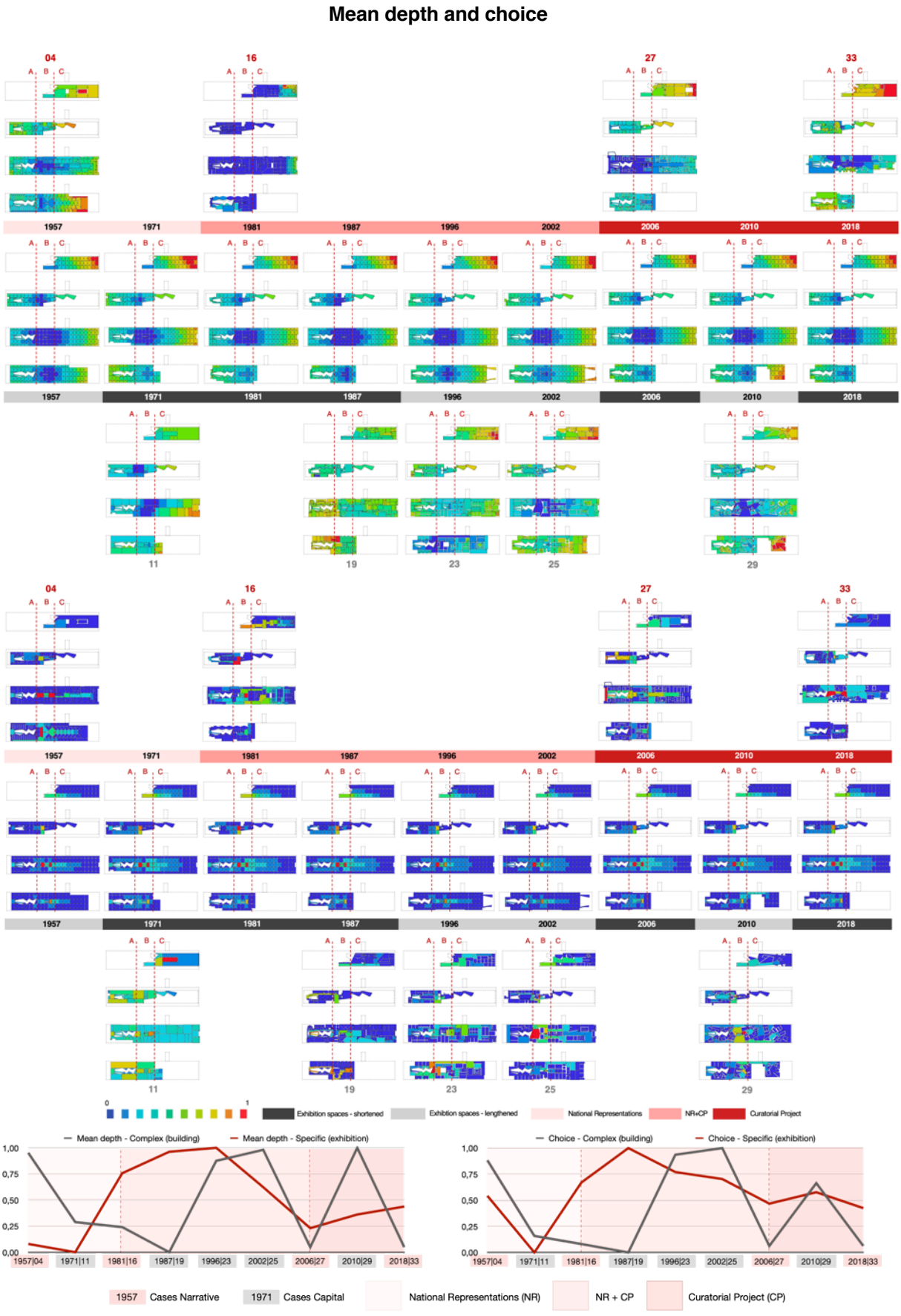


Figure 173. Building and exhibition layout – Mean depth and choice.

Finally, the control and controllability attributes also seem to present a correlation with the three classification periods, since the cases of periods 1 and 3 (NR and CP) tend to present a low control and high controllability and the exhibitions of the intermediate period (NR+CP) vary greatly. This variation of the intermediate cases, which can have very high (in the case of BSP 19), medium (BSP 16 and 25), or even very low control values (BSP 23), suggests that this is an attribute greatly affected by the design of these exhibitions (and not so much because of the changes in their buildings, since the local distribution of spaces with high and low value of control and controllability varies very little between its different versions) (Figure 173).

This suggestion finds support in the literature, since the definition of spatially dictated, guided and random types of movement in museum buildings and exhibition settings (Choi, 1999; Wineman and Peponis, 2010) are based on the degree of control their configuration exerts on the movement possibilities of its visitors. This global variation in the intermediate period (NR+CP) describes the different approaches adopted in these exhibitions, which, in addition to the great diversity of classification criteria, also represented a period of great expansion and experimentation in exhibition design, which also gained an artistic status (Ashford, 1998).

Regarding the local distribution of the control attribute, practically all cases shift the spaces with the highest control value. In most cases, the spaces with the highest control value are halls to which many adjacent rooms face, as in BSP 11 (which connects the Brazil room and that of some Latin American countries with the entrance and access route to the second floor) (FBSP, 1971); BSP 19 (entry space and access to services and the stairs that lead to floor 3 and the ramp that leads to floor 1); and BSP 27 (hall that displayed the works of Alberto Baraya, Martinho Patrício, and Simone Evans, and towards which several other rooms were oriented) (FBSP, 2010a).

In other cases, these spaces of high control acquire the form and function of a corridor, as in BSP 4 (which connects sectors A and B on the fourth floor, which corresponded to the section of the architecture biennial, towards which several perpendicular rooms faced); BSP 16 (connecting sectors C and B, *Arte Postal* section and artists of the Nucleus 1, vector A3 – artists selected by international commissioners[225] whose works constituted new means of expression)(FBSP 1981a); BSP 23 (which displayed the paintings by Masato

[225] Which demonstrates the double organization that characterizes this period, since this is the first biennial organized by a curator, however the selection was still largely made by international commissioners.

Kobayashi, to which other rooms face, and that connect the deepest portion of this floor with sector B) (FBSP, 1996a); and BSP 25 (which displayed the work of Jesús Ruiz Nestosa, which also made the connection between the deepest portion of floor 3/sector C with sector B) (FBSP, 2002a).

At BSP 29, these high-control spaces take the form of small area adjacent to one of the entrances on the first floor (from which the visitor can choose to go in different directions – works by A Sanguinetti on the left, by Anna Maria Maiolino and Lygia Pape in front, and one of the *terreiros* where activities took place on the right), adjacent to the stairs on the fourth floor (central hall that connects the artworks displayed in the air-conditioned area – such as Flávio de Carvalho and Oswaldo Goeldi) and the space that connects the deepest section of this exhibition, located behind the air-conditioned area (FBSP, 2010a). At BSP 33, in addition to a corridor on the fourth floor (which connects the rooms of the artists Aníbal López, Feliciano Centurión and Vânia Mignone with each other and with the ramp and the void and balconies of the building, as well as sectors A and B of the building), the gallery that surrounds the void on the third floor (with sculptures by Nelson Félix) (FBSP, 2018a), is also a high control space of the system, a wide open area that has not received additional barriers, in contrast to its neighboring spaces.

Evidently that the analysis of the positioning of artists and works requires a more careful examination, and that the mention of some names has as main objective to facilitate their identification in the plans. However, it is interesting to observe how these spaces are, for the most part, occupied with works by artists, rarely being left free for circulation, which can be attributed to their important role in the articulation of the system, since they are often crucial connecting points between two sectors of the building, which often also correspond to sections of the exhibition.

However, in the older biennials, from the period of national representations, this was not always the case. In these biennials it was possible to identify a greater distinction between spaces of circulation (movement) and spaces of exhibition (occupation), as is the case of the two cases analyzed, BSP 4 and 11, whose spaces of higher control of the system are not spaces that displayed works of art. That is, the interest in using these circulation spaces with occupation of artworks seems to grow as the professionals involved in the organization, the classification criteria and the artistic formats also increase, which also suggests an awareness of the organizers of the capital (in the sense of movement of people) embedded in these spaces (Hillier, 1996a; Hillier et al., 1993).

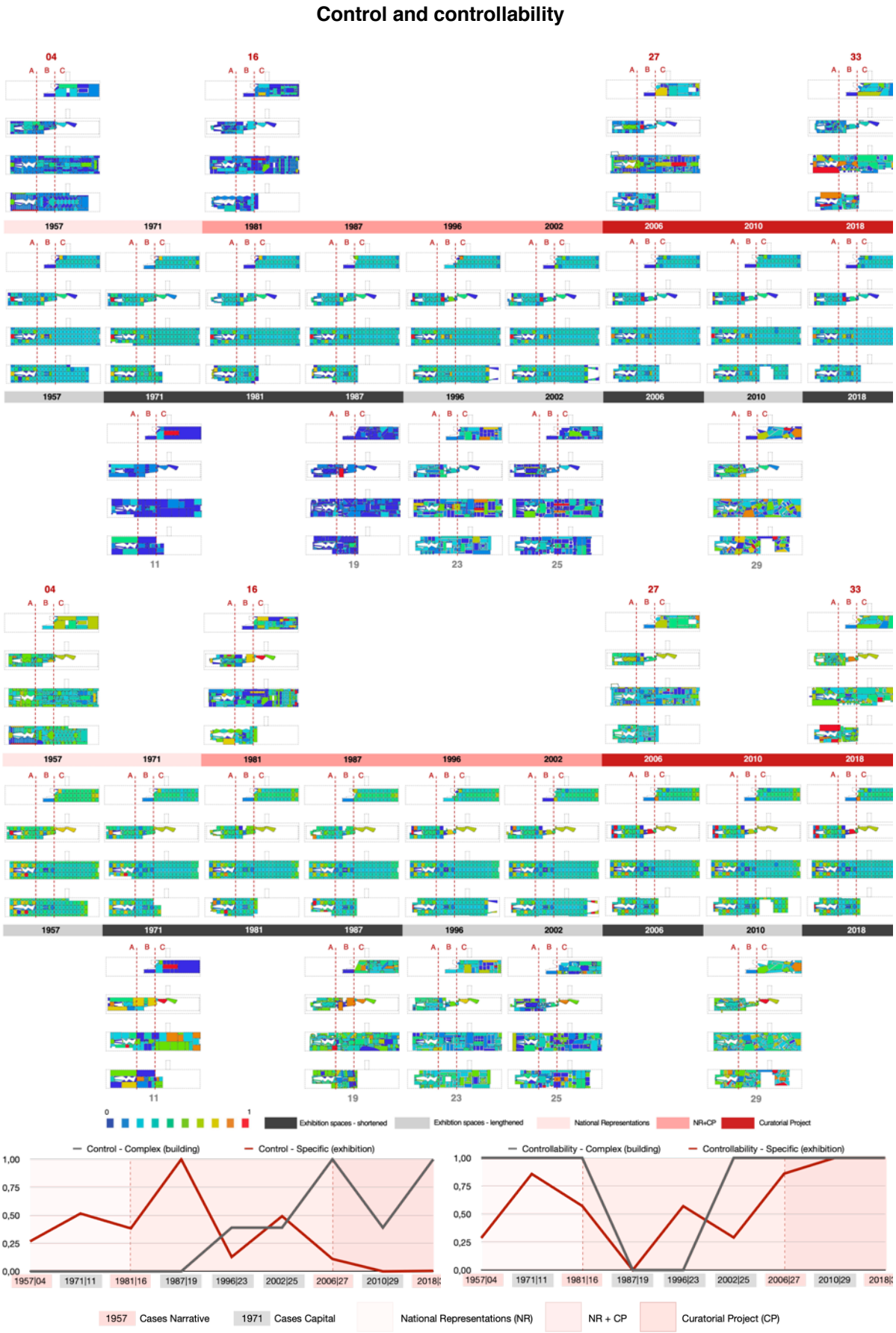


Figure 174. Building and exhibition layout – Control and controllability.

This aspect, in turn, refers to the last attribute discussed, controllability (Figure 174), since in exhibition spaces the way in which control is exercised is quite peculiar. Unlike spaces where power and control are explicitly exercised, such as asylums, clinics, penitentiaries, and, to a certain extent museums – as institutions of confinement of objects (not people), exhibitions formed "vehicles for inscribing and broadcasting the messages of power (but of a different type) throughout society" (Bennett, 19981, p. 74).

In these exhibition spaces, such messages are structured and exchanged in an extremely visual and physical way, so the interaction between control and controllability, through the balance between permeable dominant and dominated spaces, seems to be a matter of fundamental importance for the understanding of such spaces. Their condition of distinct but complementary attributes, that is, where high control spaces may or may not be highly controllable spaces, is observed in the local scale of these exhibitions, as mentioned in the analysis of their layouts (discussed in the section 7.2.2 exhibition layout).

However, when looking at the layouts of buildings and exhibitions together, it is observed that some biennials sought to subvert the condition of low control and high controllability that generally characterizes their building (except for some key spaces with high control and low controllability from a local point of view – such as spaces adjacent to ramps and stairs), whereas others maintained or even reinforced this condition.

When these two attributes are observed together, a correlation with the three periods of the classification system seems evident, since BSP 27, 29 and 33 had the lowest control values and the highest controllability values of the entire set. That is, the biennials of the most recent period (CP), tend to present low control and high controllability, which suggests greater openness in the spatialization (on the part of the organizers) and in the interpretations (on the part of the visitors) of the curatorial discourses.

BSP of the first period (NR) seem to tend towards closer and intermediate values[226], which suggests that, although significant attention was given to the classification of its contents (through the careful distribution of spaces destined for certain countries and special rooms), there did not seem to be a great deal of concern in the way they were displayed (since their partitions were quite homogeneous and rarely constituted enclosed rooms), nor a great imposition in the form or sequence in which they should be seen.

[226] Considering other apparently similar cases, but which require a configurational analysis in order to verify this relationship with more precision.

This is clearly seen in BSP 4, where the values of control and controllability tend to be low, and its layout in fact allows multiple paths, and is also open enough not to generate spaces that are easily dominated (visually and physically). BSP 11, however, despite having an intermediate control value, has a high controllability, since some parts of its zig-zag ring arrangements generate many spaces that are easily dominated.

Finally, the biennials of the intermediate period (NR+CP) seem to be cases of transition in relation to the aspects mentioned about the other two periods, with regard to the classification of artworks, the creation of specific spaces to display them and the control of the visitor's paths, since they tend to both extreme results and more balanced results for these two attributes. The most paradigmatic case in this sense is BSP 19, with the highest control value and lowest controllability value of the set, precisely because it seems to combine a set of spatial solutions that profoundly modify the building's visitation logic, but at the same time present a layout with a very diverse sectorization, articulated through open spaces located, for instance, adjacent to the stairs on floors 2, 3 and 4.

BSP 16 seems closer to the biennials of the first period since it presents close and intermediate values of control and controllability. And BSP 23 and 25 present low control/medium controllability and medium control/low controllability, respectively.

* * *

This comparative analysis were supported by convex maps, which help to discuss the occupation conceived for each exhibition, as well as introduce the discussion of many aspects regarding the function of movement, since such functions are often inseparable in exhibition spaces. Based on this new set of analyses, it was possible to relate the largely permanent character of the building to that ephemeral of its exhibitions, highlighting which attributes and editions most modified or reinforced the aspects embedded in its buildings and raising some interpretations for such. However, j-graphs, as they abstract aspects of geometric order and focus on the relationships between spaces, allow us to analyze similar aspects from another perspective, which initially focuses on issues of movement (since such graphs emphasize the systems of paths of these networks), which in turn can deepen the understanding of how spatial mediation took place in these examples, as discussed below.

7.3.1.2 Comparative discussion of movement analyzes

The descriptions of the spatial systems of BSP exhibitions and buildings for the two scenarios considered in the movement analysis, as a system of multiple routes (SMR) and as a system of origins and destinations (SOD), were compiled according to the analytical matrices presented in Chapter 6. In both matrices, the central line represents the building in its complex model and the subsequent upper and lower lines the building in the generic model and the exhibition (specific model).

The complex and generic models of the building in the two scenarios (SMR and SOD) present practically negligible variations when analyzed together in comparison with the layouts of the exhibitions. The latter, presents significant variations both when described as SMR and SOD. Most of the particularities of the spatial systems of the exhibitions were discussed in their isolated analysis, in section 7.2.2 (exhibition layout). However, looking at all these systems together allows for a better understanding of how the building remains largely unchanged (even when represented in a complex way – except for some complex models that become slightly longer – 1996, 2002 and 2010) and how such exhibition layouts relate to these underlying buildings.

In this regard, it is observed that the existence of a longer underlying building (1957, 1996, 2002, 2010) does not imply a longer exhibition. That is, while these buildings had between 27 and 30 topological levels, their exhibitions had 22 (BSP 4), 36 (BSP 23), 23 (BSP 25) and 28 (BSP 29) levels. Therefore, except for BSP 23, all of them had shorter spatial systems than those of their buildings (complex model). BSP 25 and 29, for example, occupy even the deepest portion of the fourth floor, located behind the air-conditioned area that segregates it from sector B. However, BSP 25 is significantly shorter than BSP 29, both by the way it defines and articulates sectors along its layout (defining some freer circulation axes that allow for more direct routes), and by the positioning of its entrance, located in front of the void/ramp of the second floor, shortening so overall distances.

This is a relevant finding, as it suggests that the role of the building in the global structuring of the pathways is weaker. That is, its spatial system is quite open and allows the layout of the exhibition to structure paths in multiple ways in its interior. Therefore, the differences between the j-graphs of these exhibitions (Figure 175) largely illustrate the classification systems and curatorial discourses adopted in each of them, since these factors inform how the exhibition is sectored and how such sectors communicate between them.

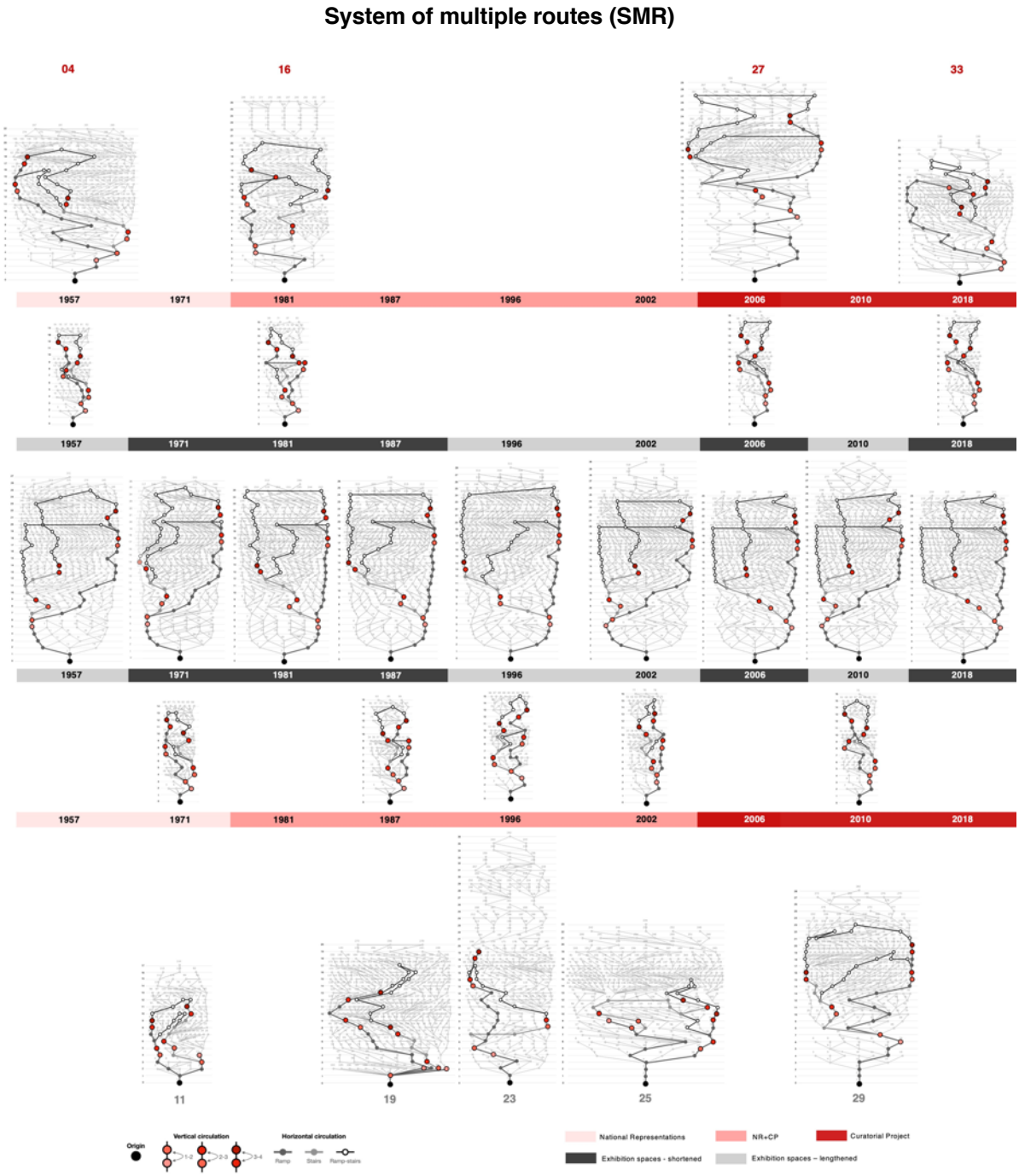


Figure 175. Building and exhibition layout – System of multiple routes (SMR).

The same cannot be said of the role of the building's minimum circulation path in the structuring of these exhibitions, whose influence seems to be very strong or to require bold moves towards its alteration. This can be seen from the fact that the three models (complex, generic and specific) presented very similar spatial configurations, practically all of them composed of the same structure: straight initial course (entrance-ramp floors 1-2) and two large rings circulation (connection between ramps and stairs on floors 3 and 4) (Figure 176).

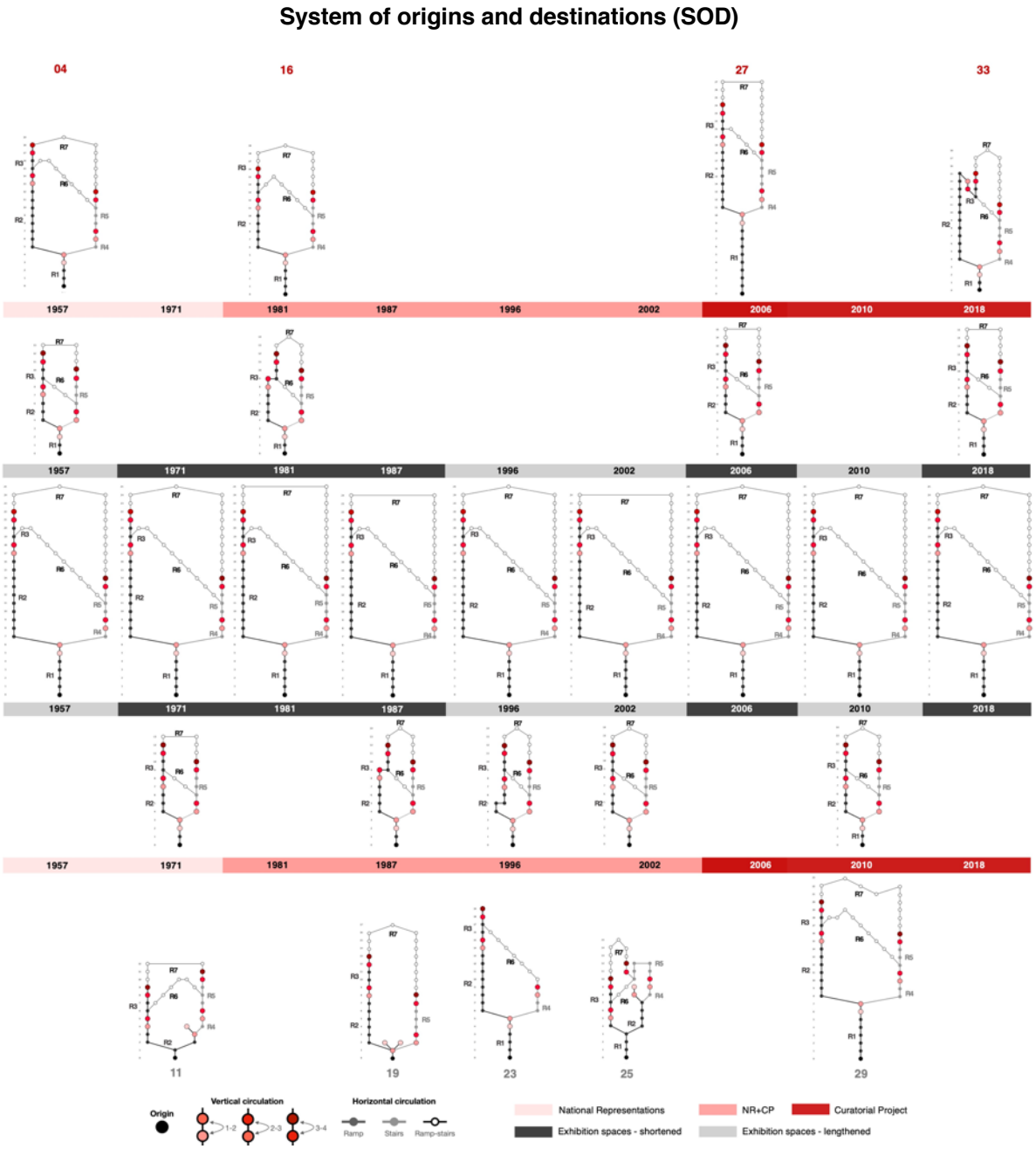


Figure 176. Building and exhibition layout – System of origin and destinations (SOD).

Although some exhibitions have extended this path, such as BSP 27, 29 and 33, (in region 2, path between the ramp floors 1-2 and the ramp floors 2-3), its structure remains practically the same. Whereas the exhibitions that most change such MCP, BSP 11, 19, 23 and 25, are precisely those that place bolder spatial interventions in the layout of the building, namely: change the entry point (from floor 1/sector C to floor 2/sectors B or A) and cut the horizontal or vertical communication between circulation elements (i.e. horizontal connection between ramp and stairs or vertical connection between stairs).

Such aspects have already been discussed in the movement analysis of the exhibition layout. However, their comparison with the different models of the building layout allows us to clearly see how the minimum circulation path of the building is reproduced both in its two representation models and by the exhibition design in most cases.

Comparing such MCP j-graphs (Figure 176) with the j-graphs (Figure 175) also shows how the idea of a hybrid movement system that characterizes the building (by allowing multiple movement and occupation possibilities, but minimally structuring these paths) is used by the exhibitions. Some cases, through different spatial strategies and with different purposes, compress the complex model of the building to such an extent that the layout of the exhibition approaches the generic model of the building, as in BSP 11, but also in BSP 19, 25 and 33, to a lesser extent.

It is said that the compression of the complex model in these cases result from different purposes because in the case of BSP 33, despite its clear classification (expressed in the individual exhibitions of each artists which result in very distinct sectors) such shortening of the system is due to the very open and fluid occupation that characterizes a great extent of this exhibition, whereas in the BSP 11, such compression results from a greater intention of control over paths, and in BSP 19 and 25, it seems to be a mix of the two aspects, strong classification and sectorization and strong control.

Although the idea of sectorization can also be observed in the biennials whose spatial systems were similar to those of their buildings (as in the last topological levels of BSP 16 and 27), the exhibition that most dilates the spatial system of their buildings is BSP 23, precisely because it seems to act strongly in the two dimensions of spatial mediation: it builds a complex curatorial discourse (it is the edition that presents the most publications, as discussed in section 7.1 of this chapter, mediation between things, Figure 7.5) and substantially modifies the spatial resources originally offered by the building.

Although BSP 27, the first to be organized exclusively by a curator and around a curatorial project, also presents a complex curatorial discourse that seems to work in the same direction of the complexity embedded in its underlying building, not substantially modifying the articulation between its sectors (with the exception of the connection between sectors A and C which is to be shortened with the introduction of the elevated square, as commented in the occupancy analysis of the exhibition layout). In opposition, BSP 11, which presents a simple discourse (structured based on countries and with some

special rooms), manages, through a few convex partitions and a strongly guided path, to compress significantly to the structure of its building.

Therefore, to understand the structure of the exhibition networks both lenses proposed by this thesis (of the exhibition as a spatial discourse of and of the building as a spatial commodity) seem to be necessary. However, while the spatial discourse manifests itself more clearly in the SMR, since it describes all the possible routes through the system (which are largely defined by the classification and consequent occupation), the SOD, even very simple, captures the main changes that such exhibitions have undertaken on the spatial resources originally offered by their buildings.

In this context, this whole set of comparative analyzes, of movement and occupation, contributed to demonstrate in which attributes and cases the spatial systems of buildings and exhibitions are configurationally similar or distinct, a fundamental aspect to understand how the notion of spatial mediation is characterized.

* * *

In order to make a first synthesis of these results, the values obtained for each attribute were gathered and compared in relation to the value of their respective buildings (Figure 177). In the case of occupation attributes, the values of the exhibitions were compared with the value of the building in its complex model (since this model represents its maximum possibility of occupation). The movement attributes, in turn, compare the results obtained for the exhibitions with the complex model, in the case of the analysis of the maximum possibilities of movement (system of multiple routes, SMR) and with the generic model, in the case of the minimum circulation path (system of origins and destinations). In other words, the buildings were taken as references so that it can be observed to what extent the exhibitions are below or above their value (Figure 177) [227].

This procedure easily highlights the relationship between the exhibition layout and the building in each case and attribute. With this description, it is possible to identify which attributes tend to present results above or below the building's reference, as well as the cases that stand out the most within the analyzed set of each attribute (because they diverge from the general pattern or because, even within the pattern, they present results much above or below the results of the other cases).

[227] Through a rule of three, where the value of the building corresponds to 100% (black dotted line in the charts (Figure 7.33) and the values of the exhibitions are proportional to this reference.

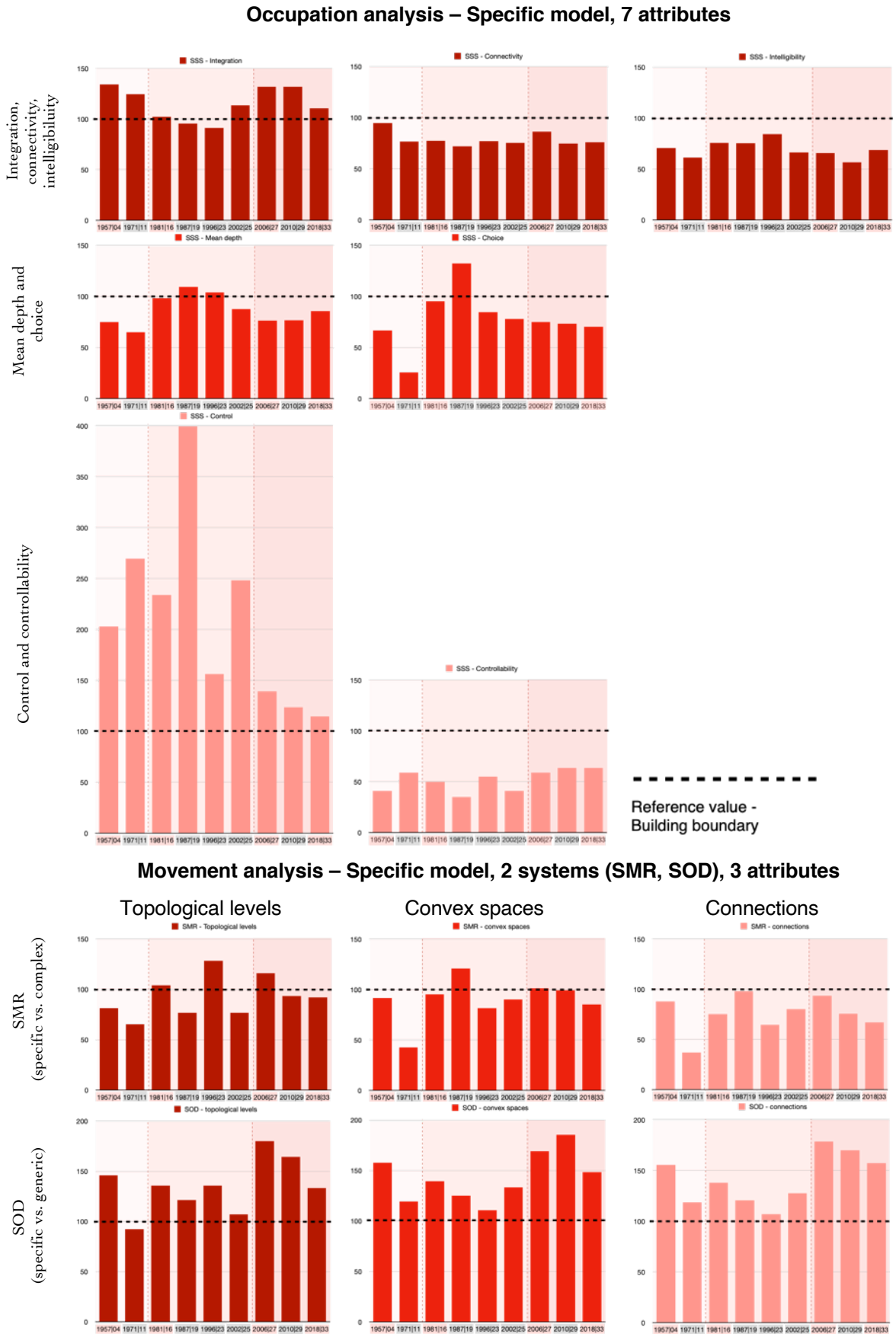


Figure 177. Spatial mediation, movement, and occupation – relationship between specific, complex, and generic models.

Among the seven attributes observed in the occupation analyses, in five of them the results obtained for the exhibitions, for the most part, do not exceed the reference of the building, namely: connectivity, intelligibility, mean depth, choice, and controllability. In other words, the attributes in which the exhibition layout diverges most from the building layout are integration (although to a lesser extent and not in all cases) and control (in all cases, many of them to a large extent).

Regarding the attributes observed in the movement analysis, the building reference seems, to a large extent, to continue operating as limits for the exhibitions, where: in the analysis of the maximum possibilities of movement (SMR), practically all cases presented values below the building values (with the exception of three cases in terms of topological levels, BSP 16, 23 and 27, and one case in terms of convex spaces, BSP 19); and in the analysis of minimum movement possibilities (SOD) all cases presented values above the values of the building (with the exception of the topological levels of BSP 11).

First discussing the attributes of occupation analyses, the values obtained for the control attribute draw attention, as it seems to be the attribute that the layout of the exhibitions most exploits. In addition to the very high values obtained for some exhibitions, particularly for those associated with the first two periods of the classification system (NR and NR+CP, especially BSP 19), it is also interesting to note that in the more recent exhibitions (BSP 27, 29 and 33) this attribute does not seem to be at the center of the organizers' concerns, since its values are close to the values of the building.

The case of BSP 19 stands out for accumulating several spatial aspects that seem to operate in the direction of increasing the global control of the system (entrance at the central point of floor 2, entrance space that concentrates several spaces around it, and floor 3 divided in half - which generates a path in a long single circulation ring). BSP 11, the second highest value, also seems to obtain a similar result from similar solutions, entrance on the second floor (although at the left end of the same façade) and routes in large circulation rings.

BSP 25 draws attention because its layout does not seem as guiding as the layouts of BSP 11 and 19 (that is, it features enclosed rooms which delimit routes with more incision, but also many open spaces), but its result is quite expressive. This result, therefore, seems to be a combination of the points where these enclosed rooms are located (in the perimeter of sector A and in the transition between sectors A and C), as well as the entry point of this

exhibition, the only one located on the second floor, on the shortest façade of the building, giving direct access to the void and the ramp that leads to the third floor.

BSP 4 and 16 also have high control values, however these derive mainly from their spatial arrangement, which in turn reflects a careful classification of their contents, and not from profound changes in some attributes of the building (as in the previous cases). Its routes, although locally strongly guided (i.e., in the specific sectors of each exhibition), present multiple possibilities for navigation between sectors. In the most recent cases (BSP 27, 29 and 33), both the classification of sectors seems to be less rigid and the movement between them is more fluid, which explains their lower control value. BSP 23, although it makes an important move towards modifying the original movement structure of the building (the closing of the stairs between floors 3-4), presents a layout with little guidance in key points for the global structuring of the path, especially on the floor 3/sector B, which may explain its low control compared to the other BSP of this period.

With regard to the controllability attribute, all exhibitions presented values much lower than the building's reference value, since its open spatiality is easily broken with the introduction of new barriers and depending on the arrangement between them, thus increasing the occurrence of occlusive and visually dominating spaces.

Regarding the other attributes, the low and high value of choice of BSP 11 and 19, respectively below and above the building's reference value, possibly for the same reasons mentioned above, the highly guided movement in the BSP 11 and the centralized entry space on BSP 19 (both in terms of position in the building and in terms of concentrating many uses around it). In the attributes of integration and mean depth, it is observed that the deepest exhibitions are also the least integrated (BSP 16, 19 and 23), precisely those associated to the second period of the classification system (NR), where there is a double incidence of classification criteria.

However, this correspondence does not occur in all cases, as, for example, in BSP 11, the deepest of the set, but not the most integrated (which is BSP 4), possibly due to its low convex partition and its arrangement in large circulation rings. Curiously, the most intelligible exhibition was precisely the one that closed the stairs on floors 3-4, BSP 23, concentrating the vertical circulation through the ramp (which is possibly not due to this fact alone, but in which this closure seems to play an important role in this sense).

Moving on to the discussion of the results of the attributes that structure the analysis of movement systems, the topological levels attribute was the one that presented the most exceptions. That is, in terms of convex spaces and number of connections, practically all cases are located below (in the case of the maximum possibilities of movement offered by the building, SMR) or above (in the case of the minimum, SOD), the building limits, except for BSP 19 (which presented a greater number of convex spaces than that contained in the complex model of the building).

The cases that exceed the limit of the building as a system of multiple routes (SMR) are BSP 16, 23 and 27. And the case that is below this limit (SOD) is BSP 11. In the case of BSP 11 this is precisely due to its low convex partition, which creates very large and interconnected rooms, causing the number of topological levels between the stairs and the ramp to be 3 topological levels on average, whereas in other biennials this number can be, for example, 11 spaces, as on the fourth floor of BSP 27 (precisely one of those that surpasses the limits of the building in this attribute).

In BSP 16 and 23 this increase in topological levels, evident in their j-graphs (Figure 175) is also due to the partition and arrangement of their convex spaces, which present very labyrinthine paths at some points, such as at the right end of floor 3 in BSP 16 (mail art sector) and on the fourth floor at the BSP 23 (literally a labyrinth, in the portion located after the air-conditioned space).

Interestingly, the exhibitions that made the most changes in the MCP circulation elements, such as changing the entry point, closing the stairs, and cutting off the communication between ramp and stairs (BSP 11, 19, 23 and 25), continue to present values above the limits of the building. This suggests that when such circulation elements are modified, the circulation regions between them are also modified, and therefore the number of topological levels, convex spaces and connections tends to increase.

It is also worth noting that in the attributes of the SOD system, the biennials associated with the third period of the classification system (curatorial project, CP) presented much higher values than the others for the three attributes. This suggests that, although these exhibitions are globally less controlling than their previous editions, about the MCP they seem to present more guided paths, since their number of topological levels, convex spaces, and connections is higher (especially in BSP 27 and 29).

In other words, the occupation of the areas through which this minimum circulation path passes (especially the surroundings of the void, sector A) seems to receive a denser occupation than the other sectors, since these same attributes, when observed in relation to the SMR, are below the reference of the building (except for BSP 27 which slightly exceeds the number of topological levels).

From all these analyses summarized in Figure 177, some general conclusions can be drawn. The first is that the limits defined by the building for some of the attributes seem to be more easily overcome or more carefully explored by the design of the exhibitions, where the control and integration attributes stand out, which seem to be essential to the spatialization of the discourse of these exhibitions. The other aspect is that the reference defined by the buildings in the attributes observed in the movement analyzes (topological levels, convex spaces, and connections) in fact seem to work as limits for the design of these exhibitions (or few cases deliberately considered manipulating such attributes, 5 out of 54, considering that are nine cases and six attributes), as few exceeded such limits.

This aspect, however, is due to the fact that the movement analysis considers the apparent minimum and maximum limits of these networks, therefore allowing their results to be compared with the complex (for SMR) and generic (for SOD) models. In the case of occupation analyses, only the complex model was considered for the comparison, was the model used to quantitatively describe these attributes. In view of this aspect, a new synthesis of results is necessary, so that all the attributes of the exhibitions can be compared with the complex and generic models of their buildings, in order to better observe how these exhibition networks are situated in relation to these apparent limits.

7.3.2 Empirical synthesis

The analyzes carried out throughout this chapter allowed us to describe and relate the different spatial systems of the Bienal de São Paulo exhibitions and buildings. These analyzes were essentially based on the decomposition of the building's spatial system into two models (complex and generic), to characterize its apparent minimum and maximum limits, as well as on the description of the layout of the exhibitions (specific model). This decomposition, in turn, allowed all systems to be analyzed for their generic functions of movement and occupation (Hillier, 1996b), based on different descriptions[228].

From these analyses, two types of spatial mediation are characterized and discussed in this section, namely: exhibition as a means and exhibition as an end. The first describes the spatial strategies of the exhibition layout that operate in the same direction as the values embedded in the configurational limits of the building – identified from the cases and attributes whose exhibition layouts presented values situated between the values of the building layouts. And the second describes the spatial strategies of the exhibition layout that operate towards transforming these values – described based on cases and attributes whose values are lower or higher than those obtained for the building layouts.

The characterization of these types of spatial mediation, in turn, was obtained from the relationship of the specific model (exhibitions) with the generic and complex models of the building, for all the functions and attributes analyzed, made from the normalization of the results obtained for each attribute considering all models (complex, generic, and specific) and cases[229]. This scale, with 20 values comprised between 0 and 1 allows to describe with precision and compactness the results obtained for each system, represented by a bar with its corresponding color (generic – grey; complex – black; specific – red) which describes the relative position of each system both in relation to the case in question (e.g., 1957/BSP 4) and in relation to the nine cases contained in the summary of each attribute.

To summarize, two sets of empirical syntheses were elaborated: 1) synthesis of occupation analyzes – which gathers the results of the analyzes of the nine cases, three models, and seven attributes; 2) synthesis of movement analyzes – which gathers the results of the nine cases, three models, and six attributes (3 referring to the SMR and 3 to the SOD – topological levels, convex spaces, and connections) (Figures 178 and 179).

---

[228] Convex maps for the occupation analysis and j-graphs (SMR) and MCP j-graphs (SOD) for the movement analysis.
[229] In contrast to the results of previous analyses, which were normalized for each model separately.

7.3.2.1 Synthesis of occupation analysis

The empirical synthesis of the occupation analysis is the description of how the global values of the specific model (exhibition, red) are situated in relation to the complex and generic models of their buildings (in black and grey, respectively), for the attributes of integration, connectivity, intelligibility, mean depth, choice, control, and controllability (Figure 178). All attributes represent the average values obtained, except for control and controllability, which describe the maximum and minimum values, respectively[230].

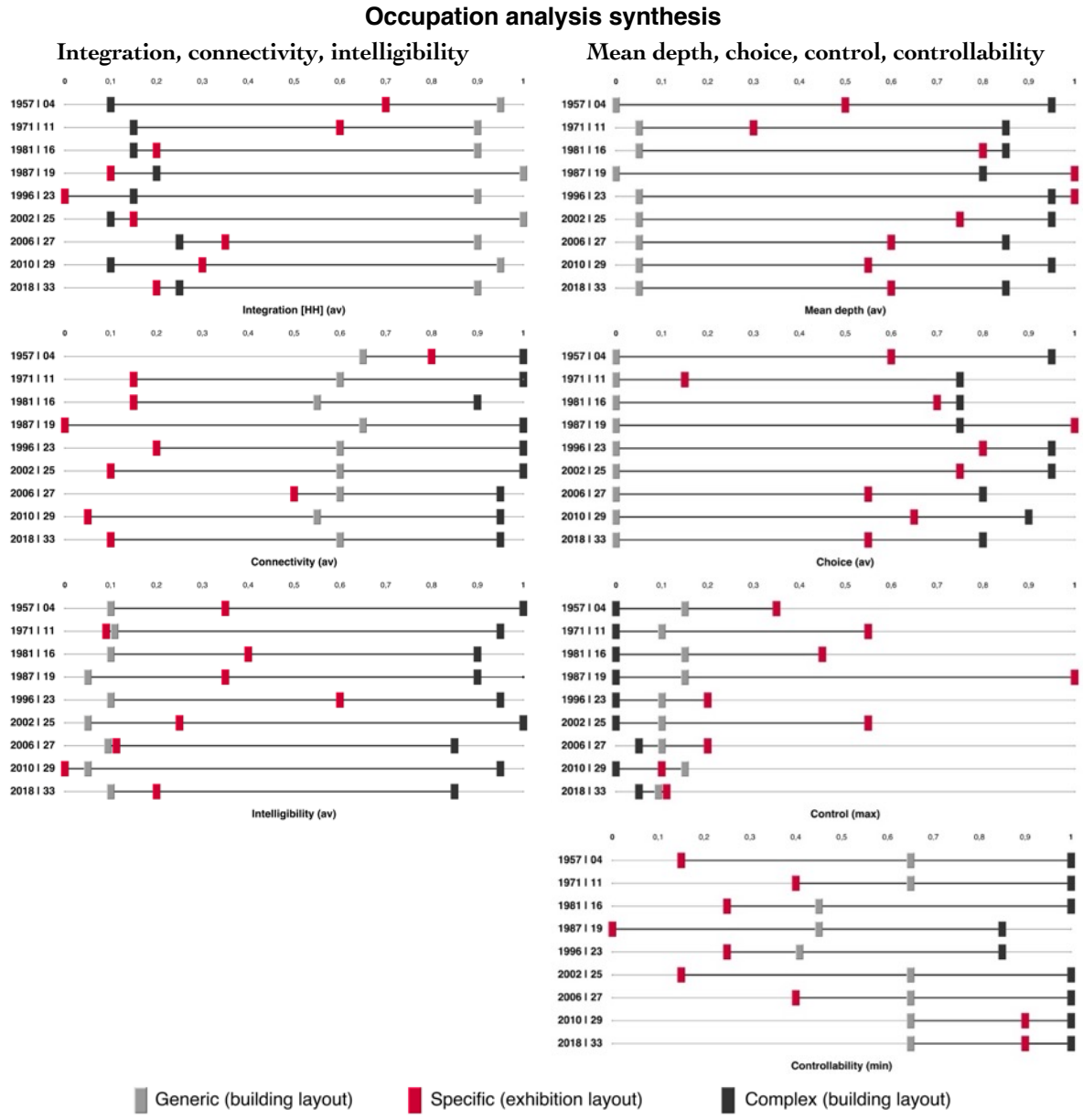


Figure 178. Spatial mediation – Empirical synthesis of occupation analysis.

[230] According to the results obtained in chapter 5, and tested in the analyzes of chapter 7, where such values were the ones that best captured the variations and differences between these spatial systems. However, even using the minimum control values (since the average value is 1) and minimum and average controllability values, the exhibitions also presented results below or beyond the limits of the building.

From this synthesis, it can be observed that the models (complex, generic, specific) are distributed differently along the attributes, according to four patterns, namely:

1. C < S < G – complex and generic models have the lowest and highest values of the set (as in the integration attribute);
2. G < S < C – generic and complex models have the lowest and highest values of the set (intelligibility, mean depth, and choice);
3. S < G < C – specific model has the lowest values of the set, followed by the generic and complex models (connectivity and controllability);
4. C < G < S – specific model has the highest values of the set, preceded by the generic and complex models (control).

Although four distinct patterns have been identified, they share similarities, allowing to be discussed in two large groups: those in which the specific model (exhibitions) was situated between the complex/generic models of the building (patterns 1 and 2); and those in which the specific model lies beyond (at the beginning or at the end) of the complex/generic models (patterns 3 and 4).

Thus, patterns 1 and 2 are similar in that they both describe exhibitions with intermediate values to the minimum and maximum limits of their buildings. The integration attribute presented an inverse pattern to the intelligibility, mean depth, and choice attributes because when the building is described with a smaller number of larger convex spaces (generic), but structured in the same way as its complex representation, its integration tends to be higher. Patterns 3 and 4, in turn, are symmetric. That is, in them, the exhibitions present the highest or lowest values of the set, as well as their buildings in the complex representation, with the generic model between the other two models.

Therefore, attributes whose results fall within patterns 1 and 2 (integration, intelligibility, mean depth, choice) also represent the majority of cases. That is, the spatial configuration of most exhibitions falls within the limits defined by the configuration of its building. In the integration attribute, for instance, BSP 19, 23 and 29 can be highlighted as those whose integration value is below the value of the complex model of their buildings. However, most cases tend to have an integration close to that of the complex building model. The only two cases whose integration value tends to be closer to the generic model were BSP 4 and 11, the only ones classified exclusively under the logic of the national

representation system – whose layouts are not composed of closed rooms, but of partitions that tend to keep the spatiality of the building quite open.

A similar result can be identified in the mean depth attribute, where BSP 19 and 23 exceed the values of the complex models of their buildings and BSP 11 is the closest to the generic model of their building. In this attribute, however, more cases tend to have intermediate values, such as BSP 4, 27, 29 and 33 – therefore the deeper biennials are those associated with the NR + CP system (16, 19, 13, 25). In this sense, it can be suggested that the exhibitions of this period are characterized by a careful classification of their contents, which is reflected in their high convex partition and arrangements, which together tend to reinforce the high depth that characterizes the complex model of its buildings.

With regard to the attribute of choice, it is observed that most cases tend to have values closer to the complex model of their buildings. However, BSP 11 is the only case that comes closest to the generic model, just as the biennials of the NR+CP period are the ones with the highest choice values of all – with BSP 19 being the only one to exceed the limit of its complex building (possibly for the same reasons attributed to the results of mean depth values).

The results of the analysis of exhibitions for the intelligibility attribute in general tend to be low and closer to the generic model of their buildings (as in BSP 4, 16, 19, 25 and 33), or even equal or smaller than it (BSP 11, 27 and 29). Therefore, it can be suggested that the layouts of these exhibitions do not favor an understanding of the whole configuration from the navigation of parts (that is, they present great variability). BSP 23 was the only one that approached the complex model of its building in terms of intelligibility. In addition to the specifics of its layout, which combines enclosed rooms (especially in sector C, floors 1, 3 and 4), with open spaces (especially in sector A, floors 2, 3 and 4), this result can be attributed to the closing of the stairs on floor 4 and the consequent concentration of vertical circulation by the ramp (singular feature of this case).

On the results between patterns 3 and 4, namely connectivity, choice, and control, some interesting exceptions can be highlighted. Regarding the connectivity attribute, it is observed that all cases presented low connectivity, both in relation to the generic model, and even more in relation to the complex model, since in the latter most of the spaces are connected to 3 or 4 other spaces and that in the exhibitions many spaces connect with only 1 or 2 other spaces. However, BSP 4 was the only one that presented an intermediate

connectivity value to the generic and complex models of its building, precisely because it presented a layout with few barriers, but with spaces that connect to many other spaces at a time, such as side corridors sides that run through the entire building and give access to rooms arranged perpendicular to them.

In the control and controllability attributes, with relatively symmetrical results, BSP 29 and 33 stand out as cases that presented very low control values (followed by BSP 23 and 27) and very high controllability values. These two cases, both belonging to the CP period, these two cases, both belonging to the CP period, are similar in that their layouts have very angular and diverse geometries, with few possibilities for very long and linear paths and many changes in direction.

On the other hand, BSP 19 was the one that presented the maximum values for control and minimum values for controllability of the entire set, which can be attributed both to the profound changes it undertakes in the configuration of the building (entrance through the second floor in sector B, concentration of many uses and spaces around the arrival space and division of floor three in half, cutting the connection between ramp and ladder) and the configuration of its layout, with very distinct convex partition in each sector/floor.

From all this set of occupation analyses, it can be concluded that when the building does not operate as a minimum and maximum boundaries for the exhibition configuration (as in the case of the integration, intelligibility, mean depth, and choice attributes), it works as a limit minimum or maximum reference for their understanding, as in the case of control and controllability attributes (from which it is possible to infer which exhibitions exert the maximum control and minimum controllability over the proposed narrative and the navigation of its visitors).

7.3.2.2 Synthesis of movement analysis

The second empirical synthesis elaborated to characterize the notion of spatial mediation refers to the compilation of results obtained for the analysis of movement. That is, the results of the description of the building and exhibition layouts as systems of multiple routes (SMR, analyzed through j-graphs that consider all convex spaces of the system) and as systems of origins and destinations (SOD, analyzed through MCP j-graphs, that is, j-graphs that describe the convex spaces located in the minimum circulation path of the three models). This synthesis, described in Figure 179, adopts the same representation of the empirical synthesis of the occupation analysis, positioning the specific model (exhibition) in relation to the generic and complex model (building) for the two systems (SMR and SOD) and three elements (topological levels, convex spaces, and connections).

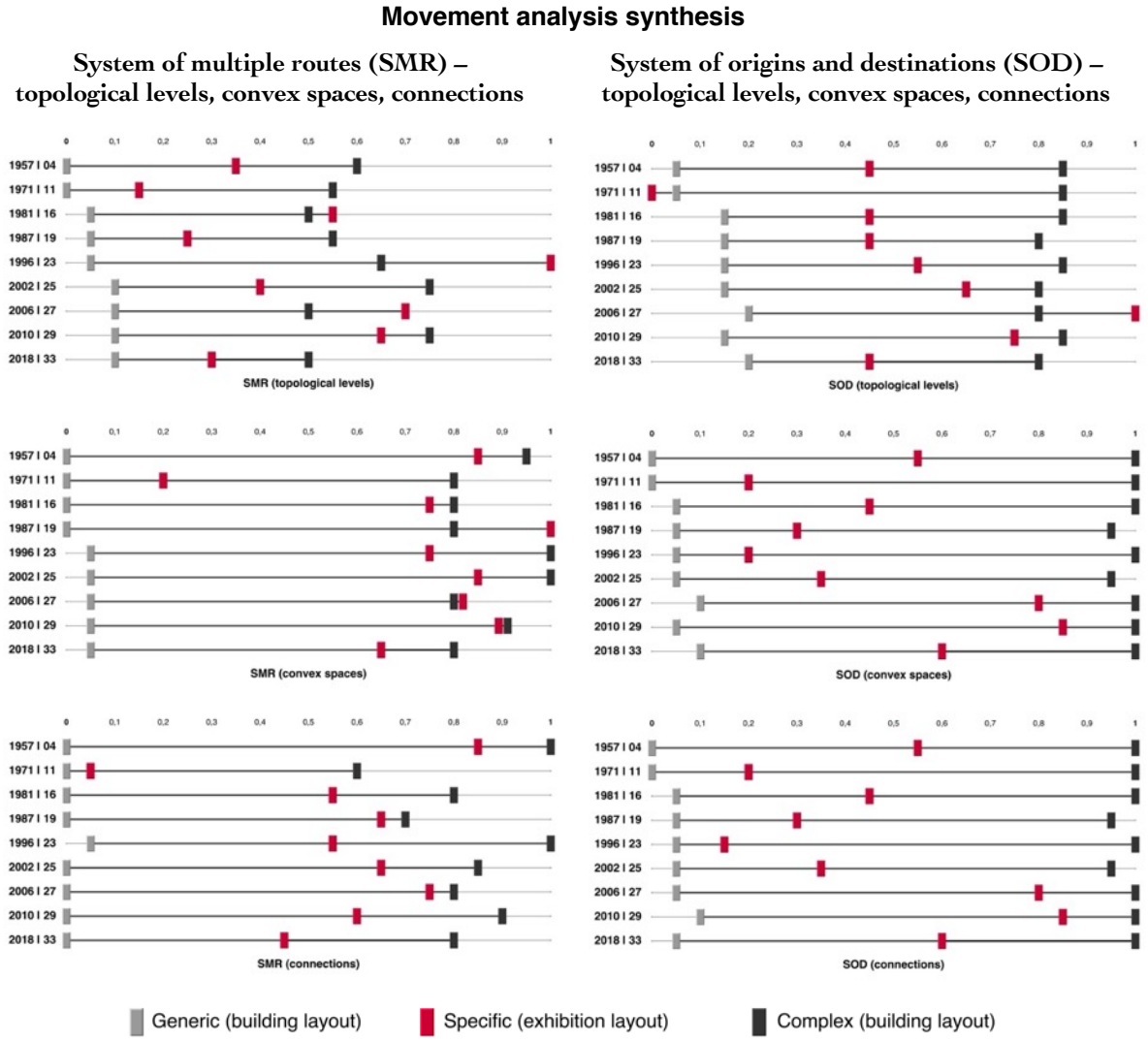


Figure 179. Spatial mediation – Empirical synthesis of movement analysis.

The empirical synthesis of movement analysis showed fewer variations and exceptions from the patterns preliminarily identified in the occupation analysis. In them, the generic and complex models of the building predominated as the minimum and maximum limits in all analyzed systems (SMR, SOD) and attributes (topological levels, convex spaces, and connections). This result corresponds to pattern 2 of the occupation analysis (G < S < C), and although it was predominant, some significant exceptions can be highlighted.

In describing the building as a system of multiple routes (SMR), these exceptions occurred both in terms of topological levels and convex spaces. In the case of the former, BSP 16, 23 and 27 constituted even longer models (i.e., with more topological levels) than the complex building model. As for the number of convex spaces, BSP 27, together with BSP 19, also exceeds the complex model of its building, which reinforces the long character of its spatial system. With the exception of BSP 4 (the only case in which the number of convex spaces and connections was closer to the generic model of the building), most cases are closer the complex model. It should be noted that BSP 16 and 27, two of the exceptions pointed out, were the first to inaugurate new periods of classification systems. Still on the number of convex spaces in the SMR, BSP 29 can also be highlighted, which presented practically the same number of convex spaces as the complex model of its respective building (295 x 297). This large number of topological levels and convex spaces indicates a strong sectorization of the displayed artifacts, which in turn may be related to a greater diversity of formats, as well as a great elaboration of their curatorial discourses.

With regard to the system of origins and destinations (SOD), there were even fewer exceptions, which suggests that this minimum circulation path (MCP) defined for these analyzes is in fact one of the smallest possible routes to take through the building. In this analysis, the only exceptions were in terms of topological levels, where BSP 11 and 27 were beyond the limits defined by the building – the former, below the limit of the generic model, and the latter above the limit of the complex model. In fact, previous analyzes corroborate this result, where the BSP 11 can be described as a very short model and BSP 27 as a very long one, both in their discourses and spaces. BSP 29 stands out again, for being very close to the complex model in terms of topological levels (as well as convex spaces and connections, as well as the BSP 27). Just as BSP 11 and 23 were the smallest (that is, close to the generic model) in terms of convex spaces and connections.

❊ ❊ ❊

To some extent, it was expected that the specific model (exhibitions) would present results between the generic and complex models of the building, since it is evident that this is a strong driver in the structuring of these exhibitions. However, the existence of exceptions to this pattern, that is, of exhibitions whose certain attributes of heir configuration go beyond the apparent limits of the building, is very intriguing. Therefore, looking at these patterns, but also at their exceptions, can shed light on the ways in which spatial mediation operates in exhibition spaces in a broader perspective.

The results obtained for both empirical syntheses were compiled in order to highlight the distribution patterns of the three models (complex, generic, specific) for each function (occupation and movement) and attribute (7 occupation attributes, 6 movement attributes), as described in Figure 180 (which also highlights cases that exceeded one of the building's limits, as well as those that matched one of the limits).

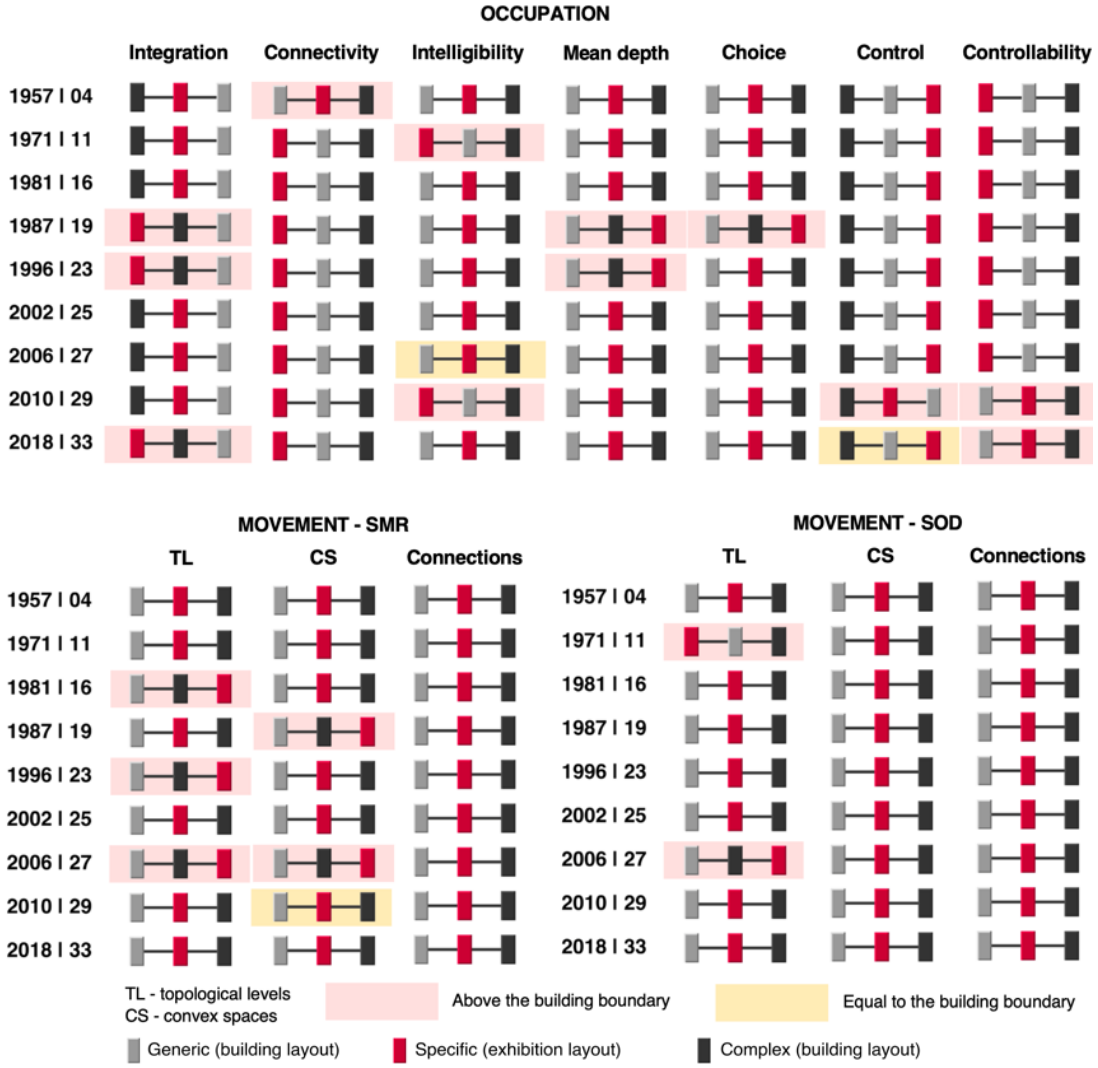


Figure 180. Spatial mediation – Empirical synthesis of movement and occupation analyses.

The unified empirical synthesis shows that all cases (except BSP 25), to some extent, exceeded the building boundaries in some attribute. These exceptions become more frequent in the BSP 19 onwards, where all cases exceeded one of the building models (complex or generic) by three or four attributes each. Considering that each exhibition was analyzed for 13 different attributes (7 in occupation analysis and 6 in movement analysis – 3 for the SMR and 3 for the SOD), it is evident that the building plays a very strong role in the structuring of their layouts, despite its largely open configuration.

Therefore, in general it can be said that the BSP 19, 23, 27, 29 and 33 are the least spatially mediated by the building, as they all exceed their configurational limits in, at least three different attributes. In contrast, the BSP 4, 11, 16 and 25 are more strongly mediated by the building layout, as practically all of its attributes lie between the minimum and maximum configurational limits of the building.

Interestingly, there is no correspondence between the strongly or weakly spatially mediated Bienais and the facets to which the cases were initially associated, narrative and capital. That is, both groups presented cases of both two facets in a balanced way. In fact, the association of cases with the notions of narrative and capital was a provisional classification extracted from the literature to initially frame the cases, considering that, to some extent, aspects that justified the association of a case with a certain facet can also observed, although to a lesser extent, in cases related to the other facet, which is what these results suggest. In this context, both lenses, of narrative and capital, are necessary to understand the exhibition layout and its relation both with the curatorial discourse and the spatial resources embedded in the underlying building.

Thus, what is most important to understand is not which cases are most strongly or weakly mediated by the building layout, as to some extent, they all are. But rather the mechanisms that characterize it – which do not necessarily affect their entire layouts, but which are observed in very specific parts of them. In addition, the notion of spatial mediation does not only refer to the role that the building plays (or not) in structuring the exhibition, but also to the way in which the exhibition layout responded to the classification requirements of its contents, these being the two main aspects that characterize the notions of capital and narrative, respectively. Finally, these empirical syntheses support the formulation of a theoretical synthesis from which two main types of spatial mediation are extracted, as discussed below.

7.3.3 Theoretical synthesis

The empirical syntheses discussed in the previous sections support the formulation of a single theoretical synthesis for both the generic functions, of occupation and movement. This theoretical synthesis describes the four distribution patterns of the complex, generic and specific models for each case and attribute analyzed (Figure 181). These four patterns (1. C<S<G; 2. G<S<C; 3. S<G<C; 4. C<G<S) emerged in the synthesis of the occupation analysis (Figure 178) and were confirmed by the synthesis of the movement analysis (Figure 179), where most of the results fit into pattern 2).

The similarities between these patterns, in turn, allowed them to be gathered into two groups, according to the position of the specific model in relation to the complex and generic models. That is, patterns where the layout of the exhibitions lies between the two building models (patterns 1 and 2) and patterns where the layout of the exhibitions is located beyond any of the building models (patterns 3 and 4).

This situation of the attributes and elements of the exhibitions in relation to their buildings is what characterizes the two main types of spatial mediation, namely: 1) mediation as a means (7.3.3.1); 2) mediation as an end (7.3.3.2), described in the Figure 181. Practically all the analyzed attributes and elements fall into the first type, where the exhibition does not extend beyond its building, namely: integration, intelligibility, mean depth, choice, topological levels, convex spaces, and connections. However, attributes that seem to be fundamental for the design and structuring of the exhibitions fit the second type: connectivity, controllability, and control. These two types of spatial mediation are discussed and illustrated in the following sections.

Type	Distribution	Attributes
1. Mediation as a means	C S G G S C	1A. Integration 1B. Intelligibility, mean depth, choice, topological levels, convex spaces, connections
2. Mediation as an end	S G C C G S	2A. Connectivity, controllability 2B. Control

Figure 181. Spatial mediation – Theoretical synthesis.

7.3.3.1 Mediation as a means

The notion of 'mediation as a means' describes the type of spatial mediation in which the spatial configuration of the underlying building played a strong role in structuring their exhibitions. This relationship was identified from the results obtained in the analysis of occupation and movement, where most of the attributes and cases presented this pattern, that is, the layout of the exhibitions (specific) was within the limits defined by the layout of the building (complex and generic). That is, the layout of these exhibitions uses, to a large extent, the means that already exist in the very configuration of the underlying building.

These results, summarized in Figure 180 (empirical synthesis), and simplified in Figure 181 (theoretical synthesis), are expressed through two patterns: 1A) C<S<G – when the complex and generic models represent the lowest and highest vales of the set (integration attribute); 1B) G<S<C – when the generic and complex models represent the lowest and highest values of the set (for the intelligibility, mean depth, and choice attributes, and for the elements topological levels, convex spaces, and connections).

Such results could be expected, since the building conveys the idea of a container that shapes the exhibitions. On the other hand, these patterns could not be predominant, since the building – and the long period in which the event is held in it, is largely generic (with practically 75% of its areas made up of a simple and homogeneous spatial configuration), and this genericity allows the exhibitions to acquire distinct arrangements, which could make them go beyond the building's spatial configuration.

Resuming some of the ideas introduced in Chapter 2, the way in which these exhibitions used the spatial resources offered by the building can be associated with the idea of commodity in its original sense, that is, as a primary good, in its raw state, with homogeneous characteristics, and produced in large scale (Appadurai, 1988; Shepherd, 2002). The idea of large scale, in this context, describes not only the configuration of the exhibitions, where some cases in fact allow a better perception of the large scale of the building, but also the predominance of this pattern (exhibitions within the limits of tits buildings) throughout all analyses.

Thus, it is argued that some exhibitions kept the building in its raw state, as not only the global values obtained for some of its attributes are contained within the limits defined by the building, but also the local distribution of these attributes does not significantly alter the distribution initially contained in it.

		4	11	16	19	23	25	27	29	33
Occupation	Integration				●	●				●
	Connectivity	●								
	Intelligibility		●					●	●	●
	Mean depth				●	●				
	Choice				●				●	●
	Control								●	●
	Controllability								●	●
Movement SMR	TL			●		●		●		
	CS				●			●	●	●
	Connections									
Movement SOD	TL		●					●		
	CS									
	Connections									

TL=topological levels; CS=convex space. ● Above the building boundary ● Equal to the building boundary

Table 10. Mediation as a means – Attributes, elements, and exceptional cases.

Table 10 describes the attributes and elements that characterize the first type of spatial mediation (in grey) and its exceptions, and the three periods of the classification system (NR, NR+CP, CP). It is interesting to note that even with an intermediate number of cases analyzed, the exhibitions associated with the CP period, BSP 27, 29 and 33, are the ones that proportionally present more exceptions from the entire analyzed set. This result can be attributed to the elements that characterize this period, as introduced in Chapter 3 and analyzed in Chapter 4, where the curatorship and the design of exhibitions, at the same time that they are more consolidated as professional practices and disciplinary fields, seem to find an institutional and artistic scenario more open to experimentation.

Such an opening seems to be spatially translated into the transgressions that the layouts of these exhibitions carry out in relation to certain attributes of the layouts of their buildings, standing beyond its lower or upper apparent limits, and can be attributed to changes in the event's operating system, organization, and classification. In other words, once the selection of works of art and the definition of classification criteria became the responsibility of the curators and their teams, and site-specific works began to occupy a large part of these exhibitions, processes that started in the previous period but were consolidated after the BSP 27 (FBSP, 2006a)[231]. However, the exceptions of BSP 11, 19 and 23 are also significant and can be attributed above all to the substantial changes that these cases undertook in the minimum circulation path, as discussed in the next section.

[231] As in BSP 26 (2004), where around a third of tis 4000 artworks were site-specific (FBSP, 2004a, 2004b; Kaye, 2000).

From this table and based on the results of the analysis of occupation and movement, it can be concluded that cases that globally deviate from this pattern are also those in which local displacements also occurred. That is, spaces with higher and/or lower values of the building were moved to other floors and/or sectors by the exhibition layout. Therefore, these transgressions are the subject of analysis in the following section, as they constitute exceptions to the prevailing mediation pattern discussed in this section.

In other words, the cases, attributes, and elements that characterize this type of spatial mediation are those that keep, to a large extent, one of the limits defined by the attributes of the building unchanged. This condition, in turn, seems to be justified by the fact that these examples are structured in a sectoring very similar to that of the building. The notion of sectoring, in this context, comprises both its internal structure, external boundaries, and the connectivity between them, that together characterize the building organization system (Amorim, 1999).

> On the other hand, if sectoring is understood as a preliminary and generic layer that helps designers to take control of the design process by eliminating undesirable layouts, both engineers and architects use the sectors as a preliminary form of generating solution-types to be developed and enriched while designing (Amorim, 1999, p. 182).

In the case of the Pavilhão Bienal, its sectors – defied predominantly based on their configurational characteristics, since the building has no internal distinction of uses – are sectors A (void), B (connection), C (columns). These sectors, in turn, are physically and/or visually[232] connected to each other through the minimum circulation path (MCP), as discussed in Chapter 5, and such an organization system, in addition to structuring the building, also seems to permeate the structuring of its exhibitions. In other words, in these cases, the building sectors in fact seem to have worked as a strong starting point for the design of these exhibitions, where each sector was enriched with specific spatial solutions to display each set of artworks, countries, themes, and artists.

Such overlap between the building and exhibition sectors can be observed in the comparative study of the complex and specific models of each case, namely: in the convex maps analysis of occupation – that allow observing the delimitation of these sectors, and how the spaces with the highest and lowest values of the system are distributed; and in the MCP j-graphs of the analysis of movement – that describe the articulation between sectors.

[232] Since from sector B it is possible to have an overview of sector C on floors 3 and 4.

Taking BSP *4*, 16, 25 and 27 as examples, since their global results are situated within the limits of their buildings in the four attributes that characterize this type of spatial mediation[233], the way in which the sectoring of these exhibitions coincides with the boundaries defined by the sectoring of its buildings is evident (Figures 182 and 183).

In the example of BSP *4*, which highlights the distribution of the mean depth attribute throughout the exhibition and its building, the great similarity between the two systems is due to different architectural and curatorial strategies. The first and second floors are practically all made up of special rooms, arranged in the center of the sector, in the case of the first floor (Brasília and *4.000 anos de vidro*), or arranged in the center and surrounded by rooms destined for countries, in the case of the second floor (Lasar Segall and Victor Brecheret) (FBSP, 1957). On the third floor, the occupation is all destined for countries, with homogeneous orthogonal partitions, largely free from the structure of the building, and which delimit central and peripheral circulation axes.

However, when observing the distribution of countries along this floor, their continental distribution, as mentioned in Chapter *4*, follows the sectoring of the building: Latin American countries in sector A, European, African, and Asian countries in sector C and United States of America (U.S.A.) in sector B, between the void and the stairs – with Italy situated in the portion between the staircase and sector C. Therefore, these last two countries are located in the shallowest and most integrated spaces of the system.

Thus, even when the occupation follows a spatial logic predefined by the sectors, it still seems to take advantage of the spatial distinctions comprised in the transition between sectors, precisely where the works of the U.S.A. an Italy were placed. These spaces benefit from the potential for movement embedded in these areas, important points of horizontal and vertical connection of the system (Amorim, 1999; Hillier, 1996a; Hillier et al., 1993). By positioning works from countries that had closest ties to the institution (Alambert and Canhête, 2004), in privileged spaces (Lagnado, 2015),

> Every trip in an urban system has three elements: an origin, a destination, and the series of spaces that are passed through on the way from one to the other. We can think of passage through these spaces as the by-product of going from a to b. […] Now, if cities are, as they were always said to be, 'mechanisms for generating contact', then this means that some locations have more potential than others because they have more by-product and this will depend on the structure of the grid and how they relate to it (Hillier, 1996a, p. 53).

[233] Except for BSP 27, whose global intelligibility value is practically the same as that obtained for generic model of its building.

The exhibition of such works in these places, in turn, can have a movement multiplier effect, since these are not only spaces through which people pass, but also spaces in which people go specifically, since the works of these countries are historically awaited, both for their tradition, in the case of Italy, which in this edition dedicated a special room to Giorgio Morandi, and for their modernity, in the case of the U.S.A., which in this edition dedicated part of the U.S.A. area to a specific room for works the paintings of Jackson Pollock (illustrated in Figure 182, which also illustrates an overview of the Argentina section, on the second floor) (FBSP, 1957).

Similar observations can also be made in relation to the fourth floor of BSP 4, whose layout of the architecture and theater sections follows the delimitation of sectors A and C, and whose spatial distinctions constituted by the transitions between sectors A and B are occupied by Dutch hors-concours architectural projects and by the Brazilian works of the theater section. Such relationships between configuration, attraction and movement are also observed in the internal structuring of the sectors, where sector C the fourth floor of this exhibition is a good example. In the central axis, the sector's busiest area, the countries Austria, Italy, France, and Germany are arranged. And at the end of the axis, at the deepest area of the sector, is the U.S.A. room, with dimensions about six times larger than the adjacent rooms, which in this case does not benefit from the existing movement but seems positioned in order to attract movement to this unprivileged portion of the building.

The BSP 4 layout is described in detail since the observations raised in this case also apply to the understanding of this type of spatial mediation in BSP 16, 25 and 27, as their curatorial projects as well as their arrangements become increasingly complex. However, some specificities and similar strategies of these three cases can also be highlighted.

Of the three nuclei that structure BSP 16, the easiest to identify is nucleus 3, which comprised the *Arte Postal* (mail art) section and the *Arte Incomum* section, positioned at the ends of sector C, on floors 1 and 3 (FBSP, 1981a, 1981b, 1981c). On the path between the stairs and the mail art section was the room that is portrayed in Figure 182, which displayed the paintings of the English artists Gilbert & George (FBSP, 1981a). It corresponds to the space adjacent to the right access to the stairs situated in the transition between sectors B and C on the third floor. However, although widely recognized "the English duo Gilbert & George, popular especially for their performances, disappointed the public and the São Paulo critics, bringing only their enormous paintings to the exhibitions" (Alambert and Canhête, 2004, p. 162).

Therefore, this room also marks the division between Nucleus I, arranged along the entire B and A sectors of this floor, on the left, and the sections dedicated to the artists' books section, "a new expressive modality at that time much exercised by artists from all over the world, which had a substantial participation of English and Mexican artists (Farias, 2001, p. 195), and *Arte Postal* (mail art, Nucleus III), located on the right.

The image that illustrates BSP 25, which highlights the installation *Vigie*, by Swiss artist Fabrice Gygi, portrays the view that the visitor had when entering this exhibition, since its entrance was made through the shortest façade of the building, located on second floor/sector A. On these three floors (2, 3 and 4) partitions were added right after the void, which delimit, but do not segregate, the boundaries between sectors A and B – since the connections between sectors are maintained by the central axis or by the side galleries.

According to the classification of the main catalogue, dedicated to Brazilian artists, as described in the first section of this chapter, the artists that were exhibited in special rooms were placed inside the climatized area (Carlos Fajardo and Nelson Leirner) or in the transition space between sectors B and the deep portion of sector C (Karin Lambrecht), in the back of the air-conditioned area (FBSP, 2002a). The artists of the 'Net Art' section were exhibited on the second floor, in the transition between sectors B and C, the area that connects the stairs and the mezzanine (FBSP, 2002a). And the Brazilian artists listed in the catalogue on a continuous basis, that is, without constituting special rooms or a specific section, were gathered in sector A, around the void, on floor 4 (FBSP, 2002a).

On the other hand, the foreign artists listed in the additional catalogue (FBSP, 2002b), were arranged along floor 1/sector C, floor 2/sector A, floor 2/sector A and terminal spaces on floor 4/sector C. Therefore, if the publications suggest that its organization prioritized the selection of local artists classified under the principles of a curatorial project, most of the Pavilhão Bienal was still occupied by foreign artists and presented according to their countries of origin (FBSP, 2002b).

Considering that this is the only edition in which the entrance was made through this point, and that such an architectural solution seems to enhance the importance of the void in the organization of the exhibition's layout, it can be suggested that, once again, the most privileged spaces of the system were destined to foreign artists[234].

[234] Namely: Bru Özesecen, Kutulug, Ataman, Haluk Akakçe, Sarah Sze, Taras Polataiko, Abraham Cruzvilliegas, Wang Jian Wei, Lu Hao, Qiu Shijiu, Yan Ley, Zen Hao, Fabrice Gygi, Arthur Omar, Seppo Renvall, Annika Eriksson, Marco Maggi, Margherita Manzelli, Rogelio López Cuenca, Gong Xin Wand and Raquel Schwartz (FBSP, 2002b).



Figure 182. Mediation as a means – Integration, mean depth, and choice in BSP 4, 16 and 25 (photos AHWS/FBSP).

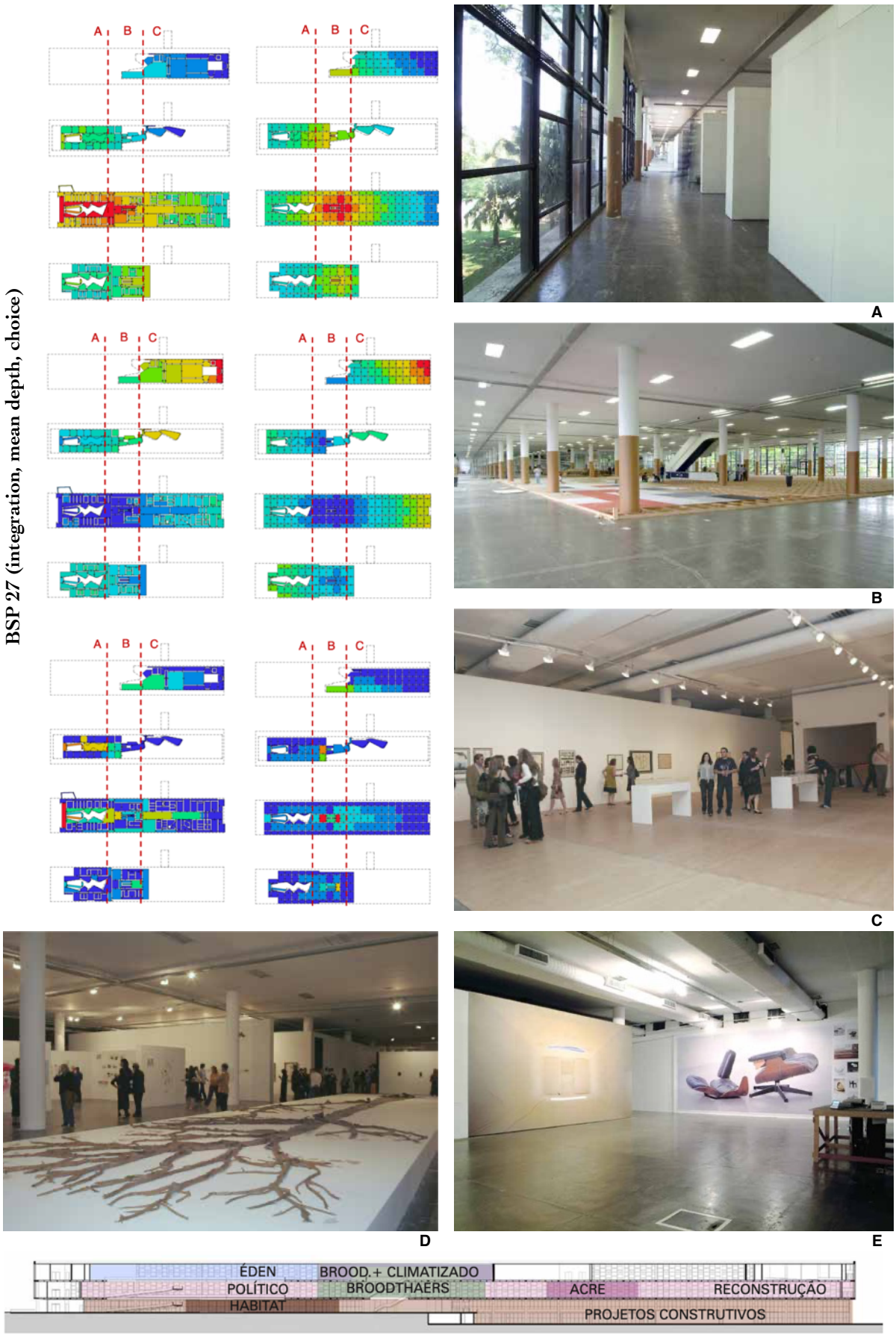


Figure 183. Mediation as a means – Integration, mean depth, and choice in BSP 27 (photos AHWS/FBSP, diagram Villela, 2019).

BSP 27, in addition to having a pioneer curatorial project, is possibly the most didactic example of this type of spatial mediation. Its complex curatorial project (FBSP, 2006a), was spatially synthesized from a section of the building, prepared by Villela (2019, p. 133)[235], where each floor and sector were associated with the following themes: floor 1/sector C) *projetos construtivos* (constructive projects); floors 2, 3 and 4/sector A) Habitat, *Político* (Political), and Éden; floors 3 and 4/sector B) Broodthaers and Broodthaers + air-conditioned area; floor 3/sector C) Acre and *Reconstrução* (reconstruction)[236].

The particularities of this exhibition were discussed in its characterization, in Chapter 6, such as the relationship between the architecture of the building and the site-specific installations on the first and second floors, as well as the elevated square installed in the center of the third floor, sector B (Broodthaers). On this square, however, Villela's (2019) diagram shows that there is not only a physical (as illustrated in Chapter 6), but also a curatorial connection between floors 3 and 4/sector B. These were the only sections of the exhibition organized by a guest curator, Jochen Volz[237], who had direct contact with the Belgian artist Marcel Broodthaers[238], who gives this space its name and is the common thread between the works in this sector (Lagnado, 2005; Volz, 2006).

> The first thing is for people to let themselves be naturally carried away by the works, but also by the pavilion. (That they have) the understanding that this space has a particularity that distinguishes it from a museum, from a classic white cube. The artists, as far as I was able to follow, were able not only to understand, but also to be enchanted by it, to the point of dialoguing all the time with the presence of the pavilion. It is the opportunity to see works that could be presented in a very different way, if we were in a museum, with sealed, enclosed, and isolated spaces. The works here in this building were triggered by a more permeable living space – not only between the works presented, but, above all, between the works and the pavilion, in particular, which opens onto the city and a park like Ibirapuera (Bogéa, n.d.).

Bogéa's reflections on the design of this exhibition summarize the main aspects that make its sectoring so consistent with the pavilion's sectoring, as illustrated in Figure 183: the perimeter corridors that release the partitions from the façades and allow multiple paths (photo A); the elevated square, which reinforces the boundaries of sector B and topologically joins sectors A and C (photos B and C); and the central axis that structures the occupation of floor 3/sector C (photo D). However, the air-conditioned area (photo D), as in other editions, continues to be a highly independent space from the building.

---

235 Based on a presentation of the artists by the curator Lisette Lagnado and the co-curator Adriano Pedrosa (Villela, 2019).
236 These themes, however, are not explicit in the exhibition catalogue, as well as in space, as the curator's idea was precisely to remove the research categories and make the assembly stand on its own (Lagnado, 2005).
237 Also the curator of the BSP 23 (2016) (FBSP, 2016a, 2016b).
238 A tribute to the 30th anniversary of the artist's death, one of the forerunners of conceptual art, very influential in the 1960s and 1970s, and also influenced by the surrealism of the Belgian painter René Magritte (Volz, 2006).

This overlap between exhibition and building sectors, as in BSP 4, 16, 25 and 27, but observed to some degree in most cases, can be attributed to two complementary factors: firstly, the maintenance of the sectoring of the building by exhibition, and, secondly, the reproduction of the articulation system between them. On this first factor, exemplified in the previous discussion on BSP 4, 16, 25 and 27, it can be related to concepts extracted from configurational experiments with housing sectors, particularly the notions of 'boundary effect', 'isolation effect, and 'carrier effect' (Amorim, 1999).

The first effect, 'boundary', suggests that "the clearer the boundaries of the sectors are, the more the integration core would tend to move towards their boundaries", that is, to the boundaries between sectors (Amorim, 1999, p. 352). The second effect, 'isolation', proposes that "when the sectors' boundaries are fuzzy and high connectivity is achieved, the center will tend to move towards an eccentric position, balancing the isolation of one sector with the permeability between the other two" (Amorim, 1999, p. 352). And the third effect, 'carrier', happens when a stronger configurational centre is created, dragging integration towards itself and turning the 'boundary effect' less effective by restructuring the integration core of the system, "even so, this 'carrier effect' is always balanced by a deeper and isolated sector" (Amorim, 1999, p. 352)[239]. These notions are key to understanding the distribution of attributes along the systems in the two types of spatial mediation, and for that reason they are introduced in the transition between these two sections.

These effects are insightful for a deeper understanding of the building's sectoring, and for the discussion of how these exhibitions maintained or modified it. From them, it can be concluded that sector B of the Pavilhão Bienal, by concentrating the spaces with the highest integration (especially on the third floor), functions as a boundary between sectors A and C, which are clearly constituted and were reference for defining the boundaries of sector B. From this, it can also be concluded that most of the layouts of the exhibitions in which the integration tends to concentrate on sector B reinforced the 'boundary condition' of this sector. An interesting case is that of BSP 27. Despite following the building's sectoring, its layout on floor 3 recreates the boundaries of sector B, by defining the Broodthaers' square with the same perimeter of the sector, which shifts the integration to the limits between sectors A and B, also expanding it to the void (Figure 183).

---

[239] 'Clear boundaries', therefore, exist when a sector has few connections to other sectors. 'Fuzzy boundaries' are characterized by the opposite effect, many connections with other sectors. The 'carrier effect, in turn, may be related to the 'paradox of centrality' (Hillier, 1996b), which is the tendency of the centrality of integration of a circular aggregation to shift from the center to the edges when considered in isolation or in relation to its surroundings spaces, respectively.

Therefore, the fact that corresponding sectors of different exhibitions are internally very distinct seems to matter less for these overall results than how their boundaries are structured and how they are connected to each other, which is what brings the exhibition and attributes associated with this type of spatial mediation together.

Still on this discussion of the exhibitions that largely reproduced the spatial means of the building, cases that constitute exceptions to the other attributes – connectivity, control, and controllability, are also of interest. These attributes presented results associated with the second type of spatial mediation, space as an end, since the global values of the exhibitions exceeded one of the limits of their buildings. However, BSP *4*, 29 and 33 presented results contained within the limits of the two models of their building, which means that, for these attributes, their layouts are based on predominant characteristics of the building. In BSP *4* this happens in the connectivity attribute, with the highest value of all cases, and in BSP 29 and 33 this is observed in the control and controllability attributes, with the lowest control values and the highest controllability values of the set.

High connectivity, low control and high controllability are attributes that describe fundamental characteristics of the architecture of the Pavilhão Bienal. The higher connectivity of BSP *4* can be attributed to the openness of its spatial system, in which its layout does not configure enclosed rooms and also introduces corridors that connect with more than 10 spaces at a time. The low control of BSP 29 and 33, on the other hand, can be attributed to the combination between a layout with multiple navigation possibilities, due to the introduction of largely loose partitions from the facades and the central area of the building, which increases the number of circulation rings, making the spatial system more distributive and therefore more difficult to control. Their high controllability seems to be the result of the oblique partitions that constitute the entire BSP 29 and practically the entire BSP 33. Such geometry, by creating spaces with sharp corners and angles, favors the definition of spaces that can be visually dominated.

If we compare the layouts of BSP 27 and 29, these aspects become clearer. The first presents loose partitions of the building's facade, and therefore many circulation rings, but which are organized orthogonally, presenting a low control value and an average controllability value (but still below that defined by the building). On the other hand, BSP 29, which also features partitions detached from the façade of the building, but organized in an oblique way, presented a low control value (comprised between the building's limits), as well as a high controllability (also intermediate to the buildings limits).

When looking at the elements that describe the movement system of these exhibitions in Table 10, most of the exceptions refer to the maximum movement possibilities (SMR) contained in the building (BSP 16, 19, 23, 27, 29 and 33), with only two exceptions regarding their minimum possibilities (SOD), BSP 11 and 27 – where the first made the minimum circulation path (MCP) shorter than the one contained in the generic model of the building and the second made this system longer than the MCP contained in the complex model. That is, the minimum circulation path (MCP) of these exhibitions is mostly longer than the one contained in the building (except for BSP 11), but they tend to exceed its system of multiple routes (SMR), as in BSP 16, 19, 23, 27, 29 and 33.

Such exceptions are the subject of the second type of spatial mediation since they have exceeded the limits of their buildings. However, attention is drawn to the fact that, although most cases are within the limits of the elements that constitute the movement systems of their buildings (topological levels, convex spaces, and connections), these seem to be fundamental for the structuring of the narrative, since exceptions in movement elements are almost always linked to exceptions in occupation attributes. The only exceptions to this rule are BSP 4, which exceeds the building's limits of connectivity but falls within the limits of movement elements, as discussed in this section. And BSP 16, whose occupation is within the limits defined by its attributes, but its system of maximum movement possibilities (SMR) exceeds in topological levels that of tis building, due to the detailed curatorial project of this edition, thus constituting a longer narrative.

Finally, it can be concluded that the exhibitions that most characterize this type of spatial mediation, mediation as a means, were those that most reproduced certain attributes and arrangements contained in their underlying buildings. On the other hand, the exhibitions that concentrate the most exceptions for both occupation attributes and movement elements, especially BSP 19, 23, 29 and 33[240], are associated with different periods of the classification system of the event, which in turn means that although they exceeded the limits of the building, the spatial reasons and mechanisms that cause such an exception may be quite distinct, as they were designed to achieve a specific end. Such reasons and mechanisms, in turn, are the object of characterization and discussion of the second type of spatial mediation, mediation as an end, as discussed next.

[240] Since BSP 27 concentrates three exceptions in the movement elements, and the only occupation attribute that it presented an equal (and low) value to that of the generic model of its building was intelligibility.

7.3.3.1 Mediation as an end

The notion of 'mediation as an end' describes the type of spatial mediation in which the spatial configuration of the exhibition exceeded, in certain attributes and/or elements, the spatial configuration of its underlying building. Such a relationship was especially evident in the local measures of connectivity, control, and controllability, where most of the analyzed exhibitions presented lower connectivity and controllability and higher control values than those originally contained in their respective buildings. And in the elements that constitute its maximum possibilities of movement (system of multiple routes, SMR).

These results were expressed throughout the analyzes in two symmetrical patterns: 2A) S<G<C – when the exhibition system presented global values lower than the generic and complex models, respectively; 2B) C<G<S – when the exhibition system presented global values higher than the generic and complex models, respectively. If the largely generic configuration of the building suggests that such a situation could occur – the layouts of the exhibitions surpass the layouts of their buildings, on the other hand, the fact that this occurs in specific attributes and mainly in the elements of the system of multiple routes (SMR) suggest that such attributes and elements are more susceptible to change – both because of the building's configuration and the efforts that these exhibitions have undertaken to make such changes.

This type of mediation, in turn, can be associated with the notion of commodification, in which exchange-value comes to dominate use-value (Appadurai, 1994, 1988; Forrest and Williams, 1984; Shepherd, 2002; Williams, 2002). This dominance can be seen in the way in which such attributes and exceptional cases deliberately modify key aspects of the configuration of the building, which is what structures its exchange system and also its main use. Making exchange-value dominant over use-value in this context means increasing the visitation potential of spaces, by modifying their logic of occupation and movement, which is how the exchange in exhibition spaces happens.

Unlike the previous type of spatial mediation, the cases to be discussed here, did not keep the building in its raw state. That is, they do not keep some of the most robust features of the building's spatial configuration unchanged, such as the global value and the local distribution of certain attributes and elements that characterize its possibilities of occupation and movement. In other words, it can be said that these cases, that go beyond the limits of the building, seem to do so to achieve a very specific end in the structuring of their exhibitions, which characterizes this second type of spatial mediation.

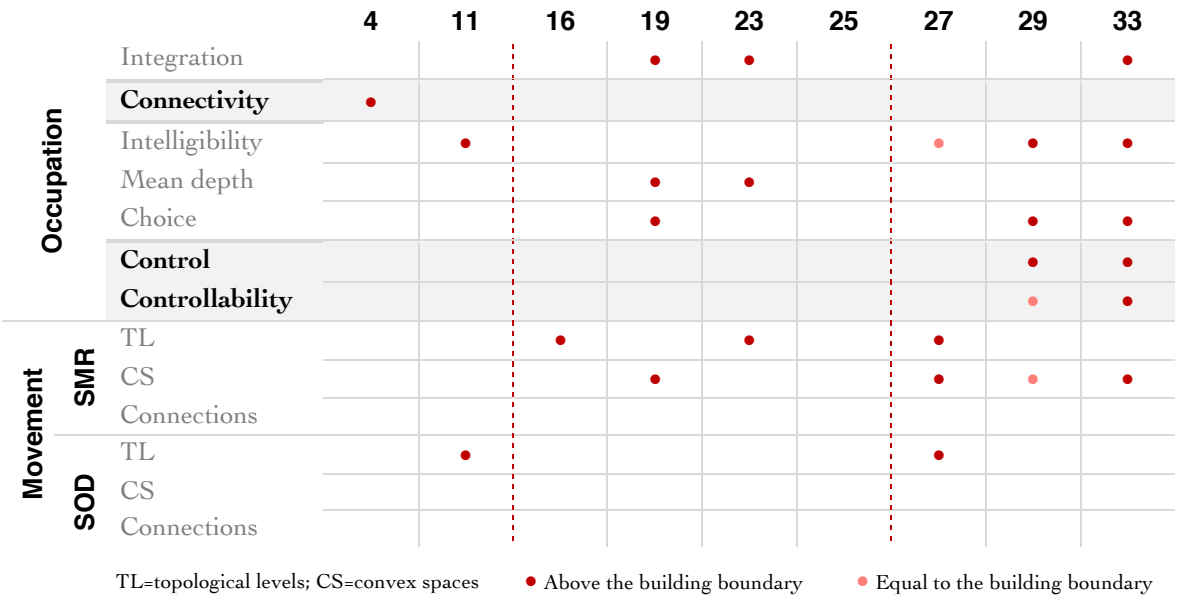


Table 11. Mediation as an end – Attributes, elements, and exceptional cases.

Table 11 describes the attributes and elements that characterize the notion of 'mediation as an end', the exceptional cases of the 'mediation as a means', and the three periods of the classification system (NR, NR+CP, CP). That is, the non-exceptional cases of connectivity, control, and controllability attributes are of interest to this discussion, as well as all exceptional cases of the other attributes and elements, since such exceptions are cases that, to a certain extent, extrapolate one of the limits of your buildings.

Specifically on connectivity, control, and controllability, their global results seem to describe the attributes of the building that can be easily modified by the exhibition layout. In the case of connectivity, this can be attributed to the fact that most of the spaces in the building connect with three or four other spaces. Its generic model, although it has minimized this condition, still has a higher connectivity than the exhibition layouts (connecting with two or three other spaces at a time), as these exhibitions, in many cases, define enclosed rooms that connect with only one or two spaces.

From a local point of view, all the exhibitions presented spaces with high connectivity, but not always located in the same spaces of the building (adjacent to the ramps and stairs). However, only BSP *4* presented an overall result superior to that of the building, as discussed in the previous section, as this is the only case that combines a system characteristic of universal exhibitions, that is, with few and loose partitions, with a random circulation system, that is, with less predictable possibilities of movement (Choi, 1999; Hillier and Penn, 1991; Wineman and Peponis, 2010).

Such spatial combination, however, does not seem to characterize entire period of national representations, both because BSP 11 presented different results, and because the other plans of this period (BSP 4-15) point to significant changes in their arrangements – such as the increase of enclosed rooms and the positioning of partitions, especially on floors 3 and 4, perpendicular and adjacent to the façades of the building, which reduces its circulation rings and concentrates the movement in the central area of the floorplate.

This last aspect is precisely what makes BSP 11 so different from BSP 4, which also explains its exceptional results for the intelligibility attribute (lower than that of the generic and complex models of its building and second lowest of the set, above only BSP 29) and for the topological levels of its system of multiple routes (SMR), also the lowest of the whole set and the only case that presented lower results than the generic model of its building. This exhibition layout defined a path that, being exceptionally short, comes close to the notion of spatially dictated movement, possibly being the most striking example of a deterministic system of encounters (Choi, 1999; Wineman and Peponis, 2010), since it offers very few possibilities of choice to its visitors – it is the exhibition with the lowest value of the set (0.15), very close to the value of its generic model, whereas the others are all above 0.55, and close to or above (as in the case of BSP 19) of the complex model.

Similar reasoning can explain the results of the attributes of control and controllability, since the open spatiality of the building favors a low control and a high controllability, and that the minimum intervention in its interior already seems to operate in the direction of subverting these attributes, as happened in all cases, except for BSP 29 and 33. These two cases have the same characteristic identified in BSP 4, which is the fact that their partitions are detached from the facades of the building along the entire path. This increases the circulation rings, making the spatial system more distributive and therefore more difficult to control. This aspect seems to explain the exceptionally low control value (0.10) that these two cases present. Although BSP 25 and 27 also present significant low values of control, 0.20, these are still superior to the generic model of their buildings.

Therefore, it can be concluded that a recurrent spatial strategy of these exhibitions, which is the positioning of barriers on the perimeter of the floorplate, either with light partitions or with enclosed rooms, acts to increasing control over the movement of its visitors, since that concentrates their navigation in the center of the floor and, therefore, in line with its main axes of vertical circulation axes, ramps, and stairs.

However, another spatial solution seems to play an important role in this result, especially with regard to low controllability, which are the orthogonal partitions that constitute the layout of most of the exhibitions, which difficult the creation of visually dominated and therefore highly controllable spaces. This is attributed to the fact that the only exhibitions that present high controllability, BSP 29 and 33 (0.9), value close to the limit of the complex model of its building (1), are predominantly made up of oblique partitions, detached from the facade of the building and that configure independent settlements with various possibilities of circulation between them. Whereas all other cases, predominantly constituted by orthogonal partitions, presented low and medium controllability (from 0 at 0.4), below the threshold of the generic model of their buildings.

Therefore, the general results of these attributes – connectivity, control, and controllability – demonstrate how 'mediation as an end' works to achieve a specific purpose, by: 1) delimiting spaces where it is possible to immerse oneself in the experience of a single or a small set of artworks (that is, enclosed rooms that are less connected with other spaces, and therefore more independent of the building system); 2) strongly delimiting some stretches of the path, concentrating the movement in the central portion of the building (eliminating the external circulation rings), reducing the distributivity of the system and increasing its control; 3) and arranging the partitions in a predominantly orthogonal way so that there is a good surveillance of spaces, artworks, and people.



Figure 184. BSP 29 and 33 – Oblique partitions (AHWS/FBSP, left, and author's picture, right).

In summary, these examples, to a great extent, subvert some of the building's core values, which are its high connectivity, controllability, and low control. And the cases that constitute exceptions to these attributes, namely BSP *4*, 29 and *33*, were fundamental for such spatial strategies to be identified, since they present very particular exceptions and distinct characteristics from those mentioned above.

However, 'mediation as an end' can also be discussed based on the exceptional cases, that is, not on the basis of the attributes and cases that globally fit this pattern, but based on the cases that constitute exceptions to the notion of 'mediation as a means'. That is, those that presented values higher or lower than the values of the building, both for the attributes of integration, intelligibility, mean depth, and choice, as for the elements of the movement systems, especially those of their maximum possibilities of movement (SMR). Such exceptions, listed in Table 11, are:

1. occupation attributes: integration – BSP 19, *23* and *33*; intelligibility – BSP 11, 29 and *33*; mean depth – BSP 19 and *23*; choice – BSP 19;
2. movement elements: topological levels (SMR) – BSP 16, 25 and *27*; convex space (SMR) – BSP 19, *27*, 29 and *33*; topological levels (SOD) – BSP 11 and *27*.

The recurrence of BSP 19 and 23, as well as the biennials of the CP period (*27*, 29 and *33*) makes them particularly interesting for this discussion of this type of mediation. Since these last three exhibitions have already been discussed throughout these two sections, they are only resumed at the end of this discussion so that final considerations about these two types of spatial mediation can be made.

Specifically on the exceptions of BSP 19 and 23, they have similarly exceptional values of integration and mean depth (low and high, respectively), but the reasons and spatial solutions that make them similar in these attributes are very different. These differences are expressed in the exceptionally high choice value and number of convex spaces of BSP 19, and of topological levels of BSP 23. Their convex integration and choice maps, j-graphs and MCP j-graphs were brought together, along with images of the central void of each exhibition, to illustrate where they are similar and different (Figure 185).

With regard to the integration attribute, these are the only two cases in the set whose center of the system have shifted from floor and sector, going to floor 2/sector B and to floor 3, transition between sectors B and C, in BSP 19, and to floor *4*, transition between sectors A and B, in BSP 23. In these examples, the notion of commodification seems

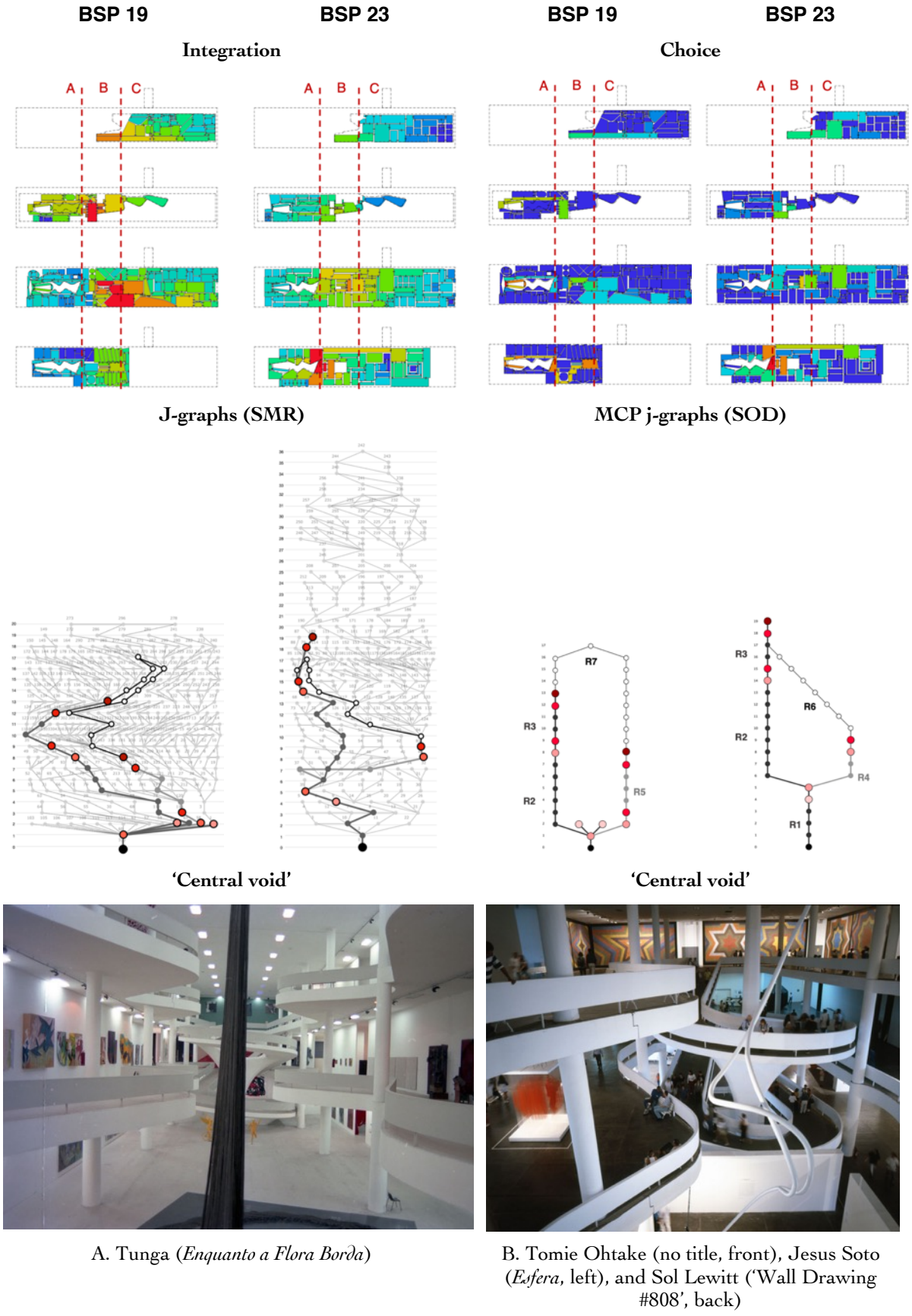
especially evident, as at the local scale it is possible to describe how much and an in which ways the layout of the exhibitions has modified the attributes of their underlying buildings and produced displacements of spaces with higher and/or lower values of the system.

Such displacements are related to the configuration of the exhibition sectors, for instance, in the expansion of integration to floor 3/sector C in BSP 19, due to the contrast between the wide open area situated on the border between these sectors and the high partition and depth that characterizes the left portion of C sector. Just as the position of BSP 23 integration centre moves to the border between sectors A and B on the fourth floor, due to the isolated sector behind the air-conditioned area, which relates to the isolation effect characterized by Amorim (1999), by moving the centre towards an eccentric position.

The most accentuated differences between these two cases, however, are observed in the way they structure their movement systems, different both in their minimum and maximum possibilities. Although BSP 19 is exceptionally larger in terms of convex spaces, the structure of its minimum circulation path makes the entire system short and compact, through the entrance into the central area of floor 2/sector B, splitting floor 3 in half and cutting the horizontal connection between ramp and stairs, as described in its MCP j-graph (Figure 185). This also seems to be the fact that this is the exhibition with the highest choice value of all, whose local distribution leans towards both the ramp and the stairs. On the other hand, BSP 23, the longest system of all analyzed, has this exceptional extension not only because it places its entrance on the first floor, but also because it cuts the connection between floors 3 and 4 via stairs, as well as occupying the portion comprised after the air-conditioned area, also as described in its MCP j-graph (Figure 185).

This isolation of the fourth floor is accentuated with the definition of the air-conditioned area. To overcome it, some exhibitions seem to place in these spaces artistic attractions which the visitor would hardly leave the exhibition without visiting, such as paintings by Goya and sculptures by the Danish artist Svend Wiig Hansen (as illustrated in Figure 187)[241]. Considering that the air-conditioned area, also known as museological space, also received works by recognized artists, which in BSP 23 included Andy Warhol, Edvard Munch and Pablo Picasso (as discussed in Chapter 6), this entire portion of the building, which is quite deep, becomes more inviting to the movement of visitors (Figure 187).

[241] A similar solution is also identified in BSP 24, also designed by the Brazilian architect Paulo Mendes da Rocha (as well as BSP 23), which displayed in this deep portion of the fourth floor artworks by the Brazilian artists Beatriz Milhazes, Cildo Meireles, Delson Uchôa, Hélio Oiticica, Tarsila do Amaral, and Volpi (FBSP, 1998a).



A. Tunga (*Enquanto a Flora Borda*)

B. Tomie Ohtake (no title, front), Jesus Soto (*Esfera*, left), and Sol Lewitt ('Wall Drawing #808', back)

Figure 185. BSP 19 and 23 – Configurational differences and artworks by Tunga, Tomie Ohtake, Jesus Soto, and Sol Lewitt (author's illustrations and AHWS/FBSP photos).

> Some editions of the Bienal were marked by a strong presence or by a controversial event: II Bienal, 1953/54, the best exhibition of modern art of all times, takes the title of the greatest of all Bieniais; the 1967 one became known as the Bienal Pop; the 1985 one, as the Big Canvas. The second Bienal curated by Sheila Leirner, the XIX Bienal, would become known simply as the Kiefer Bienal. Not that she didn't bring other stars. Far from it: there was the expected room dedicated to Marcel Duchamp, full of his ready-mades […]; an extraordinary sculpture by Tunga […]; two interesting satellite exhibitions, *Em busca da Essência* and *Imaginários Singulares* […]. The room of the German artist Anselm Kiefer magnetized the public. Between its entrance and the winding guardrail that borders the void that unifies the three floors of the pavilion, the artist placed his Palette with Wings (Farias, 2001, p. 216-217).

Farias' summary of BSP 19 cites the main sections and artists of this edition. In addition to the importance of Kiefer's work to the event and its relationship with the architecture of the pavilion, it is interesting to observe the relationship between the location of this room, adjacent to the space with the highest choice value in the system (Figure 185), as well as the other artists and satellite exhibitions mentioned in this quote, with the configuration of the exhibition. The sculpture by the Brazilian artist Tunga occupies the three floors of the central opening, as illustrated in Figure 185. Marcel Duchamp's room is the diagonal space on the first floor between the satellite exhibitions, *Em busca da Essência* and *Imaginários Singulares* (all of them object of a specific catalogue (as discussed in section 4.1 of this chapter) (FBSP, 1987b, 1987c, 1987d). And the room that displayed the works by Geo Ripley (Venezuela) and Marta Palau (Spain) is located in the most central and deep portion of the sector C, on the third floor. (Figure 186). Therefore, these artistic attractions help to modify (in the case of Duchamp and satellite exhibitions) or reinforce (in the case of Kiefer and Tunga) the conditions of attractiveness of these spaces.



Figure 186. BSP 19 – Anselm Kiefer (Palette with wings), Marcel Duchamp's ready-mades, and Geo Ripley (*Utopia-Símbolo,Realidade-Símbolo*, front) and Marta Palau (*Instalação*, back) rooms (AHWS/FBSP).



A. Svend Wiig Hansen (*'Fertiliðaðe',* top)

B. Andy Warhol ('Nicky Lane' and 'Helene Rochas', bottom)











C. Anish Kapoor's section design and assembly ('Turning the World Inside Out')

Figure 187. BSP 23 – Svend Wiig Hansen, Andy Warhol, and Anish Kapoor rooms (AHWS/FBSP).

> In conclusion, the main difference between the two systems is that mediated systems are more stable and ordered, topologically speaking; whereas non-mediated systems are less stable and more structured, in a sense that configuration is more susceptible to changes (Amorim, 1999, p. 366).

Amorim's conclusions on the analysis of housing sectors can also be transposed to the understanding of the object of this research. However, in the case of this investigation, it is not a matter of observing whether the sectoring of a spatial system is mediated or not, that is, if their sectors are directly connected or separated by a mediating space or sector, but to understand how spatial mediation took place between different but overlapping systems. That is, while Amorim's case deals with one spatial system at a time, in this research two spatial systems are studied at the same time, that of the building (which is decomposed into two, complex and generic) and that of the exhibition (specific).

This fundamental difference means that, in this case, the notion of spatial mediation is characterized less by the articulation of the exhibition sectors with each other, although this also plays a role in this regard, and more by the way in which the exhibition maintained or modified the sectoring of the building – since such changes require spatial solutions that modify the main structuring properties of the building's configuration**.**

That said, Amorim's findings on the articulation between sectors of the same system seem to be enlightening for the understanding the differences between overlapping systems. That is, examples associated to the notion of 'mediation as a means', presents characteristics of the spatially mediated systems, as they seem to be more stable and ordered, whereas examples of 'mediation as an end', presents characteristics of the non-mediated systems of Amorim (1999), as they appear to be more structured and tend to destabilize the building's configuration.

Such association is discussed both from a specific perspective, that is, taking the cases of the Bienal de São Paulo as examples, and from a broader perspective, considering the attributes and elements that characterize each mediation, extracted from this object, but which can be elusive for the understanding of other objects and phenomena.

From a specific perspective, it can be suggested that the Bienais of periods 1 and 3 of the classification system (national representations, BSP 1-14, and curatorial project, BSP 27-33), in general, seem to approach the notion of 'mediation as a means', albeit in different ways and with different purposes. Whereas the Bienais of the intermediate period (NR+CP, BSP 16-26) seem closer to the notion of 'mediation as an end'.

In practice, each BSP combines, in its own way, spatial strategies associated with the two types of spatial mediation, which work under different and complementary conditions. Such association is based on the patterns and exceptions described on this chapter and summarized in Tables 10 and 11, which present the same results, only differentiating the elements and attributes associated with each type of spatial mediation.

It is suggested that the exhibitions of periods 1 and 3 (NR and CP) generally approach type 1 of spatial mediation since they present few deviations from the original configuration of their building, as in BSP *4* and 11, such as its high integration and connectivity, or these deviations enhance spatial characteristics already incorporated into the building, as in BSP *27*, 29 and *33*, such as its low control and high controllability. The ideas of stability and ordering are observed in these two sets of cases both in their convex maps, which describe how the occupation of these cases reproduced, to a large extent, the sectorization built into the building, and in their j-graphs and MCP j-graphs, which, although lengthening or shortening such circulation systems, seem to maintain their main logics of movement

On the other hand, Bienais of the second period (NR+CP) generally approach the 'mediation as an end' type since they seem to try to modify fundamental aspects of the building, making it weakly integrated, very deep, and seeking to promote a high control the path of the visitors. Its very incisive structuring reflects the excess of classification criteria that characterizes this period and consequently its occupation, and the bold changes that they propose in the maximum and especially minimum circulation system of the building, by modifying the arrangement between the building sectors, destabilizes the distribution of attributes along the building.

However, from the perspective of the conservative and generative models, that is, the spatial models that embodies and reproduces consolidated social aspects and cultural patterns and the ones that create possibilities for new relations and meanings (Hillier, 2005; Hillier and Penn, 1991; Psarra, 2009), the boundaries between these periods seem to blur. That is, exhibitions associated with a more conservative model, such as those of the first period, seem to offer navigation possibilities that are more open to interpretation than those associated with the second period, which seem to try to exert greater control over the movement of their visitors. The most recent exhibitions, in turn, seem to be the most generative of the analyzed set, since they seem to distance themselves from the models that gave rise to the event, as well as imposing a less restrictive order of visitation.

A broader look, however, allows us to differentiate the attributes and elements that seem to be more central to the building's constitution and, therefore, more difficult to overcome, from those that seem to be more easily modifiable and/or are of greater interest for the design of the exhibitions. With regard to the former, they are precisely those associated with the notion of 'mediation as a means', since most of the analyzed cases presented results that were within the limits of the building in these attributes and elements (integration, intelligibility, mean depth, choice, as well as topological levels, convex spaces, and connections) – and that is why these cases were associated with the common idea of commodity. On the latter, it is composed by the attributes that characterize the notion of 'mediation as an end', since in these attributes most of the cases exceeded the limits defined by the building, by modifying the logic of attractiveness and exchange of certain spaces and reinforcing this modification with the curatorial strategies added to them – and that such modification was associated with the idea of commodification.

Although such concepts and associations deserve further investigation, they seem enlightening for the understanding of other objects and phenomena that share similar aspects, especially with regard to the overlap between micro and ephemeral and macro and perennial spatial systems.

* * *

This chapter described and analyzed in an in-depth way nine Bienal de São Paulo exhibitions and their respective buildings – BSP *4* (1957), 11 (1971), 16 (1981), 19 (1987), 23 (1996), 25 (2002), *27* (2006), 29 (2010) and 33 (2018). The analysis aimed to characterize the notion of spatial mediation and its types from the evidence obtained from such cases. To this end, the structuring of the chapter was based on the elements that constitute the proposed notion of mediation in exhibition spaces, namely: mediation between things, mediation between people, mediation between things and people. These analyses, especially their interpretations, also took into account the aspects discussed in parts 1 and 2 of this thesis, that is, the reviewed literature and the concepts proposed for its bisociative approach (Chapters 2 and 3), and the diachronic studies of the different curatorial discourses of the exhibitions, as well as the changes that occurred in its building (Chapters *4* and 5). These parts, in turn, were fundamental for the characterization of the facets, narrative and capital, which guided the selection of cases and the design of an analytical framework (addressed in Chapter 6).

In the first part, mediation between things, the main artistic artifacts of each case were described and characterized. It was also discussed how these elements gave rise to curatorial discourses that are described in the catalogues and plans, and how these elements inform the selection and classification logics that configure the operating system of each case. The main conclusion drawn from this part was that the three periods of classification, NR, NR+CP, and CP, find strong correspondence with the number and type of artworks, publications, as well as with the operating structure of each exhibition. That is, in the intermediate period (NR+CP), when there is an overlapping of logics and classification criteria (whose exhibitions adopt both the countries of origin of the artists and the principles of curatorial projects as a guide for the exhibitions and were organized simultaneously by international commissioners and curators), is when a great diversity of artworks and complex prescriptive texts are also identified.

In the second part, mediation between people, the layout of buildings and exhibitions were studied separately to gradually approach the object and the discussion, emphasizing the relative autonomy of these two elements. Both analyzes followed the same framework, a two-step description based on their generic functions, occupation, and movement.

Although complementary, this division is based on the analytical tools used, namely: convex maps for occupation analysis (which largely results from the classification of artworks) and justified graphs for movement analysis (which, by emphasizing the relationships between spaces, describe the possibilities of navigation). Such analyzes use the description models developed and tested in Chapter 5, complex and generic for the building, to describe its apparent minimum and maximum limits, and specific model for the exhibitions. The movement description is also subdivided into two (SMR and SOD), to identify its maximum and minimum possibilities embedded in the systems. The building analyzes record the spatial changes that occurred between the versions and reinforce the results identified in Chapter 5, that such changes have a local impact, but little global impact on the systems. The analyzes of the exhibitions, describe the spatial specificities of these networks and their relationships with the three classification periods, where the cases of the intermediate period (BSP 16, 19, 23 and 25) presented global values in most cases and attributes very distinct from the exhibitions of periods 1 and 3.

In the third part, these layouts are observed together, in the light of the premises of the discourse of each exhibition. From this joint observation it is possible to identify which cases have maintained or modified the values of the configurations of their underlying buildings the most, globally, and locally. Based on this joint observation, syntheses of the results were elaborated, which situated the exhibition systems in relation to the apparent minimum and maximum limits of their buildings for the seven attributes analyzed in relation to occupation and the six elements analyzed in relation to the possibilities of movement. These results supporter a theoretical synthesis that characterized two types of spatial mediation: 1) mediation as a means, when the exhibition layout used, to a large extent, the spatial means embedded in the building layout (associated with the original sense of commodity, as a primary good); 2) and mediation as an end, when the exhibition layout modified specific spatial resources of the building in order to achieve an specific end, for the most part to make or reinforce the attractiveness and therefore the exchange potential of certain spaces (a process that was related to the notion of commodification). Such characterization sheds light not only on the understanding of the object in question, whose details were highlighted in order to demonstrate how each type of mediation occurs, but on the possible approach of other exhibition spaces or even other buildings of different typologies, since such description models (complex, generic and specific) and such analytical procedures seem to be able to be widely used.

8 CONCLUDING REMARKS AND FURTHER PERSPECTIVES

8.1 Resuming the argument

The association of the architecture of the Bienal de São Paulo pavilion and its exhibitions to the idea of spatial mediation was the answer found to meet the central interest of the thesis, which was to develop a study on the interaction between small-scale and ephemeral spatial systems, constituted by the layout of things, and macro-scale and perennial spatial systems, in the form of building layout. Although such interaction affects practically all buildings, as they consist of internal arrangements delimited by long-term structures, which house other arrangements of transitory elements, it was argued that in the exhibition spaces this relationship is especially evident, because in the materialization of their use, which is the exchange between people and things, these buildings are also constantly changing.

This object also shed light on the fact that the evidence needed to conduct this discussion are not necessarily contained in entire buildings, but rather in the spatial arrangements that structure the networks of exchange between things and people that constitute their exhibitions. This shift in focus, from museum buildings to exhibition spaces, despite seeming to narrow the range of possible empirical objects, since it does not include the study of the entire building, but only the areas accessible to visitors, in fact broadened these empirical and theoretical possibilities, as various types of buildings operate through the display of things (such as department stores, libraries, markets, shopping malls, supermarkets, and, of course, galleries and museums).

In this context, it was fundamental to work with an object that was simultaneously diverse and apparently repetitive since such aspects could facilitate the investigation of the spatial and temporal relationships between these networks. With these aspects in mind, the Bienal de São Paulo was selected as the object of study, as it simultaneously represents a set of exhibitions with varied discourses and arranges, and an iconic building that housed most of them, the Pavilhão Bienal. This long overlap between building and exhibitions, makes it possible to delimit not only what is perennial and what is ephemeral, that is the layout of the Pavilhão Bienal and the layout of its exhibitions, but how perennial and how ephemeral these structures are. In other words, if, on the one hand, the building underwent changes, on the other hand, some recurrences were identified in the arrangement of these exhibitions, a phenomenon in which the notion of spatial mediation was key to its analysis.

Therefore, in this object, there are two mechanisms operating simultaneously, one that establishes direct and short-term relationships between exhibitions and their underlying buildings, and another that establishes indirect and long-term relationships between exhibitions. This dual relationship was associated with the notions of exhibitions as spatial discourses, which describes how curatorial intentions give rise to spatial structures, and buildings as spatial commodities, which addresses the role of the building in this spatialization. In other words, an attempt was made to understand the interaction between exhibition layout and building layout, considering that the former embodies aspects of a discursive nature, and the latter is often treated as a commodity in this spatialization. The Bienal de São Paulo, in addition to making this distinction possible, also brought clarity about which elements are mediated in exhibition spaces – people, knowledge, and things – and what conceptually articulates the dimension of the exhibitions and the dimension of the building – synthesized in the bisociative approach discussed throughout Chapter 2.

This concise delimitation, which studied 30 exhibitions (BSP 4-33[242]) more generally and analyzed 9 of them in greater depth (BSP 4, 11, 16, 19, 23, 25, 27, 29 and 33), sought to develop a discussion based on the international prominence and architectural particularities of this object. If its international prominence may seem evident, these architectural particularities were not explored in this perspective, that is, considering that of the 33 editions, from 1951 to 2018, 30 of them took place in the same building, an aspect that makes it unique in the growing universe of large-scale perennial exhibitions.

[242] Since BSP 34, held between September and December 2021, was not included in this research.

Before approaching the cases, it was necessary to characterize what is meant by spatial mediation, their forms of manifestation and review the related literature. In this context, Chapter 2 formulated the notion of spatial mediation as a primary form of mediation that, unlike other forms, such as educational and technological, does not depend on secondary resources for its realization. This notion was guided by the definition of a specific concept of exhibition spaces, as spaces for the exchange between people and things, which, in the case of artistic exhibitions, is predominantly an exchange of knowledge, but which in other spaces, such as those of a commercial use, may also include monetary exchanges. Thus, spatial mediation was provisionally defined as the configurational mechanisms that foster exchanges between people and things. Chapter 3, in turn, discussed this idea by presenting the two dimensions of the empirical object – the BSP as a set of exhibitions, which incorporate curatorial discourses and its buildings as commodities for its spatialization, reviewing the literature on the history of BSP, and about related morphological studies.

Chapters 4 and 5 developed exploratory and diachronic studies on the architecture of these exhibitions and their buildings, constituting the second part of this investigation. Essential step for the definition of an analytical sample and framework, these two chapters follow the same logic of approaching the object, firstly discussing aspects related to the exhibitions and then understanding those that characterize its building. To this end, Chapter 4 sought to understand the elements that make up the prescriptive text of the exhibitions, from an institutional, artistic, and curatorial perspective, discussed aspects related to data processing, especially the redrawing of all exhibition plans and the reconstitution of the building plans, and identified some global and local spatial arrangements common to them and that extrapolate the limits of existing classifications.

Chapter 5, in turn, mapped and analyzed the main configurational implications of the spatial changes that the building underwent over the 61 years studied (1957-2018), and, through this process, developed and tested three models of description of the spatial systems that constitute the BSP, those that describe the apparently minimum and maximum possibilities of movement and occupation of the building, named as generic and complex models, respectively, and those that describe the configuration of its exhibitions, specific model. That is, as spatial systems of complex, generic, or specific occupation possibilities, described by means of convex maps, and as systems of multiple routes (SMR) and systems of origins and destinations (SOD), described by means of j-graphs and MCP

j-graphs (minimum circulation path), which represent the maximum and minimum possibilities of movement, respectively.

In-depth case studies were modeled and conducted in Part III. Chapter 6 characterized the narrative and capital facets – broader notions that comprise the concepts of discourse and text and of commodities and goods, respectively. These notions summarize the reasons why such cases were selected that is, because they represent different content classification systems or because of the particular way they use the spatial resources of the building. These notions frame each set of cases and were discussed through the characterization of their biennials: BSP *4*, 16, *27* and *33* (narrative); and BSP 11, 19, 23, 25, and 29 (capital). In this characterization, the curatorial projects of each exhibition, as well as examples of how these projects translate spatially, were also preliminarily pointed out. Still in this chapter, the analytical framework used in the case studies was also designed. This framework consists of an analytical matrix, which allows cases and their results to be displayed together, regardless of the facet to which they were initially associated. This framework also includes analytical steps, which reflect the components of the notion of spatial mediation and allow a gradual approach to the object: 1) mediation between things – which describes and analyzes aspects related to works of art, their selection and classification; 2) mediation between people – which describes and analyzes the layout of the building and the layout of the exhibitions; 3) mediation between people and things – which compares and synthesizes the results of the two previous steps.

Finally, in Chapter *7*, the nine cases were analyzed to demonstrate how the occupation and movement properties of the exhibition and building layouts interact to mediate things, through the classification of artworks in space according to certain premises and purposes, and people, through the structures resulting from this classification of things and their dialogue with the structures of the underlying building. These analyzes supported the characterization of two types of spatial mediation, mediation as a means and mediation as an end, based on the way in which certain attributes and elements of the exhibition layout (specific system) were located in relation to the apparent limits of the building layout (complex and generic systems). The first, mediation as a means, predominated, that is, most of the attributes and elements of the networks of the analyzed exhibitions presented results within the limits of the building. On the other hand, the attributes and elements whose exhibitions presented results that surpass the boundaries of the building seem crucial for their structuring, reconfiguring the space for a specific end.

8.2 On some findings

Throughout the development of this investigation, empirical and methodological findings emerged, which contributed to the formulation of the notion of spatial mediation in the context of exhibition spaces, but eventually applicable to other objects and research questions. These findings refer both to the empirical object, the Bienal de São Paulo, which, contrary to what was initially expected, had been poorly documented and studied from an architectural perspective, as well as to the theoretical and instrumental formulations necessary to approach this extensive object in space and time.

Regarding the BSP exhibitions, a first finding was that there is along transition period between the two best-known classification systems: that of national representations, where the artworks were organized according to the artists' countries of origin, introduced in the creation of the event, and that of the curatorial projects, which characterize the most recent exhibitions. Therefore, there are three major narratives in the history of this event, which are introduced in Chapter 3 and analyzed in Chapter 4 of this thesis. This intermediate period, which runs from 1981 to 2006 (BSP 16-26) and is marked by the overlap between the earlier and later systems, also seems to be a period of intense spatial experimentation, as the analyzed cases suggest (BSP 16, 19, 23 and 25). Such spatial richness can be attributed to the development of the disciplines involved in the design of these exhibitions – art, curatorship, and architecture – which in the 1980s and 1990s underwent intense transformations. This finding is resumed at the end of this section, after the discussion of other aspects that add to this initial finding.

In this context, the first finding was that the Pavilhão Bienal, although quite intact on the outside, did not remain the same on the inside. This finding was not an initial research question, as it was expected that the most significant spatial changes of the building were only those that could be seen externally, that is, the addition of fire escapes. During the process of studying and redrawing the plans, however, it was found that the internal limits of the exhibition spaces varied from case to case, in some years more drastically than others, shortening or lengthening the spatial system and fragmenting its perimeter.

The absence of data on the architecture of the BSP exhibitions, in addition to the plans contained in some of its catalogues, led to the first finding and possible contribution of this study. This contribution refers to the redrawing, standardization, and correction of the

plans of the 33 exhibitions (although the first three are not directly addressed in this research and emphasizing that the BSP 34 is not part of this study), as well as the reconstitution of the Pavilhão Bienal plans in the year of each exhibition. In addition to compiling existing numerical data and extracting new data about each exhibition, these contributions can also foster the development of future research.

As identified in Chapter 3 and analyzed in Chapter 5, the building undergoes several spatial changes, which do not happen in a linear or progressive way. That is, there are years when the exhibition spaces were larger and others in which they were reduced and, eventually, fragmented. All these changes, in turn, modify the configuration of spaces initially available for setting up the exhibitions, an aspect that needed to be addressed. In fact, the redrawing of the exhibition plans and the reconstitution of the plans of their buildings was more than a descriptive tool and a documentation stage, but an investigative process which seems to be fundamental in architectural research.

This process contributed to an in-depth knowledge of the object, which was fundamental for the unfolding of the second facet of the bisociative approach that constitutes this thesis, the one that investigates the role of the building in structuring the exhibitions. This role, in turn, was addressed from an economic perspective, which helped to describe how space as a resource is used by these exhibitions, either in its primary form (commodity) or through the modification of its use and exchange value (commodification). This knowledge of the building and this new look at these exhibitions were fundamental for the selection of cases to be studied in Chapters 5 and 7.

This apparent flexibility of the building required the development of descriptive models that captured this condition, leading to the description of the building in two ways: as detailed as possible, that is, considering all its barriers at the knee-level, complex model, and as simple as possible, by joining convex spaces that are configurationally similar, generic model. The exhibitions, in turn, were described as a specific model, since they consider syntactic characteristics of their networks, but also semantic aspects, namely the contents that were displayed in them, since spaces delimited only by columns and used for the same purpose were also unified.

The formulation of these three descriptive models is possibly the main methodological contribution of this research, since such modeling can be used to investigate other architectural objects. That is, the layout of many buildings can be broken down into two

layers, one that describes it in as much detail as possible, considering all barriers at knee or eye level (permeability to movement and vision), and another simplified, that allows some junctions. Although the criteria for such detailing or joining may be different from those used in this research, the objective of this two-layer decomposition is the same: to describe the limits to occupation and movement embedded in the spatial system of buildings (complex and generic models), as well as what happens when new barriers are introduced to this system (specific model).

Throughout the syntactic studies carried out in Chapter 5, it was found that the spatial changes that the building undergoes are configurationally of little impact. That is, even if its system becomes longer or shorter, its global values increase or decrease, and some spaces lose or gain local importance, its structure remains largely unchanged. Such inertia or robustness is due to the fact that its sectors are shortened or expanded, but its limits, as well as the arrangement between them, remain practically unchanged.

Such procedure, of reconstituting the plans of the building in the year of each Bienal, was essential so that the layout of each exhibition could be compared with the layout of its respective building. This chapter (5) also functioned as a pilot study, since, in addition to the building analyses, a first analysis was conducted, where the three descriptive models were compared. Taking BSP *4* as an example, where the three spatial models were translated into convex maps, to analyze the systems in relation to their occupation conditions, and justified graphs, to address their movement possibilities. The choice for these forms of representation to describe movement and occupation, the most basic types of human behavior that occur in buildings, took into account the fact that "movement is primarily about the relations between spaces rather than the spaces themselves, in contrast to occupation which makes use of the spaces themselves" (Hillier, 1996b, p. 317).

This analysis, in turn, produced results significantly different, which seemed to accurately capture the minimum and maximum limits offered by the building, as well as the exhibition situation in relation to those limits. Based on it, on the review of the periods of classification of the exhibitions and of some recurrent spatial arrangements (Chapter *4*), as well as on the argument built in Part I of the thesis, which its Part III was formulated. This part was specifically dedicated to the selection and characterization of cases to be analyzed in detail, to the definition of an analytical framework (aspects dealt with in Chapter 6), and to the development and discussion of these analyses (Chapter *7*).

The analyzes of Chapter 7, in turn, followed a structured approach, defined in Chapter 6, which reflect the very notion of spatial mediation and its elements. In the first section of this chapter, mediation between things, it was found that works of art grow in a variety of formats over the years, while its operating system acquires simpler structures, that is, the BSP no longer contains several biennials within it (e.g., architecture and theater) and its organization is no longer composed of a series of participants (international commissioners, selection juries, artistic direction) and focuses on the figure of the curator and/or his or her team of curators. In the second section of this chapter, mediation between people, the layout of the buildings and exhibitions were addressed separately, but according to the same steps, first describing their possibilities of occupation and then their movement structures, using the three descriptive models elaborated in Chapter 5. Such analyzes demonstrated how the building, in the 9 years studied, undergoes architecturally significant but configurationally subtle changes. And how the exhibitions, despite being conceptually very different, present several recurrences in configurational terms. In the third section of this chapter, mediation between people and things, these layouts, of buildings and exhibitions, are described together, as well as aspects of the first part are taken up to support the discussion.

These comparative analyzes showed that in fact the building does not function as a constraint, but rather defines boundaries that may or may not be overcome by the layout of the exhibitions. This overcoming, in turn, although it happens in some editions with more emphasis than in others, does not affect all the attributes and elements that constitute an exhibition, but some that are systematically repeated throughout the cases and periods analyzed. It is precisely this systematic repetition and exceptionality that characterize the two types of spatial mediation identified: mediation as a means and mediation as an end.

That is, most of the attributes considered in the occupation analysis (integration, intelligibility, mean depth, and choice) and the elements that constitute the movement systems (topological levels, convex spaces, and connections) presented results where the exhibition network is contained withing the building boundaries. These results supported the characterization of the first type of spatial mediation, mediation as a means, in which the layout of the exhibitions was strongly guided by the layout of their underlying building – mediation that was associated with the idea of commodity as it the building was mostly used in its primary and original state.

However, just as there are exceptions to this type of mediation, some attributes presented a predominantly deviant result, that is, the exhibition network presented values above or below one of the boundaries of its underlying building, namely control and controllability. This set of results characterized the second type of spatial mediation, mediation as an end, where the spatial configuration of the exhibitions modified the configuration of the building in order to achieve a specific end – mediation that was associated with the notion of commodification, since certain properties of the building were changed to modify the existing relationship between use and exchange.

The characterization of these two types of spatial mediation clarifies not only how these cases approached the architecture of the Pavilhão Bienal, but also on how they contributed to the writing of the history of this event, as well as the Brazilian history of art and exhibitions. If one allows such simplification, it can be suggested that 'mediation as a means' describes the direct and short-term relationship that each exhibition establishes with the Pavilhão Bienal, which, although significantly modified by some editions, maintains to a large extent a good part of the attributes and elements that characterize its configuration. Whereas 'mediation as an end' describe the indirect and long-term relationships that are established between exhibitions, since the examples that constitute this type of mediation and its exceptions seem to have a strong relationship with the curatorial discourses, in particular, and with the classification periods, in general.

What led to this association were the facts that: 1) the 'mediation as a means' type of mediation is the predominant type, which suggests the prevalence of the building in the definition of the exhibition configuration, the constant element of this object; 2) the 'mediation as an end' type of mediation happens with greater emphasis in more recent editions, suggesting that certain attributes and elements of the building were systematically modified to achieve a specific purpose, the element that varies the most in this object. In other words, if the Pavilhão Bienal is an unavoidable presence in the structuring of the exhibitions, on the other hand, the variety of classification systems and especially of curatorial discourses seems to be manifested with greater emphasis in the exceptions to this structuring offered by the building.

This aspect refers to the finding initially mentioned in this section, which is the fact that the classification of BSP exhibitions is characterized by three periods, where the intermediate period is a mixture between the system that gave rise to the event, the national representations, and the system currently adopted, of curatorial projects. Although

this was not a specific objective of this thesis, but an unfolding of the investigation on spatial mediation, the analysis of the layout of the exhibitions allowed us to identify a correlation between attributes and elements of these spatial systems and the three classification periods of these exhibitions. That is, the exhibitions of the intermediate period (BSP 16-26), where the criteria of the national representations (NR) coexisted with the principles of the curatorial project (CP), presented significantly distinct results from the exhibitions of the first and last periods, each of them characterized by only one criterion, NR (BSP 1-15) or CP (BSP 27-33).

These differences refer to the fact that such exhibitions, especially BSP 19 and 23, extrapolated the limits of the building, especially with regard to integration, mean depth, and choice. And also in terms of topological levels, creating spatial systems even longer than those contained in the complex model of its building (BSP 16 and 23), which suggests a greater elaboration of these curatorial projects. Even when they do not go beyond the limits of the building, these exhibitions stand out for presenting values that tend to the extremes, such as low integration, high depth, high choice, high control, and low controllability.

The fact that these intermediate exhibitions are particularly distinct, however, does not make the exhibitions of periods 1 and 3 similar to each other. Although the analysis of more cases is fundamental to better characterize such differences, one of them seems latent, which is the fact that the most recent exhibitions (BSP 27, 29 and 33) concentrate most of the exceptions of the results obtained for the two types of spatial mediation, whereas the first two cases (BSP 4 and 11) have practically none.

The fact that certain cases from the same period concentrate many exceptions to the patterns that characterize these different forms of spatial mediation suggests a greater intention to circumvent the conditions apparently imposed by the building, on the one hand, while at the same time deviating from solutions frequently used in the exhibition design. Such solutions refer especially to the low control and high controllability that the BSP of this third period, especially BSP 29 and 33, present, in contrast to the other exhibitions, which tend to present high control and low controllability. These are the exhibitions with the lowest intelligibility of the entire set.

This low intelligibility, in turn, can be related to what Tzortzi (2017) called a theoretical shift in the use of space, from a functional to an expressive perspective, drawn from the

analysis of the Moesgaard Museum (MOMU), in Copenhagen, Denmark, whose configuration presents a rich combination of spatial solutions that shape complex experiences designed for a specific time and space. Such richness is due to the way its layout combined different types of space to provide different experiences of its visitors.

The notion of types of space, although not used in this thesis due to the extension of the analyzed networks, refers to how the spaces are connected to the layout of which they are part, and can range from 4 to 13 types, considering only their physical permeability properties or also their visual permeability (Amorim, 2013; Hillier, 1996b). The four basic types defined by Hillier (1996b) and used by Tzortzi (2017) are: 1) a-type (occupation) – with a single access, terminal spaces in a sequence; 2) b-type (control) – with two accesses, mediating the access between two adjacent spaces in a sequence; 3) c-type (circulation) – with two accesses and located in a ring, thus offering movement alternatives; 4) d-type (choice) – with at least two connections and located in at least two rings (Hillier, 1996b).

In exhibitions, these types of space can constitute more conventional structures, where "museum layouts tend to be dominated by c- (or *circulation*) spaces to create sequences, perhaps completed by d- (or *choice*) spaces to allow alternative routes, but less frequently by a- (or *occupation*) and b- (or *control*) spaces" (Tzortzi, 2017, p. 493). They can also give rise to more innovative structures, such as the MOMU, where these types of space can be used in more richer combinations, for example, by making recurrent use of occupation (a-type) space to promote immersive spatial experiences, where "space does not play the practical role of creating an intelligible spatial pattern to serve as the basis for a curatorial argument, as we often find in museum layouts, but generates an intellectual narrative through a highly differentiated system of spatial experiences" (Tzortzi, 2017, p. 506).

This loss of intelligibility that results from such arrangements that are less constituted by spaces c- and d- and by a predominance of spaces a- explored in different ways, also happens in more Bienais exhibitions, being precisely the aspect that differentiates the exhibitions of periods 1 and 3. That is, the BSP exhibitions of the first period, and, to some extent, of the second period, according to Tzortzi's (2017) ideas present "a highly ordered layout made of repeating spatial elements or recursive sequences, set in similar relations" (p. 507), with a "high degree of redundancy, rendering it intelligible but predictable" (p. 507). Whereas the BSP exhibitions of the third period, also according to Tzortzi's (2017) ideas, with their non-repetitive and varied layout "have a high degree of information, as a

result of its unpredictability and absence of manifest order, so it will be less easily intelligible but much more interesting to explore" (p. 507).

These two different approaches characterize what the author calls a 'sensory turn' in the design of exhibitions, where there is a shift from the notion of space as redundancy to space as information[243]. These spatial aspects also mark a shift from the 'pedagogy of walking' to the 'pedagogy of feeling'[244], where the former is linked to a notion of narrative that is sequentially linear and rational, and the latter considers narrative as a cumulative effect of experiential sequences, and, finally, "from the concept of museum space as a generic framework for predefined arguments towards spaces as contributing, individually and collective, to meaning making in themselves" (Tzortzi, 2017, p. 507). Both situations seem to be observed in BSP exhibitions, layouts with innovative spatial combination, and layouts that are more predictable and repetitive, even if it is not a museum building. On the contrary, it is precisely because the Bienal the São Paulo is not a museum, architecturally and institutionally speaking, but whose spatial structure can be converted biannually into one, that the investigation of such issues was especially insightful.

This theoretical shift, as Tzortzi (2017) calls, seems to be precisely what differentiates the exhibitions of the first and third periods and what makes the Bienais of the second period so distinct, since they seem to precisely mark the transition to this sensory turn. This distinction is mainly due to the change in the event's operating system, as characterized in Chapter 4, particularly the systematic introduction of curation, both in the organization and in the classification. Introduced in BSP 16, although BSP 14 "in a way, opened the way for the other curators to actually arrive at the so-called language analogy" (Amarante, 1989, p. 247), the excess of classification criteria that characterizes this period and a certain dispute of narratives between international commissioners and curators, seems to have resulted in a great redundancy, as these are also the most intelligible exhibitions of the set.

All the analyzed BSP exhibitions can also be associated with the various concepts introduced in Chapter 3, such as the notions of spatially dictated, guided and random movements (Choi, 1999; Wineman and Peponis, 2010), conservative and generative modes of space (Hillier and Penn, 1991), fully open and fully close possibilities of movement

---

243 Notions extracted from Moles' (1966) ideas on communication, where "every communication system is a balance between structure (or redundancy) and freedom of choice (or information) (Tzortzi, 2017, p. 507).

244 The latter concept is proposed by Witcomb (2015) "to describe contemporary museum strategies which, by engaging more senses and inviting visitors to 'look, listen and feel', create responses that are affective and embodied rather than simply cerebral" (Tzortzi, 2001, p. 495), in contrast to Bennett's ideas and the strategies used in "nineteenth-century museums to communicate evolutionary principles by having visitors walk along linear displays of objects (Tzortzi, 2017, p. 495).

(Hillier, 1996b) and open and closed works (Psarra, 2009), which refer to the possibilities of movement, occupation and interpretations that the spatial configuration can provide.

> Naturally, the autonomy of the assemblers existed as far as the word of the architects and artistic directors began to prevail. The former carried out the basic project for the occupation of the building, involving the division of rooms for the national representations and the placement of the panels. The artistic directors, linked to MAM, established official contacts with international institutions and tried to organize the assembly and arrival of the works. (Oliveira, 2001, p. 166)

Simply put, it can be suggested that the exhibitions of the third period, curatorial project, are the most open to new relations, interpretations, and experiences, followed by the exhibitions of the first period (national representations), which although highly ordered and relatively intelligible, are still less controlling than those that constitute the second period (NR+CP), the ones with the highest control and the most intelligible of the set. The conceptual richness embedded in the layout of these exhibitions, in addition to reflecting the development of art, curatorship, and exhibition design, is also due to the architecture of the Pavilhão Bienal, which is both widely flexible, in the sense that it easily responded to change throughout its lifetime and "remained relevant to cultural and societal trends" (Kronenburg, 2005, p. 59), and highly adaptative, as it supported significant changes in the operating parameters over time (Schmidt III et al., 2010).

> In a spatial configuration, every local move has its own configurational effect, and it is the natural laws that govern these local to global effects that govern global configuration. It follows that it is knowledge of these laws that we require for a theory of space, not knowledge of combinatorial possibility. It is these laws that give rise to both the local configurational types we are tempted to call elements and to the global configurational patterns that commonly characterize buildings as a whole. (Hillier, 1996b, p. 329)

What this research sought, however, was not to associate periods or cases with specific concepts, but, through the construction of a concept of spatial mediation and the characterization of its main forms of occurrence, to show the mechanisms under which it operates. This notion, in turn, may underlie several of these concepts, which may be objects of future investigations, as discussed next.

8.3 Further research

> These local to global laws are independent of human volition, and as such must be regarded as more akin to natural laws than contingent matters of human existence. This does not imply that the relationship of human being to space is governed by natural laws, but it does mean that the passage from the possible to the actual passes through – and has historically passed through natural laws which mediate the relationship of human beings to space (Hillier, 1996b, p. 330).

The notion of mediation appears in several morphological studies of the built environment, often to address the role that spatial configuration of buildings and cities plays in people's daily life. Intuitively, the term seems appropriate, since a robust body of studies, many of which discussed throughout this thesis, has reiterated the idea that space does not determine how social processes will develop. In the same way that such processes are not fully responsible for the spatial configuration of human settlements, since the constitution of cities and buildings, as discussed in this thesis, results from the accumulation of layers of information from different times and natures.

This research, in turn, sought to formulate a specific definition of spatial mediation and the mechanisms under which it operates, based on the analysis of exhibition spaces, but which can be applied to other studies and objects. In this analysis, the 'natural laws' embedded in the 'passage from the possible to the actual', which mediate the relationship between humans, things, and space, were described. These laws refer to the way in which space is configured, as a means or as an end to achieve certain purposes. Such laws, in turn, appear to be broad enough to guide the investigation of other objects and phenomena, directly related to those addressed in this research or not, since the relationship between micro and ephemeral scale networks and macro and perennial scale networks, to some extent, permeates the constitution of different types of exhibition spaces and buildings.

Other exhibition spaces may include not only those that house commercial activities, such as markets and department stores, discussed in Chapters 2 and 3, and fundamental for the formulation of the concept of exhibition spaces, but all those that operate through the exhibition of visible and invisible things (as learning and entertainment spaces). And buildings with different constitutions can include both those with an open spatial configuration, such as that of the Pavilhão Bienal (i.e., event pavilions or convention centers), and those with a more rigid and strongly constituted spatial configuration (as in the case of practically all the buildings whose interiors are not constituted by rows of columns in sequences, but by walls and well-defined rooms).

In other words, these procedures, which fundamentally consist of decomposing the layout into different layers, can guide the study of other objects that, to some extent, may resemble the object of this research according to the look that is cast on it, be it from outside to inside or vice versa. In the case of the Bienal de São Paulo what initially motivated its choice as a research object was this look from the outside in, as it was an iconic building, with a long history, and which housed dozens of exhibitions. This look from the outside in, in turn, may inspire the study of other buildings, historical or contemporary, with similar or different uses, whose interiors are constantly changing, whether perennial and on a macroscale (that is, the very constitution of the building), or ephemeral and micro-scale (i.e., light partitions or the layout defined by furniture and equipment, for example). It seems to be this approach that delimits a good part of museum studies, since these are often also objects of great architectural interest.

An inside-out approach takes this internal look as a starting point in order to understand how aspects that may seem punctual, micro-scale, and ephemeral can give a new configuration, use, and meaning to the entire building. This inside-out approach could include, for example, buildings that are not necessarily recognized by an original or unique architectural image, but whose interaction between perennial and ephemeral structures constitutes an important part of their functioning. This can include all spaces in which the arrangement between things also structures the encounters between people, as in commercial, work, educational, health and social learning spaces. This inside-out approach can also help deepen the understanding of the hybrid nature of many of the programs in these buildings, that mix strongly programmed sectors with open and informal areas, also common in modern and contemporary museums, as discussed in Chapter 3. Interestingly, BSP presented elements in these two directions and for this reason it proved to be an object with great potential for the formulation of new descriptive models apparently capable of being applied to other empirical objects or even in investigation of other natures.

Regarding developments directly liked to this research, there is the possibility of analyzing other Bienal de São Paulo exhibitions. These new analyzes of BSP exhibitions, in turn, can support a more robust correlation between their configurations and the different artistic formats, curatorial discourses, and classification periods of the event, since selection of cases did not necessarily seek to verify the existence of such correlations, but to characterize different spatial mediation strategies preliminarily identified in emblematic cases, both from the point of view of the curatorial discourse and spatial arrangement.

It is also possible to deepen the study of cases already analyzed in this research, in order to improve their descriptions. Such improvement may include the addition of other spatial information, especially to the specific model, such as the configuration of non-exhibition spaces, the description of artworks that may also constitute barriers – information that is not available to all cases and the reason why they were not addressed in this research, and the justification of the spatial systems from different spaces of origin, not only from the many possibilities that the building offers, but also from specific points of the route.

This deepening can also include the elaboration of axial maps, which capture linear properties of movement, and the description of topological types of space (Amorim, 2013; Hillier, 1996b). It is noteworthy that such descriptions, mentioned in Chapter 2, were tested in a smaller number of cases, but that, in addition to not being essential for the description of the research problem, they demand a great preparation of bases, since the networks studied are quite extensive.

The challenges faced during the development of this research open up another possibility for future research, which lies in the improvement of existing spatial analytical tools and/or the development new ones. For example, although justified graphs allow a general description of the spatial systems, the recurrent overlapping of edges makes it difficult to identify clusters and specific relationships between them, requiring manual reordering that does not seem compatible with studies that work with a large number of complex building networks.

In this line of reasoning, an automated identification of types of space, based on justified graphs or convex maps, could stimulate the development of such studies. Manual screening of such information, although possible and performed in many construction studies to date, seems to discourage the development of studies with extensive and large-scale construction networks, which may be hampering the development of studies of complex buildings and of more robust architectural analyses. In summary, there seem to be many possibilities for developing tools that can support studies in the area of architectural analysis.

Finally, understanding the contemporary complexity with which curatorial discourses are constructed and experienced by its visitors, as well as the historical antecedents that gave rise to this contemporary condition, involves being able to describe and analyze the spatial systems over which these relationships occur, aspect that this research sought to address and hopes to be able to contribute throughout future studies.

REFERENCES

Adorno, T., Horkheimer, M. (2020). 3. The Culture Industry: Enlightenment as Mass Deception. In: Kul-Want, C. ed. *Philosophers on Film from Bergson to Badiou: A Critical Reader*. New York Chichester, West Sussex: Columbia University Press, 80-96. (Originally published in 1944)

Adorno, T., Rabinbach, A. (1975). Culture industry reconsidered. *New German Critique,* 12–19.

Aguiar, D., de Holanda, F., Figueiredo, L., Andrade, L., Trigueiro, L., Rheingantz, P., Krafta, R., Netto, V. (2012). *Urbanidades* [Urbanities]. Rio de Janeiro: Letra e Imagem Editora e Produções LTDA.

Alambert, F., Canhête, P. (2004). *As Bienais de São Paulo: Da era do museu à era dos curadores (1951-2001)* [São Paulo Biennials: From the museum to the curators' era 1951-2001)]. São Paulo: Boitempo.

Alecrim, L. (2012). *Arquitetura Profilática: Leprosários Brasileiros (1918-1949)* (Master thesis). Universidade Federal de Pernambuco, Recife.

Allegrini, J., Dorer, V., & Carmeliet, J. (2015). Coupled CFD, radiation and building energy model for studying heat fluxes in an urban environment with generic building configurations. *Sustainable Cities and Society*, *19*, 385-394.

Altshuler, B. (2008). *Salon to Biennial: Exhibitions That Made Art History (1863-1959*). London: Phaidon Press Limited.

_____ (2013). *Biennials and Beyond: Exhibitions That Made Art History (1962-2002)*. London: Phaidon Press Limited.

Alves, A. (2010). O conceito de hegemonia: de Gramsci a Laclau e Mouffe. *Lua Nova: Revista de Cultura e Política*, pp. 71-96.

Amaral, A. (1970). *Artes plásticas na Semana de 22*. Perspectiva.

Amarante, L. (1989). *As Bienais de São Paulo: 1951 a 1987.* São Paulo: Projeto Editores Associados Ltda.

Amorim, L. (1999). *The Sectors' Paradigm: a study of the spatial and functional nature of modernist housing in Northeast Brazil* (Doctoral dissertation). University of London.

_____ (2013). Espaço-tipo: de aα a dδ; In: *6º Projetar*, Salvador.

Amorim, L., Loureiro, C., Nascimento, C. (2007). Preserving space: Towards a new architectural conservation agenda, in: *Proceedings of the 6th Space Syntax Symposium*, pp. 1-13.

Andermann, JJ., Arnold-de Simine, S. (2012). Museums and the educational turn: history, memory, inclusivity. *Journal of Educational Media, Memory, and Society*, *4*, 1-7.

Andrade, M. (1942). *O movimento modernista.* Rio de Janeiro: Casa do Estudante do Brasil.

Anjos, M. dos. (2005). *Local/global: arte em trânsito*. Rio de Janeiro: Zahar.

_____ (2017). *Contraditório: arte, globalização e pertencimento.* Rio de Janeiro: Cobogó.

Appadurai, A. (1988). *The social life of things: Commodities in cultural perspective*. London: Cambridge University Press.

Arinami, Y., Akabayashi, S. I., Tominaga, Y., & Sakaguchi, J. (2019). Performance evaluation of single-sided natural ventilation for generic building using large-eddy simulations: Effect of guide vanes and adjacent obstacles. *Building and Environment*, *154*, 68-80.

Ashford, D. (1998). The exhibition as an artistic medium. *Art Journal*, *57*(2), 28-38.

Barbosa, A. D. S., Romani-Dias, M., & Veludo-de-Oliveira, T. M. (2020). The Facets of Women Commodification: Violence in the University Context in Administration. *Revista de Administração Contemporânea*, *24*, pp. 582-599.

Barone, A. (2009). A oposição aos pavilhões do Parque Ibirapuera (1950-1954). *Anais do Museu Paulista: História e Cultura Material*, 17, 295-316.

Bayer, H. (1961). Aspects of design of exhibitions and museums. *Curator: The Museum Journal*, *4*(3), pp. 257-288.

Bennett, T. (1995). *The birth of museum*. London: Routledge.

Beirão, J., Chaszar, A. (2014). Convex and solid void models for analysis and classification of public spaces. In: *Proceedings of the 19th International Conference on Computer Aided Architectural Design Research in Asia Caadria 2014*, 253-262.

Bernstein, B. (1975). *Class, codes, and control: Towards a theory of educational transmission*. Psychology Press.

Birkett, W. (2012). *To Infinity and Beyond: A Critique of the Aesthetic White Cube* (Master thesis – Master of Art in Museum Professions). Seton Hall University, South Orange, NJ.

Birnbaum, D., Wallenstein, S.-O. (2019). *Spacing Philosophy: Lyotard and the Idea of the Exhibition.* Sternberg Press.

Bobkova, E. (2019). *Towards a theory of natural occupation: developing theoretical, methodological, and empirical support for the relation between plot systems and urban processes*. Chalmers University of Technology, Gothenburg.

Bobkova, E., Marcus, L., Berghauser Pont, M. (2017). Multivariable measures of plot systems: Describing the potential link between urban diversity and spatial form based on the spatial capacity concept. In: *Proceedings of the 11th Space Syntax Symposium*, Lisbon, Portugal. pp. 3-7.

Bogéa, M. (2006). *Cidade errante: arquitetura em movimento* (Doctoral dissertation). Faculdade de Arquitetura e Urbanismo (FAUUSP), Universidade de São Paulo.

_____ (n.d.). O território e a paisagem passam a fazer parte do interior do prédio. *Uol Entretenimento*.https://entretenimento.uol.com.br/27bienal/entrevistas/textos/ult4026u8.jhtm

_____ (2009). Deslocamentos acerca do cubo branco. *Arquitextos*, São Paulo, ano 07, n. 081.05.

Bordwell, D, (1985). *Narration in the fiction film*. London: Routledge,

Bourdieu, P. (1977). Outline of a Theory of Practice. In: Lawrence, B., Karim, A., *On Violence: A Reader*, pp.189-198. Duke University Press.

_____ (1984). *Distinction. A Social Critique of the Judgement of Taste*. London: Routledge.

_____ (1986). The Forms of Capital. In: Richardson, J. (ed.), *Handbook of Theory and Research for the Sociology of education*, pp. 241-248. New York: Greenwood Press.

Bourdieu, P., Darbel, A., Schnapper, D. (1991). *The love of art: European art museums and their public*. Cambridge: Polity Press.

Bourgeon-Renault, D., Urbain, C., Petr, C., Le Gall-Ely, M., Gombault, A. (2006). An experiential approach to the consumption value of arts and culture: The case of museums and monuments. *International Journal of Arts Management*, p. 35-47.

Braden, L. (2018). Networks created within exhibition: The curators' effect on historical recognition. *American Behavioral Scientist*, 65(1), pp. 25-43.

Braden, L., Teekens, T. (2019). Reputation Status Networks, and the Art Market. In: *Arts*, v.8, n.3, p. 81. Multidisciplinary Digital Publishing Institute.

Braden, L., Teekens, T. (2020). Historic networks and commemoration: Connections created through museum exhibitions. *Poetics*, 81, pp.1-12, 101446.

Brasileiro, C. (2012). *Arquitetura antituberculose em Pernambuco: um estudo analítico dos dispensários de tuberculose do Recife (1950-1960) como instrumentos de profilaxia da peste branca* (Master thesis). Universidade Federal de Pernambuco.

Cameron, D., Marcus, T. (2002). *The words between the spaces: Buildings and language*. Psychology Press.

Camissassa, M., Portugal, J. (2013). O Redesenho de Obras Paradigmáticas como Estratégia Didática no Ensino de História e Teoria da Arquitetura: Relato de Uma Experiência. In: *Anais do 6º Projetar – O projeto como instrumento para a Materialização da Arquitetura: ensino, pesquisa e prática*. FAUFBA, Salvador.

Capillé, C., Psarra, S. (2014). Space and planned informality: Strong and weak programme categorisation in public learning environments. *A/Z ITU Journal of the Faculty of Architecture*, *11*(2), 9-29.

Carr, D. (2001). A museum is an open work. *International Journal of Heritage Studies*, *7*, pp. 173-183.

Carter, P. (1989). *The road to Botany Bay: An exploration of landscape and history*. University of Minnesota Press.

Carter, P., Malouf, D. (1989). Spatial history. *Textual Practice*, 3(2), 173-183.

del Castillo, S. (2008). *Cenário da arquitetura da arte: montagens e espaços de exposições*. São Paulo: Martins.

_____ (2015). *Arte de Expor: Curadoria como expoesis*. Rio de Janeiro: Nau Editora.

Caúla, A., Cunha, V. (2016). (Re)desenhando o Hotel Tropical de Manaus de Sérgio Bernardes: O redesenho como prática de pesquisa histórica em arquitetura. In: *Anais do IV Enanparq*. Porto Alegre.

Cavic, L., Sileryte, R., Beirão, J. (2017). 3-D INFORMED CONVEX SPACES: The Automated Generation of Convex Representation for Open Public Space Analysis. In: *Proceedings of the 11th Space Syntax Symposium*, Lisbon, Portugal, 158.1-158.15.

Chen, H., Shi, Y. (2011). Spatial structure of commodity market based on space syntax: The case of Yiwu Intenational Trade Mart. *Acta Geographica Sinica*, 6.

Choi, Y. (1999). The morphology of exploration and encounter in museum layouts. *Environment and Planning B: Planning and* Design, 16, 241-250.

Coates, N. (2012). *Narrative Architecture*. John Wiley & Sons.

Cobley, P. (2001). *Narrative: The new critical idiom*. London: Routledge.

Coelho, C. (2015). The Living Experience as a design content: from concept to appropriation. *Ambiances. Environnement sensible, architecture et espace urbain*, (1).

Coelho, C. (2018). *Life within architecture from design process to space use. Adaptability in school buildings today–A methodological approach* (Doctoral dissertation, Universidade de Coimbra).

Crimp, D. (1985). 'On the museum's ruins', in Hal Foster (ed.), *The Anti-Aesthetic; Essays on Postmodern Culture* (Washington: Bay Press), 45.

Crogan, P., Kinsley, S. (2012). Paying attention: Towards a critique of the attention economy. Culture Machine, 13.

Cuadras-Morato, X. (1994). Commodity money in the presence of goods of heterogeneous quality. *Economic Theory*, *4*(4), 579-591

Curi, F. (2018). *Ibirapuera, metáfora urbana. O público/privado em São Paulo. 1954-2017* (Doctoral dissertation). Universidade de São Paulo, São Paulo.

Cury, L. (2016). O Parque Ibirapuera e a construção da imagem de um Brasil moderno (Dissertation). Pontifícia Universidade Católica de São Paulo, São Paulo.

Cypriano, F., Grinspum Ferraz, M. (2012). Bienal deve estar "entre mercado, feira de arte e museu", diz Pérez-Oramas. *Folha ilustrada*. https://www1.folha.uol.com.br/ilustrada/1146323-bienal-deve-estar-entre-mercado-feira-de-arte-e-museu-diz-perez-oramas.shtml

Cypriano, F., Oliveira, M. (2017). História das exposições: casos exemplares. São Paulo: EDUC-Editora da PUC-SP.

da Silva, L., Heitor, T. (2014). Campus as a city, city as a campus: university precincts in urban context. In: *The 7th Knowledge Cities World Summit*, 10-15.

Dal Falco, F., Vassos, S. (2017). Museum experience design: A modern storytelling methodology. *The Design Journal*, 20(sup1), S3975-S3983.

Dalton, R., Hölscher, C., Turner, A. (2005). Space syntax and spatial cognition. *World Architecture*, 11, 107-111.

Davenport, T., Beck, J. (2001). The attention economy. *Ubiquity*, 2001(May), 1-36.

_____ (2002). The strategy and structure of firms in the attention economy. *Ivey Business Journal*, 66(4), 48-48.

Deleuze, B. (1985). Mediators. In: *L'autre Journal*, 281-293.

Deleuze, G., Smith, D., Davidson, A. (1981). The Conditions of the Question: What Is Philosophy? *Critical Inquiry*, 17, 471-478.

Desvallées, A., Mairesse, F. (2010). *Key Concepts of Museology*. Paris: ICOM.

Dewey, J. (1934). *Art as experience*. New York: Minton, Balch, and Company.

Di Carlo, J. (2016). Política das artes e da pesquisa: entrevista com Francisco Alambert [Politics of the arts and research: interview with Francisco Alambert]. *Em Tese*, 13, 243-257.

Discourse. (n.d.) In: Merriam-Werbster's collegiate dictionary. URL https://www.merriam-webster.com/dictionary/discourse (accessed 7.27.20).

Eastman, C. M., & Siabiris, A. (1995). A generic building product model incorporating building type information. *Automation in construction*, *3*(4), 283-304.

Eco, U. (1989). *The Open Work*. Cambridge: Harvard University Press.

El-Husseiny, M. (2012). The Commodification Of Sustainable Architecture In Egypt. *Lonaard Journal*, *2*(7), 39-48.

Elden., S. (2002). *Mapping the present: Heidegger, Foucault, and the project of a spatial history*. London: Continuum.

Eisner, E. (2008). Art and knowledge. In: Knowles, G., Cole, A., *Handbook of the arts in qualitative research: Perspectives, methodologies, examples, and issues*. London: SAGE Publications, 3-12.

Falk, J., Dierking, L. (1992). *The museum experience*. Howells House.

_____ (2016). The museum experience revisited. London: Routledge.

Falk, J., Moussouri, T., Coulson, D. (1998). The effect of visitors' agendas on museum learning. *Curator: The Museum Journal*, 41, 107-120.

Farias, A. (2001). *50 anos Bienal de São Paulo: 1951-2001* [50 years of the São Paulo Biennial: 1951-2001]. São Paulo: Fundação Bienal de São Paulo.

Fawcett, W. H. (1979). *A mathematical approach to adaptability in buildings* (Doctoral dissertation, University of Cambridge).

_____ (1996). Architecture: functional approach or the case for user research. *arq: Architectural Research Quarterly*, *1*(3), 8-15.

Ferris, K., Bannon, L., Ciolfi, L., Gallagher, P., Hall, T., Lennon, M. (2004). Shapping experiences in the hunt museum: a design case study. In: *Proceedings of the 5th Conference on Designing Interactive Systems: Processes, Practices, Methods, and Techniques*, 205-2014.

Filipovic, E., Øvstebø, S.C., Van Hal, M. eds. (2010). The biennial reader: an anthology on large-scale perennial exhibitions of contemporary art. In: *The Bergen Biennial Conference,* September 17-20. Bergen Kunsthall.

Flusser, V. (2013). *Towards a Philosophy of Photography*. London: Reaktion Books. (Original work published 1983)

Forty, A. (2000). *Words and buildings: A vocabulary of modern architecture*. London: Thames & Hudson.

Foucault, M. (1970). The archaeology of knowledge. *Social science information*, 9, pp. 175-185.

Foucault, M. (1982). *Discipline and punish: The birth of the prison*. Harmondsworth: Penguin. (Original work published in 1975)

Forrest, R., & Williams, P. (1984). Commodification and housing: emerging issues and contradictions. *Environment and Planning A*, *16*(9), 1163-1180.

Fraga, C. (2006). *Museus, pavilhões e memoriais: a arquitetura de Oscar Niemeyer para exposições* [Museums, pavilions and memorials: Oscar Niemeyer's architecture for exhibitions] (Master thesis). Universidade Federal do Rio Grande do Sul, Porto Alegre.

França, E. (2017). *Arquitetura em Retrospectiva: 10 Bienais de Arquitetura*. São Paulo: KPMO Cultura e Arte.

Fundação Oscar Niemeyer. (n.d.). Obra / Arquitetura – Fábrica Dunchen. *Fundação Oscar Niemeyer*. http://niemeyer.org.br/obra/pro036

Gardner, A., Green, C. (2016). Biennials, triennials, and documenta: the exhibitions that created contemporary art. West Sussex: John Wiley & Sons.

Gaut, B. (2003). Art and knowledge. In: Levinson, J. (ed.), *The Oxford Handbook of Aesthetics*, pp. 439-441. Oxford: Oxford University Press.

Giddens, A. (1981). Modernism and post-modernism. *New German Critique*, pp. 15-18.

_____ (1984). *The constitution of society: Outline of the theory of structuration*. Berkeley: University of California Press.

Gonçalves, S. N. L. (2010). *Museus projetados por Oscar Niemeyer de 1951 a 2006: o programa como coadjuvante* (Doctoral dissertation, Universidade de São Paulo).

Good, R. (2005). Tourist Commodification of Residential Vernacular Architecture in Venice: Livability and Conservation in an Historic District. *Traditional Dwellings and Settlements Review*, pp. 65-74.

Grippa, C., Bosak. J. (2018). Jóias Artísticas: O caso da Bienal de são Paulo. Visualidades, 16(2), pp. 169-186. https://doi.org/10.5216/vis.v16i2.48203.

Gronemeyer, W. (2015). *The Curatorial Complex: Social Dimensions of Knowledge Production* (Doctoral dissertation). Department of Art, Goldsmith College, University of London.

Gullar, F. (2017). *Arte contemporânea brasileira*. Editora Lazuli LTDA.

Hanson, J. (1998). *Decoding homes and houses*. Cambridge: Cambridge University Press.

Harada, T., Hideyoshi, Y., Gressier-Soudan, E., Jean, C. (2018). Museum experience design based on multi-sensory transformation approach. In: DS92: *Proceedings of the DESIGN 2018 15th International Design Conference*, pp. 2221-2228.

Heller, M. (2010). The commodification of language. *Annual review of Anthropology*, *39*, pp. 101-114.

Herbst, H. (2007). *Pelos salões das Bienais, a arquitetura ausente dos manuais: expressões da arquitetura moderna brasileira expostas nas bienais paulistanas (1951-1959)* (Thesis). Universidade de São Paulo, São Paulo.

_____ (2011). *Pelos salões das Bienais, a arquitetura ausente dos manuais: Contribuições para a historiografia brasileira (1951-1959)* [Through the salons of the Biennials, the architecture absent from the manuals: Contributions to Brazilian historiography (1951-1959)] . Annablume.

Hillier, B. (1996a). Cities as movement economies. *Urban design International*, 1(1), pp.41-60.

_____ (1996b). *Space is the machine: a configurational theory of architecture*. London: Space Syntax.

Hillier, B. (2005). The art of place and the science of space. *World Architecture, 185*, pp.96-102.

Hillier, B. (2012). Studying cities to learn about minds: Some possible implications of space syntax for spatial cognition. *Environment and Planning B: Planning and Design*, *39*(1), pp.12-32.

Hillier, B., Hanson, J. (1984). *The Social Logic of Space*. Cambridge: Cambridge University Press.

Hillier, B., & Hanson, J. (1997). The reasoning art. In *The 1st International Space Syntax Symposium Proceedings*.

Hillier, B., Penn, A. (1991). Visible colleges: structure and randomness in the place of discovery. *Science in context*, *4*, pp. 23–50.

Hillier, B., Penn, A., Hanson, J., Grajewski, T., Xu, J. (1993). Natural movement: Or, Configuration and Attraction in Urban Pedestrian Movement. *Environment and Planning B: planning and design,* 20, pp. 29–66.

Hillier, b., Tzortzi, K. (2006). Space syntax: the language of museum space. In: Macdonald, S. *A companion to museum studies*. p. 282-301.

Hoffmann, A. M. P. (2017). A Arte Moderna no Brasil e o seu processo de institucionalização. *Resgate: Revista Interdisciplinar de Cultura*, *25*(1), 29-46.

Holanda, F., 2013. *10 Mandamentos da Arquitetura*. Brasília: FRBH.

Hooper-Greenhill, E. (1992). *Museums and the Shaping of Knowledge*. London: Routledge.

_____ (1999). *The educational role of the museum*. London: Psychology Press.

Inkpen, A.C., Tsang, E.W. (2005). Social capital, networks, and knowledge transfer. *Academy of management review,* 30, pp. 146–165.

Jacobs, J. (1961). *The Death and Life of Great American Cities*. New York: Random House.

Jafari, A., Taheri, B., Lehn, D. von. (2013). Cultural consumption, interactive sociality, and the museum. Journal of Marketing Management, 29, pp. 1729-1752. https://doi.org/10.1080/0267257X.2013.811095.

Jeon, You-chang, Do-sik Kim, and Sung-wook Kim. 2009. A Study on the Expressional Characteristics of a Spectacle on a Contemporary Architectural Surface: -Focus on Commodification of Architecture and Urban Landscape. *Journal of Asian Architecture and Building Engineering* 8.1. pp. 65-71.

John, E. (2001). Art and knowledge. *The Routledge Companion to Aesthetics,* 2, pp. 417–430.

Johansson, A. (2003). *The Architectural Metaphor: Textual Models in Spatial Construction* (Thesis). KTH Royal Institute of Technology, Stockholm.

Jokilehto, J. (2006). Considerations on Authenticity and Integrity in World Heritage Context. In: *City & Time* 2 (1): 1. [online]. URL: http://www.ct.ceci-br.org.

Jones, C. (2016). *The Global Work of Art: World's Fairs, Biennials, and the Aesthetics of Experience.* Chicago: University of Chicago Press.

Jornal da USP. (2017). MAC inaugura exposição "A Era dos Artistas". *Jornal da USP.* https://jornal.usp.br/cultura/mac-inaugura-exposicao-era-dos-artistas/

Kalff, C., Kühner, D., Senk, M., Dalton, R., Hoelscher, C. (2010). Turning the shelves: empirical findings and space syntax analyses of two virtual supermarket variations. In: *Proceedings of the 8th International Space Syntax Symposium*. Santiago de Chile: PUC.

Kaye, N. (2000). *Site-specific art: performance, place, and documentation*. London: Psychology Press.

Kerfoot, S., Davies, B., Ward, P. (2003). Visual merchandising and the creation of discernible retail brands. *International Journal of Retail & Distribution Management,* 31, 3, pp.143-152.

Klarqvist, B. (1993). A space syntax glossary. *Nordisk Arkitekturforskning*, 6(2), pp. 11-12.

Klinenberg, E. (2018). *Palaces for the people: How social infrastructure can help fight inequality, polarization, and the decline of civic life*. Crown.

Koch, D. (2004). *Spatial Systems as Producers of Meaning: The idea of knowledge in three public libraries* (Doctoral dissertation). KTH Royal Institute of Technology, Stockholm.

_____ (2007). *Structuring Fashion: Department stores as situating spatial practice* (Doctoral dissertation). Stockholm: axlbooks.

_____ (2013). The Architectural Interface Inside-Out: Interior-exterior relations, spatial models, and configurational mirroring. In *9th International Space Syntax Symposium, Seoul, Sejong University 2013* (pp. 67-1). Sejong University Press.

Kreps, C. (2003). Curatorship as social practice. *Curator: The Museum Journal,* 46, pp. 311–323.

Lagnado, L. (2015). Por uma revisão dos estudos curatoriais [Towards a review of curatorial studies]. *Revista Poiésis,* 16, pp. 81–97.

_____ (2005). Bienal enxuga blocos e questiona a arte. *Folha de São Paulo Ilustrada*. https://www1.folha.uol.com.br/fsp/ilustrad/fq1912200509.htm

Lagnado, L., Herkenhoff, P., Fraser, A., Sztutman, R., Oliveira, M. (2015). Cultural Anthropophagy: The 24th Bienal de São Paulo 1998. London: Afterall.

Lash, S., Lury, C. (2007). *Global Culture Industry: The mediation of things*. Polity Press.

Lazaridou, A., Psarra, S. (2015). Experiencing three-dimensional museum environments: An investigation of the Ashmolean and the Museum of Scotland. In: *Proceedings of the 10th International Space Syntax Symposium*. Space Syntax Laboratory (UCL), pp. 1–25.

___ (2017). Spatial navigation in real and virtual multi-level museums. In: *Proceedings of the 11th International Space Syntax Symposium*. Instituto Superior Técnico, Lisboa, pp. 14.1-14.18.

Lears, T. (1985). The concept of cultural hegemony: Problems and possibilities. The American Historical Review, pp. 567-593.

Lefebvre, H. (1991). *The Production of Space*. Blackwell.

Lima, A., Vieira, J, (2017). O redesenho como instrumento de construção de conhecimento. Revista Thésis, 11(3), pp.34-53.

Long, Y., Baran, P., Moore, R. (2007). The Role of Space Syntax in Spatial Cognition. In: *Proceedings of the 6th International Space Syntax Symposium*, Istanbul, Turkey. Citeseer.

Loureiro, C. (1999). *Classe, controle, encontro: o espaço escolar* (Doctoral dissertation). Universidade de São Paulo.

Loureiro, C., Amorim, L. (2002). arquitextos 020.03: Por uma arquitetura social: a influência de Richard Neutra em prédios escolares no Brasil. *Arquitextos*, 20(20), 3.

_____ (2005). Por uma conservação do espaço da arquitetura. In: *II PROJETAR Seminário sobre Ensino e Pesquisa em Projeto de Arquitetura*. pp. 1-12.

Lury, C., Wakeford, N. (2013). *Inventive Methods: The Happening of the Social*. Routledge.

Macdonald, S. (2006). *A companion to museum studies*. London: John Wiley & Sons.

Machado, L. (1947). *Retrato da Arte Moderna no Brasil.* São Paulo: Departamento de Cultura.

Manchete (1954). IV Centenário de São Paulo. Rio de Janeiro, special edition.

Marcus, L. (2000). Architectural knowledge and urban form: The functional performance of architectural urbanity. KTH University, Stockholm.

_____ (2001). The impact of land-division on long-term occupation - the possibility of such a thing as 'natural occupation'. 20, 14. In: Proceedings of the 3rd International Space Syntax Symposium, Alfred Taubman College of Architecture and Urban Planning, University of Michigan, pp. 38.1-38.11.

_____ (2007). Spatial capital and how to measure it: An outline of an analytical theory of the social performativity of urban form. In: Proceedings of the 6th International Space Syntax Symposium, Istanbul Technical University, p. 5.1-5.11.

_____ (2010). Spatial Capital. *The Journal of Space Syntax* 1, pp. 30–40.

Marcus, L., Bobkova, E. (2019). Spatial configuration of plot systems and urban diversity: Empirical support for a differentiation variable in spatial morphology. In: *Proceedings of the 12th Space Syntax Symposium*, Beijing, China. pp. 8–13.

Markus, T. (1987). Buildings as Classifying Devices. *Environment and Planning B: Planning and Design*, 14, pp. 467–484.

_____ (1992). Language Structure and Building Types. *Nordisk Arkitekturforskning* 4, pp. 36-48.

_____ (1993). *Buildings and power: Freedom and control in the origin of modern building types*. Routledge.

Martinez, E. (2002). *Textualização Antropofágica: a curadoria do espaço museológico da XXIV Bienal de São Paulo* (Doctoral dissertation, PUC/SP).

Marx, K. (1996). *Capital: A Critique of Political Economy* (Volumes I-III), in Karl Marx and Fredrick Engels,*CollectedWorks* (Vols 35–*7*). NewYork:International Publishers.

Matos, D. (2009). *Curador e arquiteto em diálogo: os casos das Bienais Internacionais de Arte de São Paulo de 1981 e 1985* (Master thesis). Universidade de São Paulo.

Medeiros, A., Chaim, G. (2019). Arquitetura por Escrito. *Revista Projetar - Projeto e Percepção do Ambiente*, *4*, pp. 40–52.

Milliet, M. (Coord) (2005). *Mestres do Modernismo*. Imprensa Oficial.

Mindlin, E. (1956). *Modern Architecture in Brazil*. Reinhold Publish Corporation.

Moles, A. (1966). *Information Theory and Esthetic Perception.* Urbana: Illinois University Press.

Moneo, R. (2004). *Theoretical anxiety and design strategies in the work of eight contemporary architects*. MIT Press Cambridge.

Montaner, J. (2003). *Museus para o século XXI*. Gustavo Gili.

Monteiro, J. (2018). *Espaços-tipo e movimento: alterações configuracionais em edifícios que sofreram mudança de uso* (Master thesis). Universidade Federal de Pernambuco.

Moreira, F., Henriques, J. (2019). Adaptabilidade na Arquitetura. *Revista Projetar-Projeto e Percepção do Ambiente*, *4*(1), pp. 126-140.

Mulazzani, M. (2014). *Guide to the Pavilions of the Venice Biennale since 1887*. Electa.

Nascimento, A. (2003). *MAM: museu para a metrópole* (Master thesis). Faculdade de Arquitetura e Urbanismo da Universidade de São Paulo.

Nascimento, C. (2008). *Até os limites do tipo: emergência, adequação e permanência das propriedades sócio-espaciais dos edifícios de re-formação* (Master thesis). Universidade Federal de Pernambuco.

_____ (2010). Nada vem do nada: por uma revisão contemporânea do conceito de tipo edilício. *Pós. Revista do Programa de Pós-Graduação em Arquitetura e Urbanismo da FAUUSP,* pp. 102–120.

Nascimento, J. D. R. (2011). *I Bienal Latino-Americana de São Paulo, Mitos e Magia: em busca de identidade artístico-cultural* (Doctoral dissertation). Universidade de São Paulo.

Nóbrega, L. (2021). Hybrid Buildings: Complexity and Genericity in Exhibition Spaces – The case of the Bienal de São Paulo Pavilion. In: *Proceedings of the 1st International Online Space Syntax PhD Conference*. Western Norway University of Applied Science (HVL).

O'doherty, B. (1999). *Inside the white cube: The ideology of the gallery space*. University of California Press.

Oliveira, R. (2000). *A Bienal de São Paulo: forma histórica e produção cultural* (Doctoral dissertation). Pontifícia Universidade Católica de São Paulo.

O'Neil, P., Wilson, M. (2010). *Curating and the Educational Turn*. Open Editions.

Obrist, H. (2014). *Ways of Curating.* New York: Farrar, Strauss and Giroux.

Oramas, G. (2012). Bienal deve estar "entre mercado, feira de arte e museu", diz Perez-Oramas. In: Cypriano, F., Ferraz, M. *Ilustrada*, Folha de São Paulo, 04.09.2012.

Osorio, L., (2019). Do artista-curador à (não) curadoria: dilemas da 33ª Bienal de São Paulo. *Modus – revista de história da arte*, 3, pp. 235-249.

Pedrosa, M. (1952). *Panorama da pintura moderna*. Rio de Janeiro: Ministério da Educação e Saúde, Serviço de Documentação.

Pegler, M. (2012). *Visual merchandising and display*, 6th ed. Fairchild Books, New York.

Peixoto, A., Melo, C., Lira, F. (2020). O conceito de integridade na conservação da arquitetura moderna. In: *Anais do VI Enanparq*.

Penn, A. (2003). Space syntax and spatial cognition: or why the axial line? *Environment and behavior,* 35, pp. 30–65.

Peponis, J., Hedin, J. (1982). The layout of theories in the Natural History Museum. *9H*, 3, pp. 21-25.

Peponis, J., Dalton, R.C., Wineman, J., Dalton, N. (2004). Measuring the effects of layout upon visitors' spatial behaviors in open plan exhibition settings. *Environment and Planning B: Planning and design,* 31, pp. 453–473.

Pereira, V. (2014). O processo de seleção nos primeiros anos das Bienais de São Paulo: protocolos e embates. In: *Proceedings of X EHA – Encontro de História da Arte*. Pp. 498-506.

Pine, B., Gilmore, J. (1999). *The experience economy: work is theatre & every business a stage.* Massachusetts: Harvard Business Press.

_____ (2011). *The experience economy*. Harvard Business Press.

_____ (2013). The experience economy: past, present, and future. In: Sundbo, J., Sørensen, F. (ed.), *Handbook on the Experience Economy*. Edward Elgar Publishing.

Polo, M. (2005). Grande Tela: A 20 anos abordando as discussões da atualidade [The Big Canvas: 20 years addressing current discussions]. In: *Seminário Internacional Museografia e Arquitetura de Museus 2005*.

Ponzini, D. (2014). The values of starchitecture: Commodification of architectural design in contemporary cities. *Organizational Aesthetics*, *3*(1), pp. 10-18.

Powell, W, Snellman, K. (2004). The knowledge economy. *Annual Review of Sociology*. 30, pp. 199–220.

Psarra, S., Grajewski, T. (2000). Architecture, narrative and promenade in Benson+ Forsyth's Museum of Scotland. *ARQ: Architectural Research Quarterly,* 4, pp. 123–136.

_____ (2005). Spatial culture, 4/26/22 2:14:00 PM4/26/22 2:14:00 PMwayfinding, and the educational message: the impact of layout on the spatial, social and educational experiences of visitors to museums and galleries. In: Macleod, S., *Reshaping Museum Space*. London: Routledge, pp. 92–108.

_____ (2009). *Architecture and Narrative: The Formation of Space and Cultural Meaning*. Routledge.

Psarra, S., Wineman, J., Xu, Y., Kaynar, I. (2007). Tracing the modern: Space, narrative and exploration in the Museum of Modern Art, New York. In: *Proceedings of the 6th International Space Syntax Symposium*, Istanbul, Turkey.

Psarra, S., Kostourou, F., Krenz, K. (2018). A Bisociative Approach to Design: Integrating Space Syntax into Architectural Education, in: Oliveira, V. (ed.)., *Teaching Urban Morphology*. Springer, pp. 221–242.

Queiroz, H. (2011). *Antropofagia ou Multiculturalismo? Oswald de Andrade na 24ª Bienal de São Paulo* (Master thesis). Universidade de São Paulo, São Paulo.

Radder, H. (2010). The commodification of academic research. *Science and the modern university. Pittsburgh: University of Pittsburgh Press*.

Rangel, R. (2018). *Building-specific: sobre a relação entre obra de arte e arquitetura* (Master's Thesis). Universidade federal de Pernambuco.

Rangel, R., Amorim, L. (2015). Building-specific as art gallery. In: *Proceedings of the 10th International Space Syntax Symposium*. University College London.

Reagans, R., McEvily, B. (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly*, 48, pp. 240–267.

Revista Acrópole. (1954). *16º aniversário*. Ano 17. N. 193. http://www.acropole.fau.usp.br/edicao/193

Revista USP. (2002). *Cinquenta Anos de Bienal Internacional de São Paulo,* 52.

Ricoeur, P., (198)1. *Hermeneutics and the human sciences: Essays on language, action, and interpretation.* Cambridge University Press.

Sabiescu, A. (2018). A Critical Reflection on Three Paradigms in Museum Experience Design. In: *Museum Experience Design*. Springer, pp. 259–276.

Saxon, R. (1994). *The atrium comes of age*. Prentice Hall.

Sayyar, S., Marcus, L., (2013). Designing difference: Interpreting and testing Jane Jacobs criteria for diversity in space syntax terms. In: *Proceedings of the 9th International Space Syntax Symposium*. Sejong University Press.

Schroeder, C., (2011). *X Bienal de São Paulo: sob os efeitos da contestação* (Master thesis). Universidade de São Paulo, São Paulo.

Shepherd, R. (2002). Commodification, culture and tourism. *Tourist studies*, *2*(2), pp. 183-201.

Shields, R. (1989). Social spatialization and the built environment: the West Edmonton Mall. *Environment and planning D: Society and Space*, *7*, pp. 147–164.

Shih, C., Huang, K. (2014). Le Corbusier's Modern Museum Prototype: The Transformation of Unlimited Growth Museums. *International Journal of Architectural Engineering Technology*, 1(1), p. 12-24.

Simon, N. (2010). *The participatory museum*. Museum 2.0.

Sombra, F. (2016). O pavilhão da I Bienal do MAM SP. Fatos, relatos, historiografia e correlações com o Masp e o antigo Belvedere Trianon. *Arquitextos,* São Paulo.

Spricigo, V. (2011). *Modos de representação da Bienal de São Paulo: a passagem do internacionalismo artístico à globalização cultural*. Hedra.

Stavroulaki, G., Peponis, J. (2003). The spatial construction of seeing at Castelvecchio. In: *Proceedings of the 4th International Space Syntax Symposium*. University College London, London, pp. 66.1-66.14.

Stern, M., Schlick-Nolte, B. (1995). *Early Glass of the Ancient World: 1600 BC-AD 50* (Ernesto Wolf Collection). Verlag Gerd Hatje.

Stinco, C. (2015). Redesenho como ferramenta de ensino/aprendizagem de História da Arquitetura. In: *Seminário Projetar 2015*, pp. 1-13.

Tate. (n.d.). Art Term: Art Brut. *Tate*. https://www.tate.org.uk/art/art-terms/a/art-brut

Thrift, N. (2006). Re-inventing invention: new tendencies in capitalist commodification. *Economy and society*, *35*(02), 279-306.

Tominaga, Y., & Blocken, B. (2015). Wind tunnel experiments on cross-ventilation flow of a generic building with contaminant dispersion in unsheltered and sheltered conditions. *Building and Environment*, *92*, 452-461.

Turner, A. (2001). Depthmap: a program to perform visibility graph analysis. In: *Proceedings of the 3rd International Symposium on Space Syntax*. pp. 31–12.

_____ (2004). *Depthmap 4: a researcher's handbook*. Bartlett School of Graduate Studies, University College London: London, UK.

Turner, A., Doxa, M., O'Sullivan, D., Penn, A. (2001). From isovists to visibility graphs: a methodology for the analysis of architectural space. *Environment and Planning B: Planning and design,* 28, pp. 103–121.4/26/22 2:14:00 PM

Tzortzi, K. (2004). Building and exhibition layout: Sainsbury Wing compared with Castelvecchio. *ARQ: Architectural Research Quarterly*, 8, pp. 128–140.

_____ (2007). *The interaction between building layout and display layout in museums* (Doctoral dissertation). University of London.

_____ (2017). Museum architectures for embodied experience. *Museum Management and Curatorship*, v. 32, n. 5, p. 491-508, 2017.

Vainer, A., Ferraz, M., Suzuki, M., (1996). Lina Bo Bardi. *Série Arquitetos brasileiros*. Instituto Lina Bo e PM Bardi.

Vásquez Ramos, F., Mattos, P., Souza, S. (2016). Redesenho e maquetas no processo didático do ensino da arquitetura. *Educação gráfica*, 20, 3, pp. 64-78.

Vázquez Ramos, F. (2016). Redesenho: Conceitos gerais para compreender uma prática de pesquisa histórica em arquitetura. In: *Anais do IV Enanparq*, Porto Alegre, pp. 1-14.

Vermeeren, A., Calvi, L., Sabiescu, A., Trocchianesi, R., Stuedahl, D., Giaccardi, E. (2016). Involving the crowd in future museum experience design. In: *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. pp. 3347–3354.

Vermeeren, A.P., Calvi, L., Sabiescu, A., Trocchianesi, R., Stuedahl, D., Giaccardi, E., Radice, S. (2018). Future museum experience design: crowds, ecosystems and novel technologies. In: *Museum Experience Design*. Springer, pp. 1–16.

Villela, A, (2019). Expografia na 27ª Bienal de São Paulo [Expography at the 27th São Paulo Biennial] (Master thesis). Universidade de São Paulo, São Paulo.

Vieira, N. (2008). INTEGRIDADE E AUTENTICIDADE: conceitos-chave para a reflexão sobre intervenções contemporâneas em áreas históricas. *Anais Do ARQUIMEMÓRIA 3- Encontro Nacional De Arquitetos Sobre Preservação Do Patrimônio Edificado.*

Volz, J. (2006). Ciclo sobre Broodthaers dá início à Bienal. *Folha de São Paulo Ilustrada*. https://www1.folha.uol.com.br/fsp/ilustrad/fq2601200613.htm

Westin, R. (2018). No plebiscito de 1963, Brasil derruba parlamentarismo e devolve poderes a Jango. *Senado Federal/Arquivos - Pesquisa Arquivo do Senado*. https://www12.senado.leg.br/noticias/infograficos/2018/02/no-plebiscito-de-1963-brasil-derruba-parlamentarismo-e-devolve-poderes-a-jango

Williams, C. C. (2002). A critical evaluation of the commodification thesis. *The Sociological Review*, *50*(4), 525-542.

Witcomb, A. (2015). "Toward a Pedagogy of Feeling: Understanding How Museums Create a Space for Cross-Cultural Encounters." In *The International Handbooks of Museum Studies: Museum Theory*, edited by A. Witcomb and K. Message, 321–344. Chichester: Wiley-Blackwell.

White, R. (2010). *What is spatial history*. Spatial History Lab: Working paper [online] http://www. stanford. edu/group/spatialhistory/cgi-bin/site/pub. php.

Whitelegg, I. (2013). The Bienal Internacional de São Paulo: a concise history, 1951-2014. Perspective. *Actualité en histoire de l'art*, pp. 380–386.

Witikoski, A. (2005) A história do design brasileiro contada pelos cartazes da Bienal de Arte de São Paulo entre 1987 a 2008 (Doctoral Dissertation).

Wineman, J., Peponis, J. (2010). Constructing Spatial Meaning: Spatial Affordances in Museum Design. In: *Environment and Behavior*, 42(1), pp. 86-109.

Young, J. (2003). *Art and knowledge*. Routledge.

Zamani, P., Peponis, J. (2010). Co-visibility and pedagogy: innovation and challenge at the High Museum of Art. *The Journal of Architecture,* 15, pp. 853–879.

Zanini, W. (1981). Introdução. In: Fundação Bienal de São Paulo (FBSP), 1981. *16ª Bienal Internacional de São Paulo - 1981/Catálogo de Arte Postal, Volume II*. Fundação Bienal de São Paulo.

Zhang, X., Weerasuriya, A. U., & Tse, K. T. (2020). CFD simulation of natural ventilation of a generic building in various incident wind directions: Comparison of turbulence modelling, evaluation methods, and ventilation mechanisms. *Energy and Buildings*, *229*, 110516.

Zerner, H. (1976). Alois Riegl: art, value, and historicism. *Daedalus,* pp. 177–188.

Bienal de São Paulo catalogues

BSP 1-6

MAP-SP. (1951). *Catálogo da 1ª Bienal do Museu de Arte Moderna de São Paulo*. Museu de Arte Moderna de São Paulo.

MAM-SP. (1953). *Catálogo da 2ª Bienal do Museu de Arte Moderna de São Paulo:* EDIAM, Edições Americana de Arte e Arquitetura.

MAM-SP. (1955). *Catálogo da 3ª Bienal do Museu de Arte Moderna de São Paulo*. EDIAM, Edições Americana de Arte e Arquitetura.

MAM-SP. (1957). *Catálogo da 4ª Bienal do Museu de Arte Moderna de São Paulo*. Impres.

MAM-SP. (1959). *Catálogo da 5ª Bienal do Museu de Arte Moderna de São Paulo*. Museu de Arte Moderna de São Paulo.

MAM-SP. (1961). *Catálogo da 6ª Bienal de São Paulo*. Editora Massao Ohno.

BSP *7-33*

FBSP. (1963). *Catálogo da 7ª Bienal de São Paulo*. Fundação Bienal de São Paulo.

FBSP. (1965a). *Catálogo geral da 8ª Bienal de São Paulo*. Fundação Bienal de São Paulo.

FBSP. (1965b). *Catálogo Surrealismo e Arte Fantástica da 8ª Bienal de São Paulo*. Fundação Bienal de São Paulo.

FBSP. (1967a). *Catálogo da 9ª Bienal de São Paulo: catálogo*. Empresa Gráfica da Revista dos Tribunais.

FBSP. (1967b). *Fotografias da 9ª Bienal de São Paulo: fotografias*. Empresa Gráfica da Revista dos Tribunais.

FBSP. (1969a). *Catálogo da 10ª Bienal de São Paulo*. IMPRES – Companhia Brasileira de Impressão e Propaganda

FBSP. (1969b). *Apêndice da 10ª Bienal de São Paulo: apêndice*. IMPRES – Companhia Brasileira de Impressão e Propaganda

FBSP. (1969c). *Índice da 10ª Bienal de São Paulo: índice*. IMPRES – Companhia Brasileira de Impressão e Propaganda.

FBSP. (1971). *Catálogo da 11ª Bienal de São Paulo: catálogo*. IMPRES – Companhia Brasileira de Impressão e Propaganda.

FBSP. (1973). *Catálogo da 12ª Bienal de São Paulo*. IMPRES – Companhia Brasileira de Impressão e Propaganda.

FBSP. (1975a). *Catálogo geral da 13ª Bienal de São Paulo*. Gráfica Editora Hamburg Ltda.

FBSP. (1975b). *Catálogo Sala Brasília da 13ª Bienal de São Paulo*. Gráfica Editora Hamburg Ltda.

FBSP. (1977). *Catálogo da 14ª Bienal Internacional de São Paulo*. Fundação Bienal de São Paulo.

FBSP. (1979a). *Catálogo da 15ª Bienal Internacional de São Paulo: parte 1*. Licromo Artes Gráficas Ltda.

FBSP. (1979b). *Catálogo da 15ª Bienal Internacional de São Paulo: catálogo parte 2*. Licromo Artes Gráficas Ltda.

FBSP. (1981a). *Catálogo geral da 16ª Bienal Internacional de São Paulo: Volume I*. Marcobel.

FBSP. (1981b). *Catálogo Arte Postal da 16ª Bienal Internacional de São Paulo: Volume II*. Marcobel.

FBSP. (1981c). *Catálogo Arte Incomum da 16ª Bienal Internacional de São Paulo: Volume III*. Marcobel.

FBSP. (1983a). *Catálogo geral da 17ª Bienal Internacional de São Paulo*. Panctrom.

FBSP. (1983b). *Catálogo Arte Plumária do Brasil da 17ª Bienal Internacional de São Paulo*. Pancrom.

FBSP. (1983c). *Catálogo Exposição Flávio de Carvalho da 17ª Bienal Internacional de São Paulo*. Pancrom.

FBSP. (1985a). *Catálogo geral da 18ª Bienal Internacional de São Paulo*. IMESP – Imprensa Oficial do Estado.

FBSP. (1985b). *Catálogo Expressionismo no Brasil – Heranças e Afinidades da 18ª Bienal Internacional de São Paulo*. IMESP – Imprensa Oficial do Estado.

FBSP. (1985c). *Catálogo Sala Especial "O Turista Aprendiz da 18ª Bienal Internacional de São Paulo*. IMESP – Imprensa Oficial do Estado.

FBSP. (1987a). *Catálogo geral da 19ª Bienal Internacional de São Paulo*. A Fundação.

FBSP. (1987b). *Catálogo Em busca da essência: elementos de redução na arte brasileira da 19ª Bienal Internacional de São Paulo.* A Fundação.

FBSP. (1987c). *Catálogo Imaginários singulares da 19ª Bienal Internacional de São Paulo.* A Fundação.

FBSP. (1987d). *Catálogo Marcel Duchamp da 19ª Bienal Internacional de São Paulo*. A Fundação.

FBSP. (1989a). *Catálogo geral da 20ª Bienal Internacional de São Paulo*. Fundação Bienal.

FBSP. (1989b). *Catálogo Eventos Especiais da 20ª Bienal Internacional de São Paulo*. Fundação Bienal.

FBSP. (1989c). *Catálogo Artistas Brasileiros da 20ª Bienal Internacional de São Paulo*. Editora Marca D'água.

FBSP. (1991). *Catálogo geral da 21ª Bienal Internacional de São Paulo*. Editora Marca D'água.

FBSP. (1994a). *Catálogo geral da 22ª Bienal de São Paulo: um e/entre outro/s* / curador Nelson Aguilar. Fundação Bienal de São Paulo.

FBSP. (1994b). *Catálogo Salas Especiais da 23ª Bienal de São Paulo: um e/entre outro/s* / curador Nelson Aguilar. Fundação Bienal de São Paulo.

FBSP. (1996a). *Catálogo geral da 23ª Bienal de São Paulo: um e/entre outro/s* / curador Nelson Aguilar. Fundação Bienal de São Paulo.

FBSP, 1996b. *Catálogo Exposição Universalis da 23ª Bienal de São Paulo: um e/entre outro/s* / curador Nelson Aguilar. Fundação Bienal de São Paulo.

FBSP. (1996c). *Catálogo Salas Especiais da 23ª Bienal de São Paulo: um e/entre outro/s* / curador Nelson Aguilar. Fundação Bienal de São Paulo.

FBSP. (1998a). *Catálogo Arte Contemporânea Brasileira da 24ª Bienal de São Paulo: um e/entre outro/s* / curadores Paulo Herkenhoff e Adriano Pedrosa. Fundação Bienal de São Paulo.

FBSP. (1998b). *Catálogo Núcleo histórico: antropofagia e histórias de canibalismos da 24ª Bienal de São Paulo: um e/entre outro/s* / curadores Paulo Herkenhoff e Adriano Pedrosa. Fundação Bienal de São Paulo.

FBSP. (1998c). *Catálogo Roteiros. Roteiros. Roteiros. da 24ª Bienal de São Paulo: um e/entre outro/s* / curadores Paulo Herkenhoff e Adriano Pedrosa. Fundação Bienal de São Paulo.

FBSP (1998d). *Catálogo Representações Nacionais da 24ª Bienal de São Paulo: um e/entre outro/s* / curadores Paulo Herkenhoff e Adriano Pedrosa. Fundação Bienal de São Paulo.

FBSP. (2002a). *Catálogo geral da 25ª Bienal de São Paulo: Iconografias Metropolitanas – Brasil* / curador geral Alfons Hug. Fundação Bienal de São Paulo.

FBSP. (2002b). *Catálogo Países da 25ª Bienal de São Paulo: Iconografias Metropolitanas – Países* / curador geral Alfons Hug. Fundação Bienal de São Paulo.

FBSP. (2002c). *Guia da 25ª Bienal de São Paulo: Iconografias Metropolitanas* / curador geral Alfons Hug. Fundação Bienal de São Paulo.

FBSP. (2004a). *Catálogo Representações Nacionais da 26ª Bienal de São Paulo* / curador geral Alfons Hug. Fundação Bienal de São Paulo.

FBSP. (2004b). *Catálogo Artistas Convidados da 26ª Bienal de São Paulo* / curador geral Alfons Hug. Fundação Bienal de São Paulo.

FBSP. (2004c). *Registro de Montagem da 26ª Bienal de São Paulo* / curador geral Alfons Hug. Imprensa Oficial do Estado de São Paulo.

FBSP. (2006a). *27a Bienal de São Paulo: Como Viver Junto (catálogo geral)* / curadora Lisette Lagnado. Fundação Bienal de São Paulo.

FBSP. (2006b). *27a Bienal de São Paulo: Como Viver Junto (guia)* / curadora Lisette Lagnado. Fundação Bienal de São Paulo.

FBSP. (2008). *28a Bienal de São Paulo: Em Vivo Contato (guia)* / curadores Ivo Mesquita e Ana Paula Cohen. Fundação Bienal de São Paulo.

FBSP. (2010a). *Catálogo da 29a Bienal de São Paulo: há sempre um copo de mar para um homem navegar* / curadores Agnaldo Farias, Moacir dos Anjos. Fundação Bienal de São Paulo.

FBSP. (2010b). *Portulano da 29a Bienal de São Paulo: há sempre um copo de mar para um homem navegar = Portolano of the 29th Bienal de São Paulo: there Always a cup of sea to sail in* / organização Agnaldo Farias, Moacir dos Anjos, Stela Barbieri; [tradução Anthony Doyle]. Fundação Bienal de São Paulo.

FBSP. (2012). *Catálogo da 30a Bienal de São Paulo: A iminência das poéticas* / curadores Luis Pérez-Oramas...[et al.]. Fundação Bienal de São Paulo.

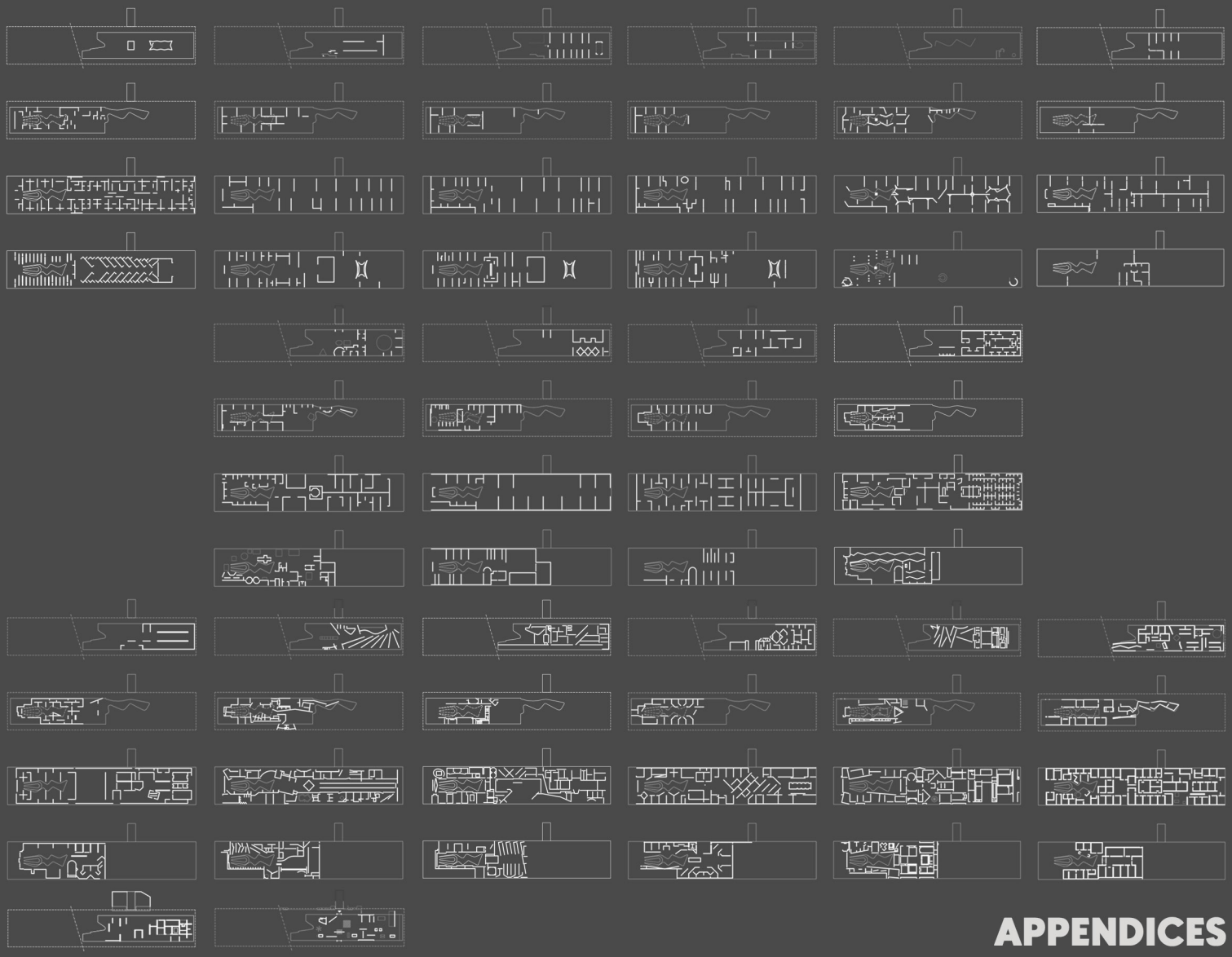
FBSP. (2014). *Livro da 31a Bienal de São Paulo: Como coisas que não existem* / curadores Charles Esche, Pablo Lafuente, Nuria Enguita Mayo, Galit Eliat, Oren Sagiv. Fundação Bienal de São Paulo.

FBSP. (2016a). *Catálogo da 32a Bienal de São Paulo: Incerteza Viva* / organizadores Jochen Volz e Júlia Rebouças. Fundação Bienal de São Paulo.

FBSP. (2016b). *Guia da 32a Bienal de São Paulo: Incerteza Viva* / organizadores Jochen Volz e Júlia Rebouças. Fundação Bienal de São Paulo.

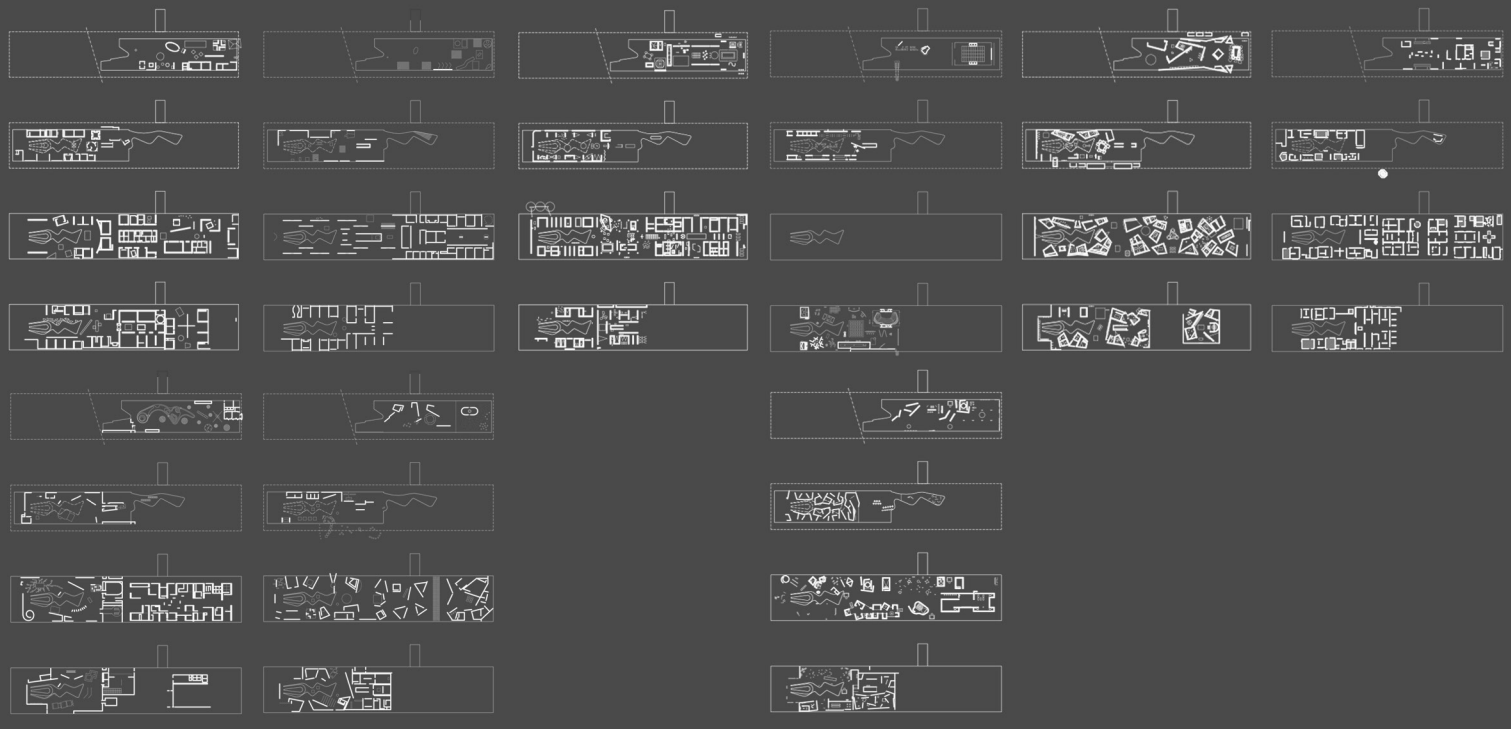
FBSP. (2018a). *Catálogo da 33a Bienal de São Paulo: Afinidades Afetivas* / curador Gabriel Pérez-Barreiro. Fundação Bienal de São Paulo.

FBSP. (2018b). *Catálogo de registro da 33a Bienal de São Paulo: Afinidades Afetivas* / curador Gabriel Pérez-Barreiro. Fundação Bienal de São Paulo.



APPENDICES

A ..... List of BSP exhibitions organizers
B ..... Original plans of BSP exhibitions
C ..... Redrawn plans of BSP exhibitions and buildings
D ..... Occupation analysis
E ..... Movement analysis



APPENDIX A. LIST OF BSP EXHIBITION ORGANIZERS

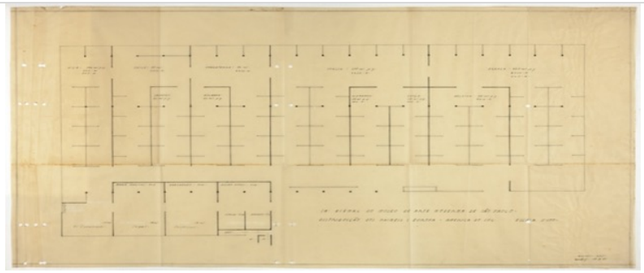
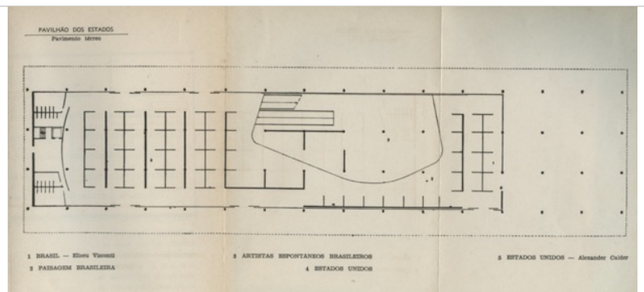
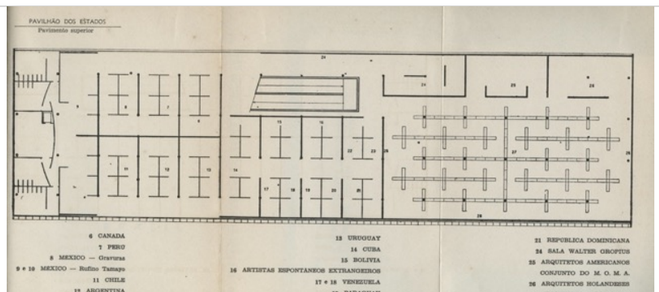
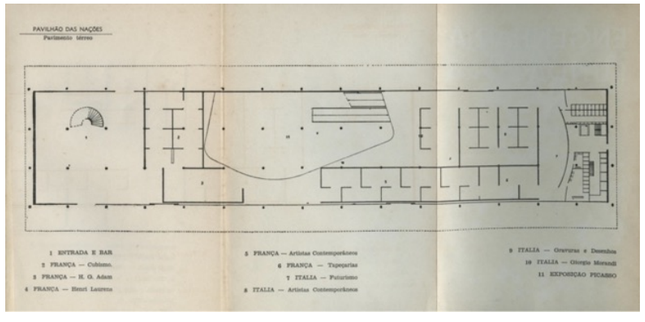
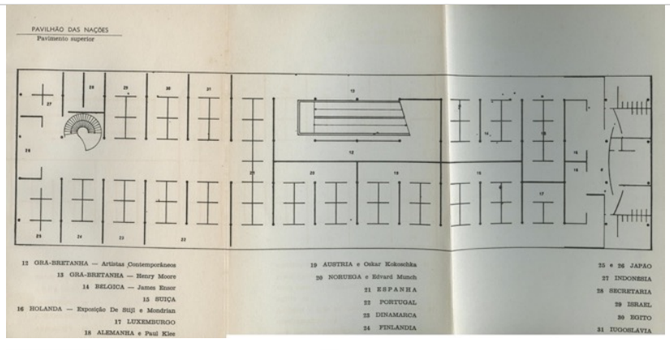
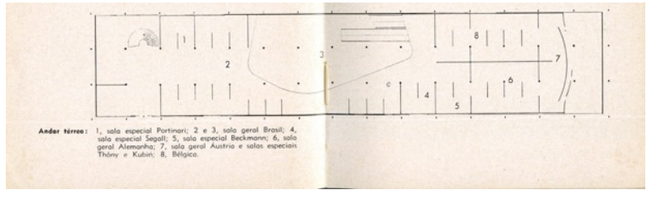
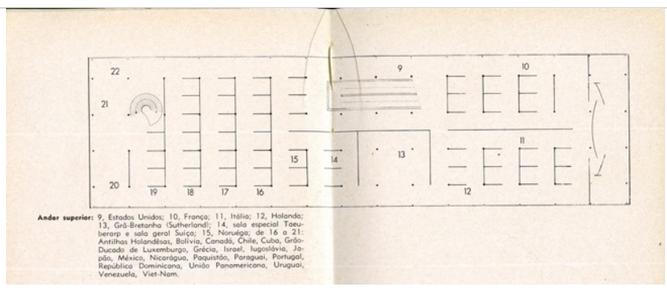
	Year	Curators and Organizers	Exhibition design
BSP 01	**1951**	Pres.: Ciccillo Matarazzo Dir. art: Lourival Gomes Machado Júri seleção: Clóvis Graciano, Ciccillo Maratazzo Júri premiação: Sérgio Millier, René d'Harnoncourt (MoMA)	
BSP 02	**1953**	Pres.: Ciccillo Matarazzo Dir. art: Sérgio Milliet Dir. téc: Wolfgang Pfeiffer Comissão art: Flávio de Carvalho, Mário Pedrosa, Tarsila do Amaral Júri premiação: Herbert Read, Max Bill	
BSP 03	**1955**	Pres.: Ciccillo Matarazzo Dir. art: Sérgio Milliet Dir. téc: Wolfgang Pfeiffer Júri seleção: Clóvis Graciano, Tomás Santa Rosa Júri premiação: Mário Pedrosa	
BSP 04	**1957**	Pres.: Ciccillo Matarazzo Dir. art: Sérgio Milliiet Dir. téc: Wolfgang Pfeiffer Júri seleção: Lívio Abramo, Lourival Gomes Machado Júri premiação: Alfred Barr (MoMA), Maria Martins	Aldo Calvo e eng. José Rodriguez Pereira
BSP 05	**1959**	Pres.: Ciccillo Matarazzo Dir. art: Lourival Gomes Machado Secretário-geral: Arturo Profili Júri seleção: Alfredo Volpi, Ernesto Wolf, Fayga Ostrower Júri premiação: Richard Davis, Roland Penrose	Fernando Lemos
BSP 06	**1961**	Pres.: Ciccillo Matarazzo Diretor geral: Mário Pedrosa Júri seleção: Bruno Giorgi, Ferreira Gullar, Lourival Gomes Machado Júri premiação: James Johnson Sweeney (Kunstammlung NRW, Düsseldorf)	Hedwig Ziegler Assistentes: Danilo DiPrete e Giuliano Vangi
BSP 07	**1963**	Pres.: Ciccillo Matarazzo Diretor geral: Mário Pedrosa Assessorias: Geraldo Ferraz, Sérgio Milliet, Walter Zanini (Artes plásticas); Aldo Calvo, Sábato Magaldi (Teatro); Jantar Martinho Ribeiro (Artes Gráficas) Júri seleção: Sérgio Millier, Walter Zanini Júri premiação: Giulio Carlo Argan, Martin Friedman (Walker Art Center, EUA)	Oswaldo Corrêa Gonçalves (assessoria arquitetura) / Hedwig Ziegler (instalação e montagem) / Danilo Di Prete (assistente)
BSP 08	**1965**	Pres.: Ciccillo Matarazzo Diretor geral: Mário Pedrosa Secretária-geral: Diná Lopes Coelho Júri seleção: Mário Pedrosa, Mário Schenberg Júri premiação: Jacques Lassaigne, Werner Schmalenbach	D.C. Montagem do Brasil: Danilo Di Prete
BSP 09	**1967**	Pres.: Ciccillo Matarazzo Assessoria Artes Plásticas: Alfredo Mesquita, Geraldo Ferraz, Henrique E. Mindlin, Jayme Maurício, José Geraldo Vieira, Salvador Candia Júri seleção: Clarival Valladares, Mario Schenberg Júri premiação: Frederico Morais, Geraldo de Barros, Robert Giron	Ludovico Martino e João Carlos Cauduro Radhá Abramo
BSP 10	**1969**	Pres.: Ciccillo Matarazzo Comissão Téc. de Arte: Aracy Amaral, Edyla Mangabeira Unger, Frederico Nasser, Mário Barata, Waldemar Cordeiro, Wolfgang Pfeiffer Júri de seleção: Mario Schenberg, Oswald de Andrade Filho, Walmir Ayala Júri premiação: Doris Shadbolt, Patric Waldberg	Ubirajara Martins e Walter Maffei (Arquitetos)
BSP 11	**1971**	Pres.: Ciccillo Matarazzo Comissão Técnica de Arte: Antonio Bento, Geraldo Ferraz, Sérgio Ferro No júri de seleção (Artes plásticas): James Johnson Sweeney (Museum of Fine Arts, Houston), Lisetta Levi No júri de premiação (Artes plásticas): James Gleeson, José Geraldo Vieira, Nello Ponente	Arq. Ubirajara "Ribeiro Arq. WalterMaffei Gunvar Morello

BSP 12	**1973**	Pres.: Ciccillo Matarazzo Secretariado técnico: Antonio Bento, Bethy Giudice, Ciccillo Matarazzo, Mário Wilches, Vilém Flusser No júri de seleção: Geraldo Ferraz, Clarival Valladares, Lisetta Levi, Walmir Ayala No júri de premiação: Antonio Bento, Donald Baum, Jirí Kotalík	Geny Yoshiko Uehara (arq) e Mario Vilches Heitor Garcia (montagem) Edwino Ferrezin (colaboração)
BSP 13	**1975**	Pres.: Ciccillo Matarazzo Conselho de Arte e Cultura: Aldemir Martins, Isabel Moraes Barros, José Simão Leal, Norberto Nicola, Olívio Tavares de Araújo, Olney Krüse, Wolfgang Pfeiffer Júri seleção: Danilo Di Prete, Lisetta Levi, Walmir Ayala Júri premiação: Paulo Mendes de Almeida, Werner Schmalenbach	Laonte Klawa (arq.) Maria Cecília Machado de Barros (Programação Visual) Guimar MoreIo (supervisor)
BSP 14	**1977**	Pres.: Oscar Landmann Conselho de Arte e Cultura: Alberto Beuttenmüller, Clarival do Prado Valladares, Leopoldo Raimo, Lisette Levi, Marc Berkowitz, Maria Bonomi, Yolanda Mohalyi No júri de seleção: Olívio Tavares de Araújo, Radha Abramo No júri de premiação: Clarival Valladares, Marcia Tucker, Toshiaki Minemura	Flávio Mindlin Guimarães e Marklen Siag Landa (Arquiprom Arquitetura, Promoções e Comércio Ltda.) Guimar Morelo
BSP 15	**1979**	Pres.: Luiz Fernando Rodrigues Alves Conselho de Arte e Cultura: Casimiro Xavier de Mendonça, Emmanuel von Lauenstein Massarani, Esther Emílio Carlos, Geraldo Edson de Andrade, João Cândido Martins Galvão Barros, Pedro Manuel Gismondi, Radha Abramo, Wolfgang Pfeiffer No júri de seleção: Associação Brasileira de Críticos de Arte	Luciano Alvez Filho, Guimar Morelo, Edwino Ferrezin, Paulo de Tarso Guimarães
BSP 16	**1981**	Pres.: Luiz Diederichsen Villares Curador-geral: Walter Zanini Curadores: Petrônio França, Agnaldo Farias, Samuel Eduardo Leon (Cinema); Cacilda Teixeira da Costa (Video Art); Gabriela Suzana, Julio Praza (Arte Postal); Annateresa Fabris, Victor Musgrave, Josette Balsa (Arte Incomum) Curadores-adjuntos: Roberto Sandoval, Cida Galvão, Marília Saboya, Renata Barros Conselho de arte e cultura: Casimiro Xavier de Mendonça, Donato Ferrari, Paulo Sérgio Duarte Comissão internacional para organização da exposição: Walter Zanini, Bruno Mantura (Itália), Donald Goodall (EUA)	Jorge Aristides de Souza Carvajal arquiteto; Cida Galvão Assistente
BSP 17	**1983**	Pres.: Luiz Diederichsen Villares Curador-geral: Walter Zanini Conselho de arte e cultura: Glauco Pinto de Moraes, Paulo Sérgio Duarte, Sheila Leirner Curadores exposições: Julio Plaza (Arte e Videotexto); Berta Sichel (Novas Metáforas/Seis Alternativas); Walter Zanini e Rui Moreira Leite (Flavio de Carvalho); Gino di Maggio (Fluxus); Norberto Nicola (Arte Plumária do Brasil) Curadores cinema: Agnaldo Farias, Samuel Eduardo Leon Comissão int org do núcleo 1: Pierre Gaudibert (França), Jürgen M. Harten (Alemanha), Walter Zanini	Aristides de Sousa Carvajal (arquiteto), Fernando Piva Campana e Fábio Luís Caruso de Albuquerque Maranhão (colaborador)
BSP 18	**1985**	Presidente: Roberto Muylaert Curadora-geral: Sheila Leirner No conselho de arte e cultura: Sábato Magaldi, Casimiro Xavier de Mendonça, Renina Katz	Guimar Morelo Luiz Norberto Colazzi Loureiro, Haron Cohen, Felippe Crescenti (comissão de montagem)
BSP 19	**1987**	Presidente: Jorge Wilheim Curadora-geral: Sheila Leirner Equipe curatorial: Ivo Mesquita, Sônia Salzstein-Goldberg, Gabriela S. Wilder, Arturo Schwarz, Rafael França, Joice Joppert Leal, Angela Carvalho, Ana Maria Kieffer No conselho de arte e cultura: Luiz Paulo Baravelli, Ulpiano Toledo Bezerra de Menezes, Maria Alice Milliet	Luiz Norberto C. Loureiro (arquiteto coordenador geral e montagem)
BSP 20	**1989**	Presidente: Alex Periscinoto Curadores: Carlos von Schimidt (Internacional), Stella Teixeira de Barros (Nacional), João Cândido Galvão (Eventos especiais) No conselho de arte e cultura: Marcelo Grassmann, Gilberto Chateaubriand, Marcus Lontra, Paulo Herkenhoff No júri de premiação: Jacques Leenhardt (França)	Mário Gallo (arq – coord.) Stella Villares (org) Sílvia Bahia Monteiro (arq), Luiz Otávio de Faria e Silva e Joaquim Rondon Rocha Azevedo (arqs. Assistentes) // Guimar Morelo (montagem)
BSP 21	**1991**	Presidente: Jorge Eduardo Stockler Curador-geral: João Cândido Galvão Curadoria: Ana Helena Curti, Gloria Cristina Motta Comissão Técnica de Arte (CTA): Caciporé Torres, Carmen Velasco Portinho, Emilio Kalil, Evelyn Berg Ioschpe, João Cândido Galvão, José Américo Motta Pessanha, Luiz Aquila No júri de premiação: Casimiro Xavier de Mendonça, Fabio Magalhães, Maria Alice Milliet	Felippe Crescenti Pedro Mendes da Rocha, Renato Salgado, Vera Hamburger (equipe arq.) João Cândido Galvão, Felippe Crescenti, Ana Helena Curti, Gloria Cristina Mota (comissão de montagem)

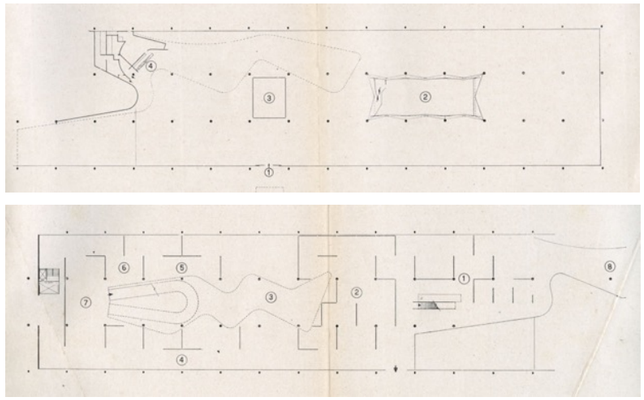
BSP 22	**1994**	Presidente: Edemar Cid Ferreira Curador-geral: Nelson Aguilar	Ronald Cavaliere (arquiteto-chefe) Teresa Mas Santa Creu, Inês Lucchesi de Carvalho
BSP 23	**1996**	Pres.: Edemar Cid Ferreira Curador-geral: Nelson Aguilar Curador-adjunto: Agnaldo Farias Coordenador Salas Especiais: Per Hovdenakk Curadores da exposição Universais: Tadavasu Sakai (Japão), Jean-Hubert Martin (França), Mari Carmen Ramírez (Porto Rico), Paul Schimmel (EUA), Catalan Nérav (Hungruia), Achille Bonito Oliva (Itália), Nelson Aguilar, Agnaldo Farias	Paulo Mendes da Rocha Martin Corullon (coord.)
BSP 24	**1998**	Presidente: Julio Landman Curador-geral: Paulo Herkenhoff Curador-adjunto: Adriano Pedrosa	Paulo Mendes da Rocha, Martin Corullon (coord.), Joana Fernandes Elito (arq) Raul Loureiro, Rodrigo Cerviño Lopez e Cássia Buitoni (museografia)
BSP 25	**2002**	Presidente: Carlos Bratke Curador-geral: Alfons Hug Curador Núcleo Brasileiro: Agnaldo Farias	Mário Biselli e Arthur Katchborian Arquitetos
BSP 26	**2004**	Presidente: Manoel Francisco Pires da Costa Curador-geral: Alfons Hug	Isay Weinfeld Adriana Aun, Pablo Alvarenga, Domingos Pascale (asistentes)
BSP 27	**2006**	Presidente: Manoel Francisco Pires da Costa Curadora-geral: Lisette Lagnado Cocuradores: Adriano Pedrosa, Cristina Freire, José Roca, Rosa Martínez Curador convidado: Jochen Volz	Marta Bogéa Ana Helena de Assis Meirelles Vilela e Maria Júlia de Castro Herklotz (colaboradoras)
BSP 28	**2008**	Presidente: Manoel Francisco Pires da Costa Curador-geral: Ivo Mesquita Curadora-adjunta: Ana Paula Cohen Curador do Vídeo Lounge: Wagner Morales Coordenadora-geral das conferências: Luísa Duarte	Felippe Crescenti, Pedro Mendes da Rocha Ana Helena de Assis Meirelles, Maria Júlia de Castro Herklotz (colaboradores) / Gabriel Serra (estruturas 3 andar)
BSP 29	**2010**	Presidente: Heitor Martins Curadores-chefes: Agnaldo Farias e Moacir dos Anjos Curadores-convidados: Chus Martinez (Espanha), Fernando Alvim (Angola), Rina Carvajal (Venezuela), Sarat Maharai (África do Sul/Inglaterra), Yuko Hasegawa (Japão)	Marta Bogéa Tiago Guimarães (coordenador) Laura Bigliassi e Marcus Vinícius Santos (colaboradores)
BSP 30	**2012**	Presidente: Heitor Martins Curador: Luis Pérez-Oramas Curadores-adjuntos: André Severo, Tobi Maier Curadora-assistente: Isabela Villanueva	Martin Corullon, Metro Arquitetos Associados
BSP 31	**2014**	Presidente: Luis Terepins Curadores: Charles Esche, Pablo Lafuente, Nuria Enguita Mayo, Galit Eilat, Oren Sagiv Curadores associados: Benjamin Seroussi, Luiza Proença	Oren Sagiv (Israel) Anna Helena Villa e Metrópole Arquitetos (colaboradores)
BSP 32	**2016**	Presidente: João Carlos de Figueiredo Ferraz Curador: Jochen Volz Cocuradores: Gabi Ngcobo, Júlia Rebouças, Lars Bang Larsen e Sofía Olascoaga	Álvaro Razuk
BSP 33	**2018**	Presidente: João Carlos de Figueiredo Ferraz Curador-geral: Gabriel Pérez-Barreiro Artistas-curadores: Alejandro Cesarco, Antonio Ballester Moreno, Claudia Fontes, Mamma Anderson, Sofia Borges, Waltercio Caldas, Wura-Natasha Ogunji Conselho curatorial: Antonio La Pastina, Jacopo Crivelli Visconti Curadores convidados: Gabriela Saenger Silva (Aníbal López), Norman Brosterman (Friedrich Fröbel) Curadora-assistente: Laura Cosendey	Álvaro Razuk

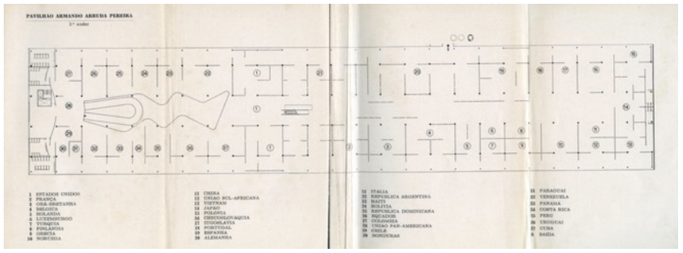
Table A1. List of BSP exhibitions organizers (AHWS/FBSP, author's edition).

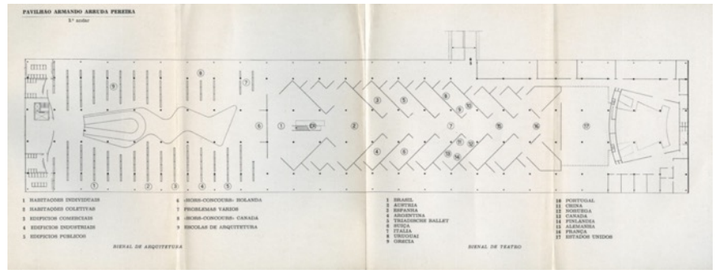
APPENDIX B. BSP EXHIBITIONS ORIGINAL PLANS

	Floors 1 and 2	Floor 3	Floor 4
01 BSP 1951			
02 BSP 1953			
03 BSP 1955			
			

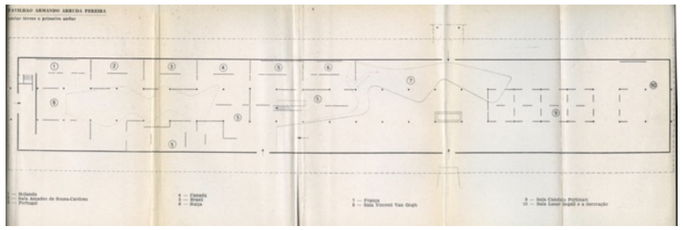
04 BSP 1957

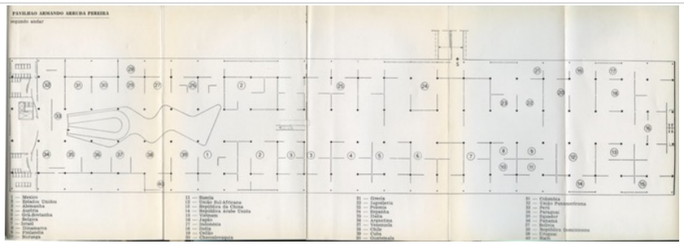


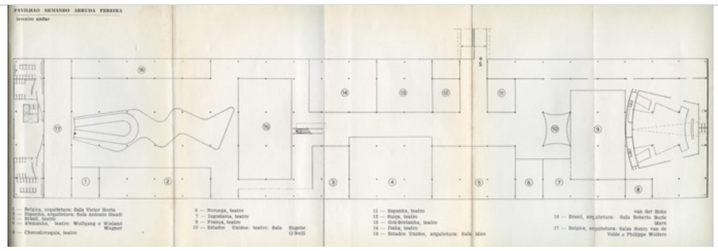




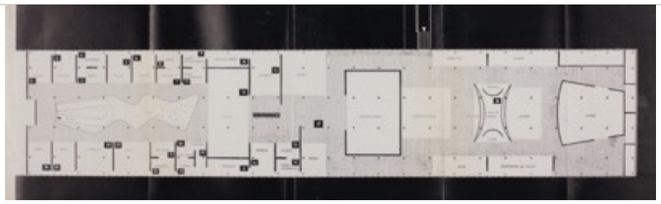
05 BSP 1959

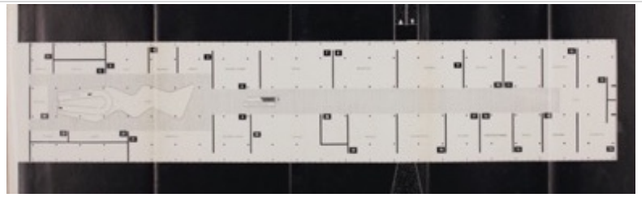






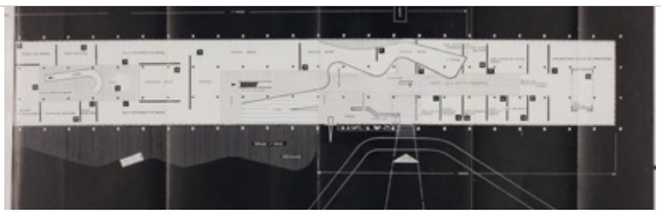
06 BSP 1961



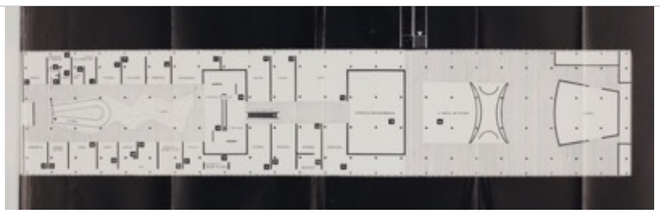




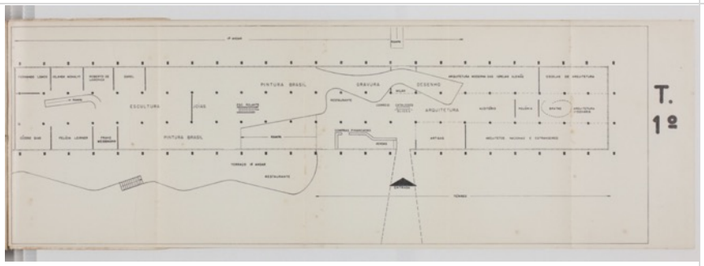
07 BSP 1963

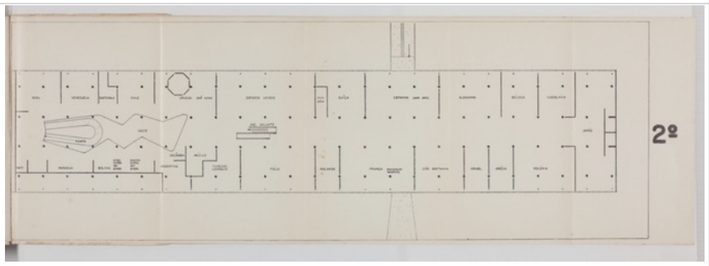


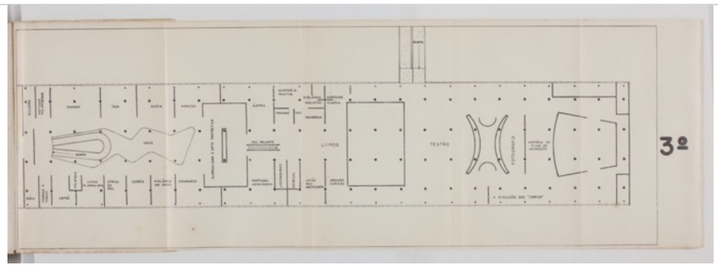


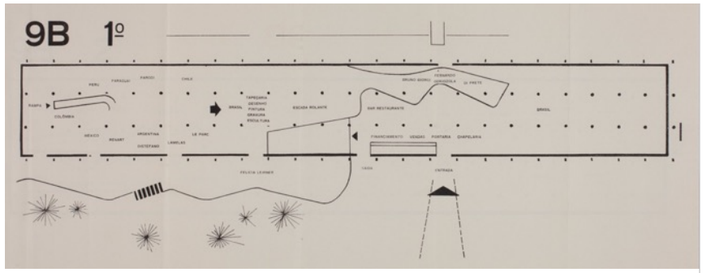
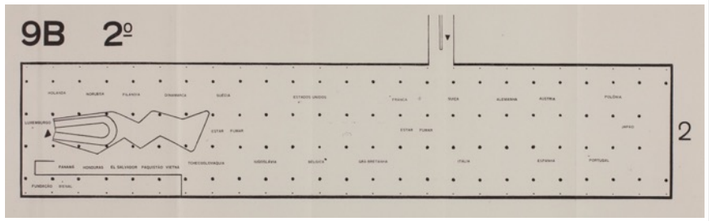
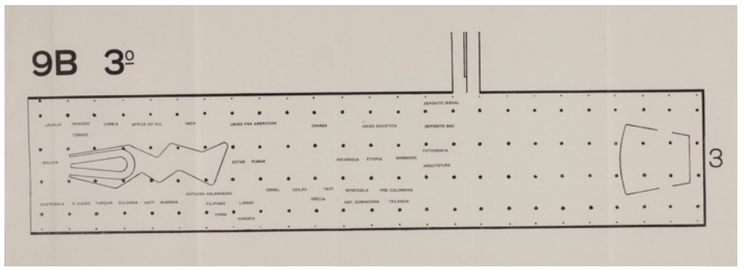
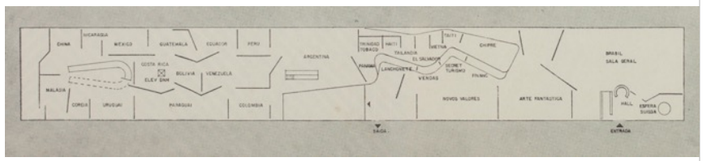
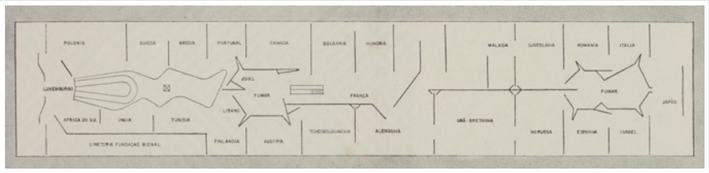
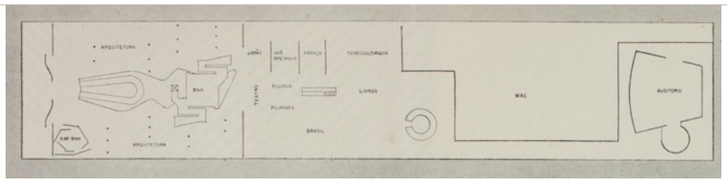
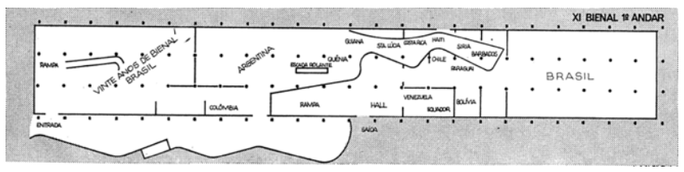
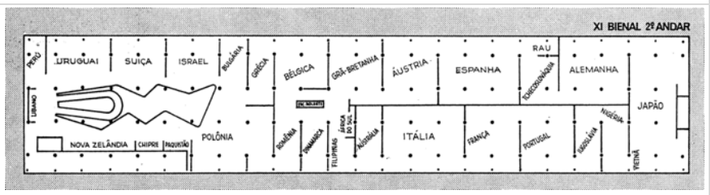
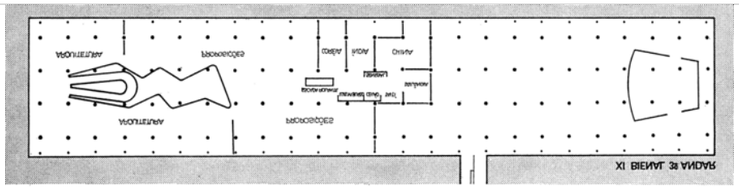
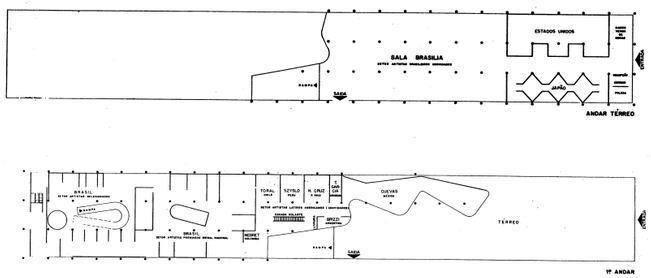
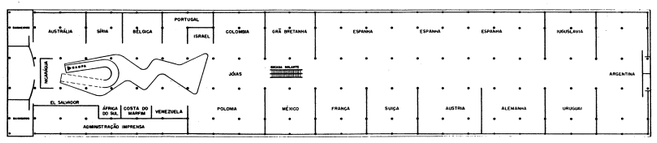
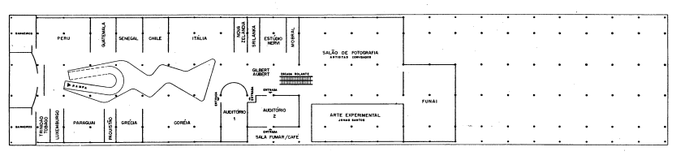


08 BSP 1965

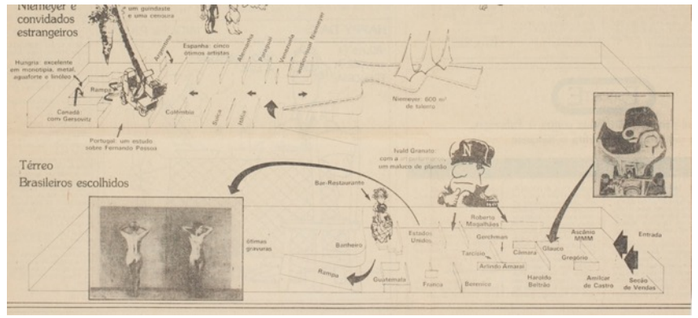


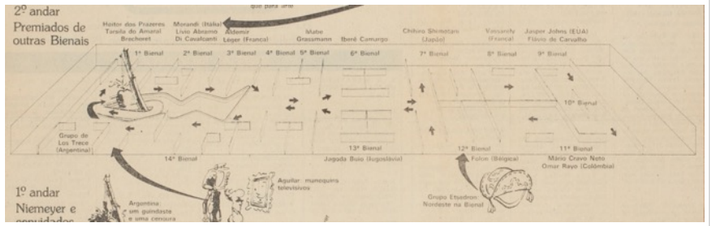




09 BSP	1967			
10 BSP	1969			
11 BSP	1971			
12 BSP	1973			
13 BSP	1975			
14 BSP	1977	-	-	-

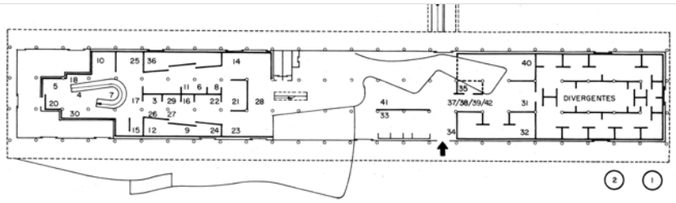
15 BSP 1979



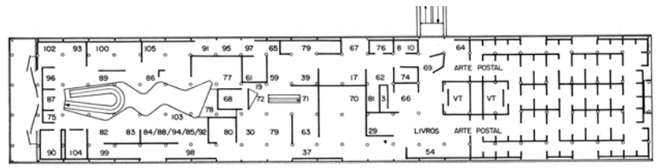




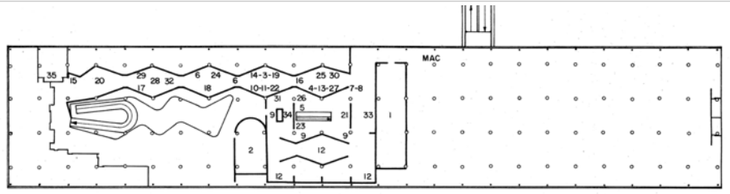
16 BSP 1981



PLANTA DO TÉRREO E MEZANINO

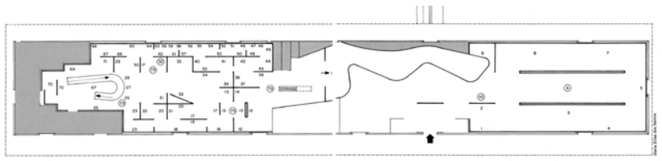


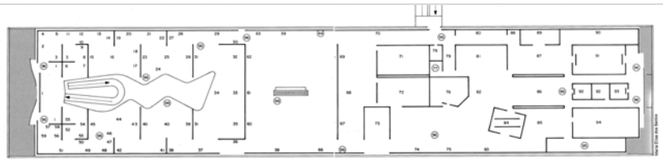
PLANTA DO SEGUNDO ANDAR



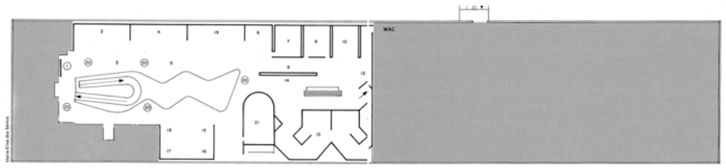
PLANTA DO TERCEIRO ANDAR

17 BSP 1983

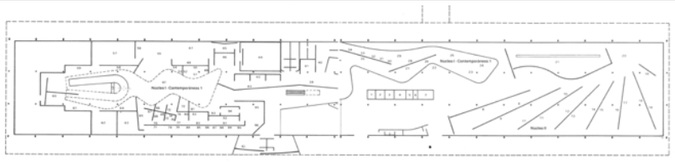




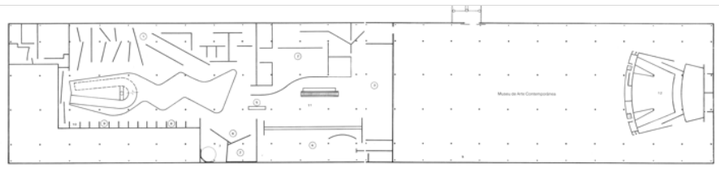
PLANTA DO 2.º ANDAR



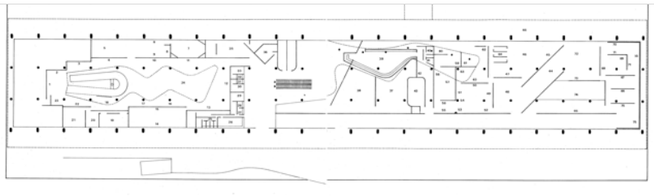
18 BSP 1985

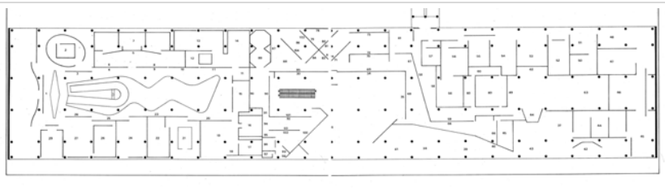


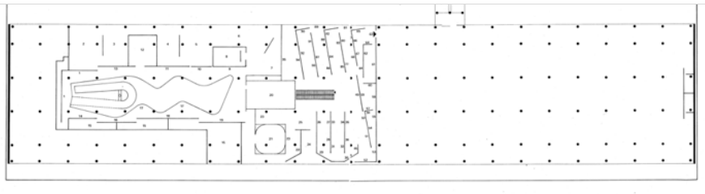




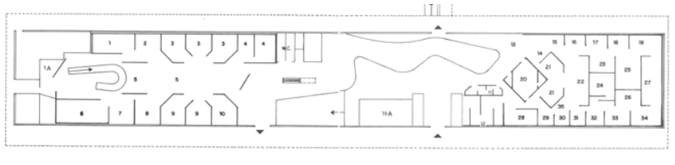
19 BSP 1987

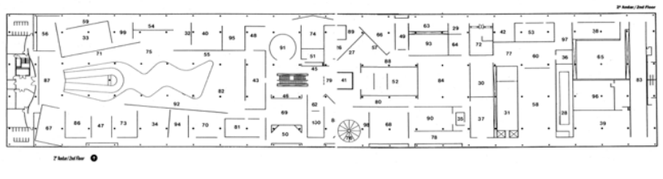






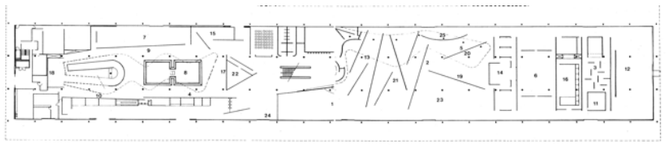
20 BSP 1989

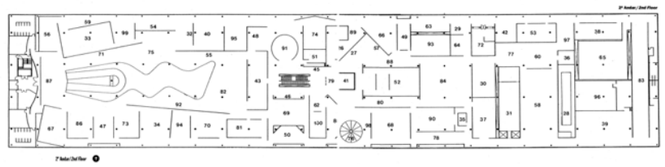






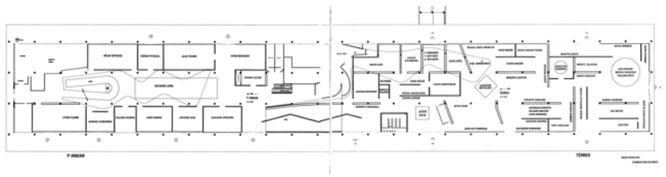
21 BSP 1991



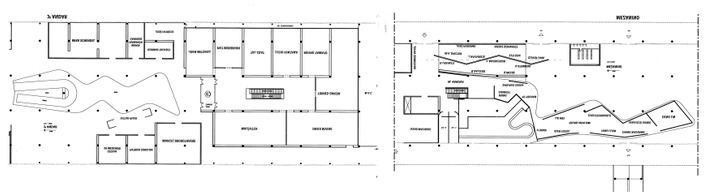




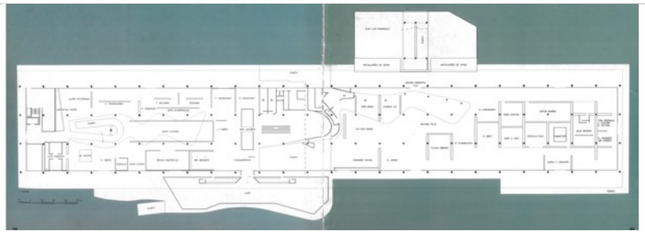
22 BSP 1994

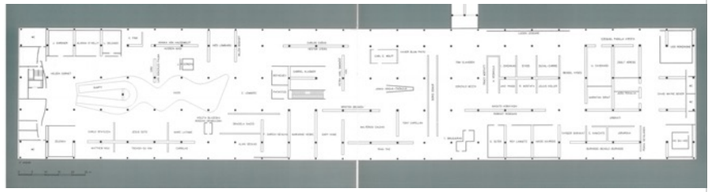






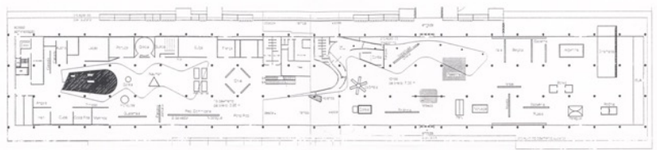
23 BSP 1996

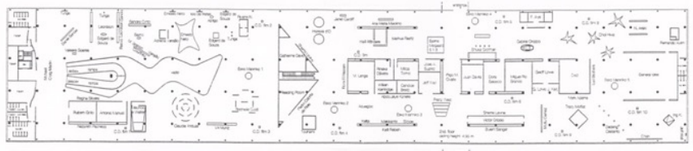


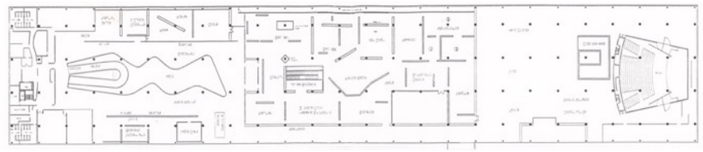




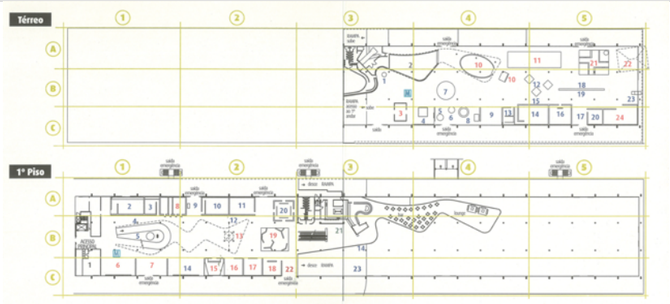
24 BSP 1998



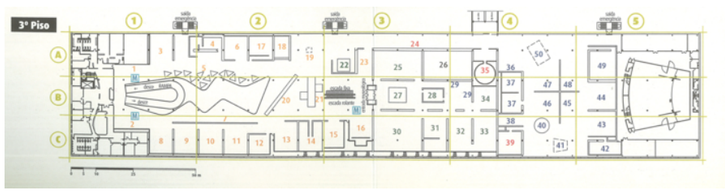




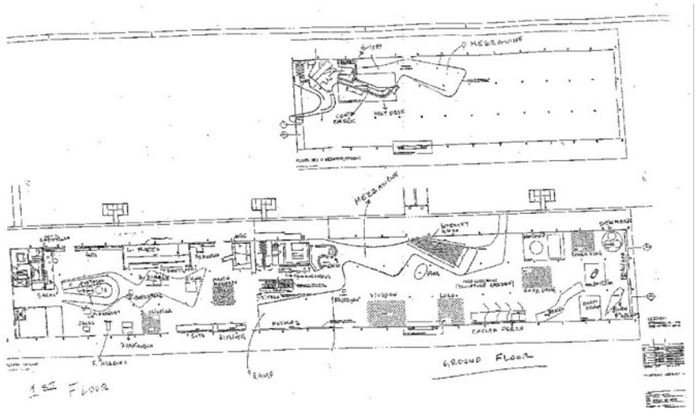
25 BSP 2002

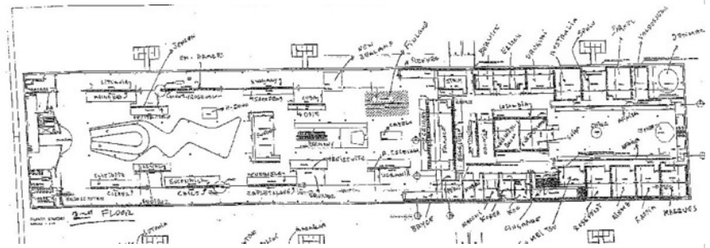


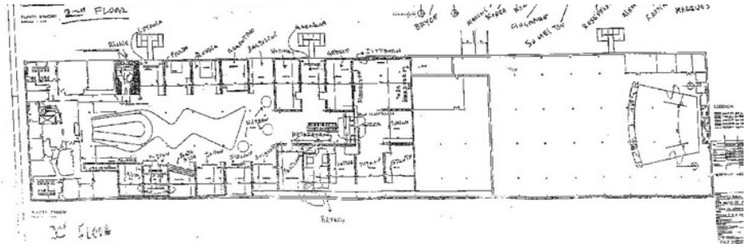




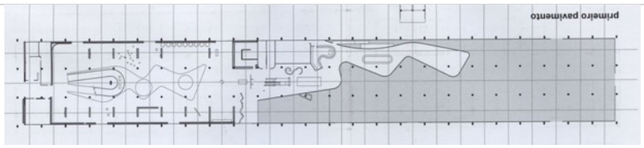
26 BSP
2004

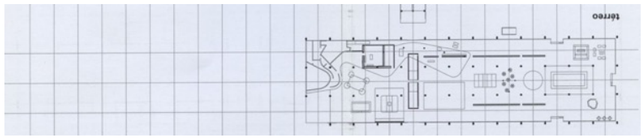


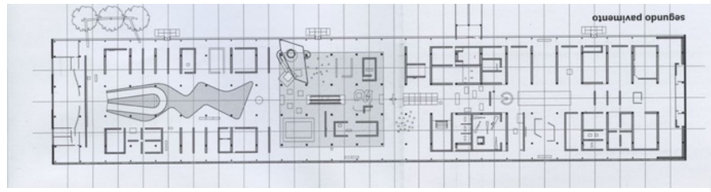


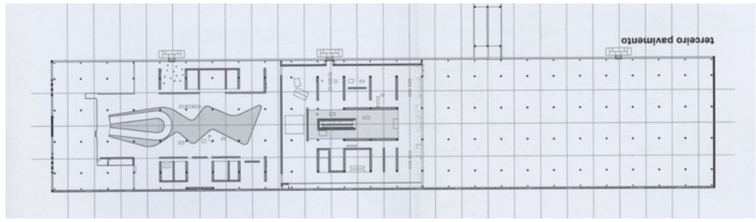


27 BSP
2006

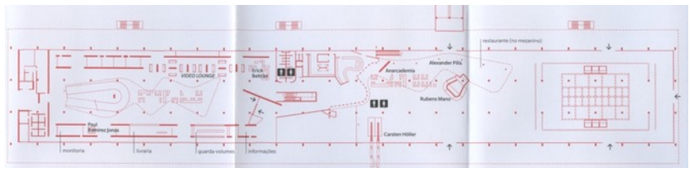


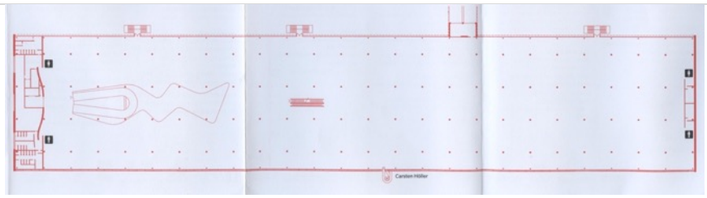


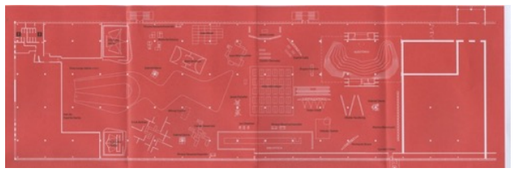




28 BSP
2008

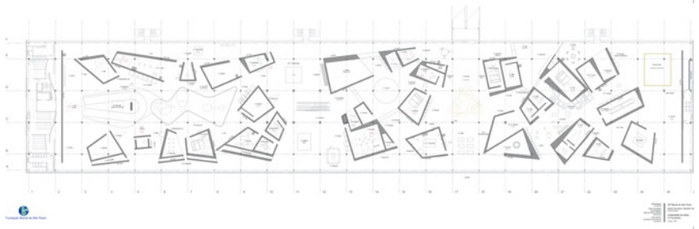


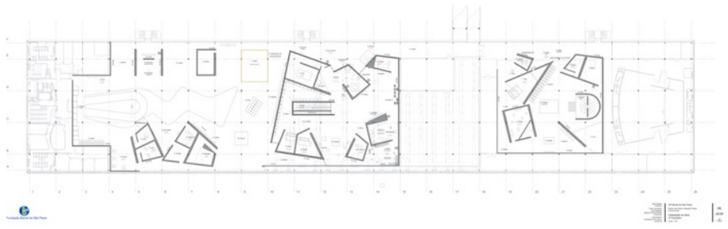




29 BSP
2010







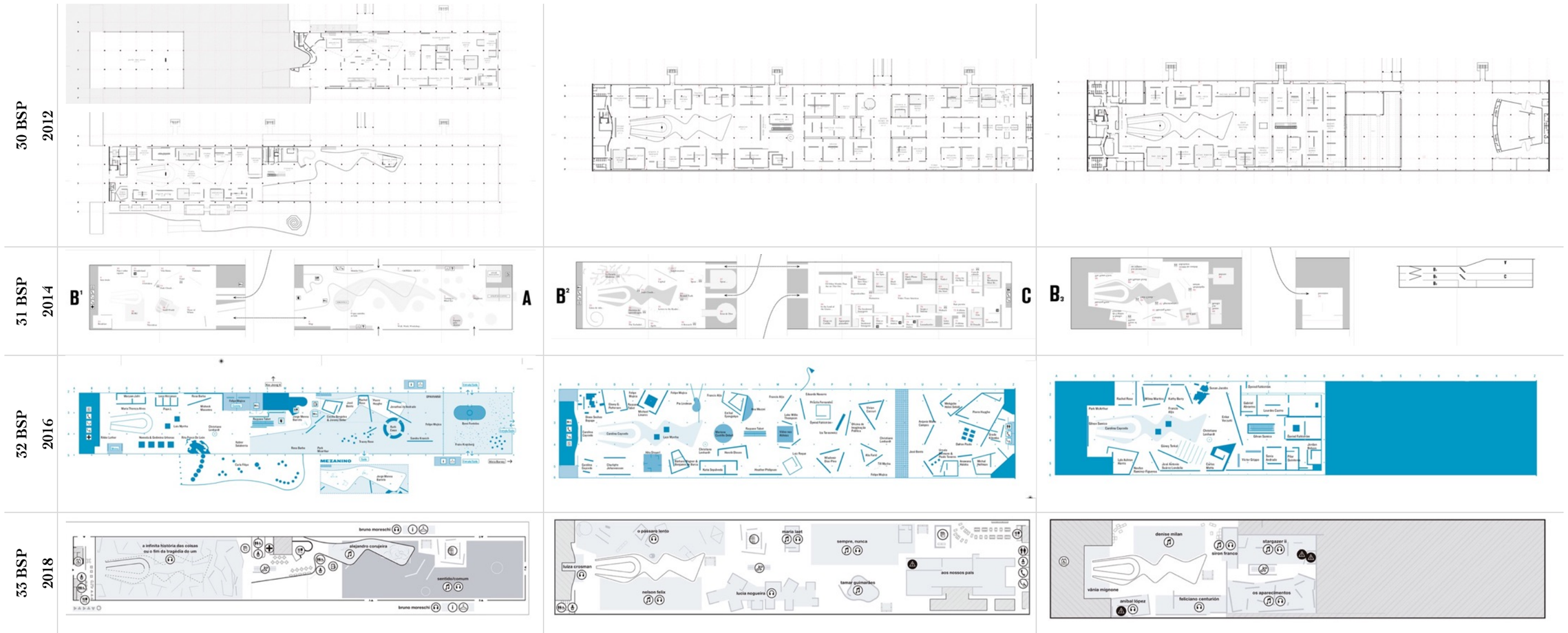
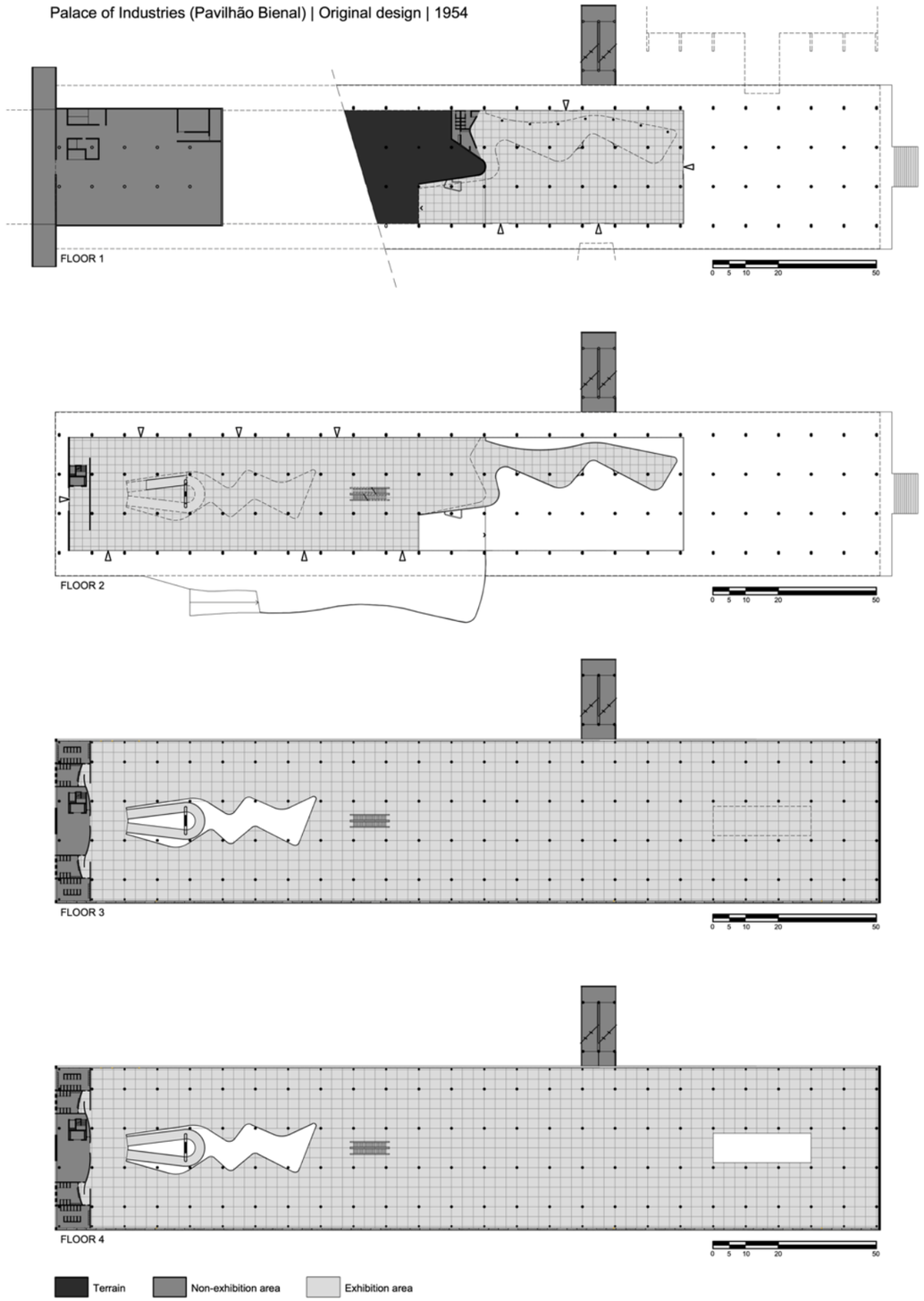


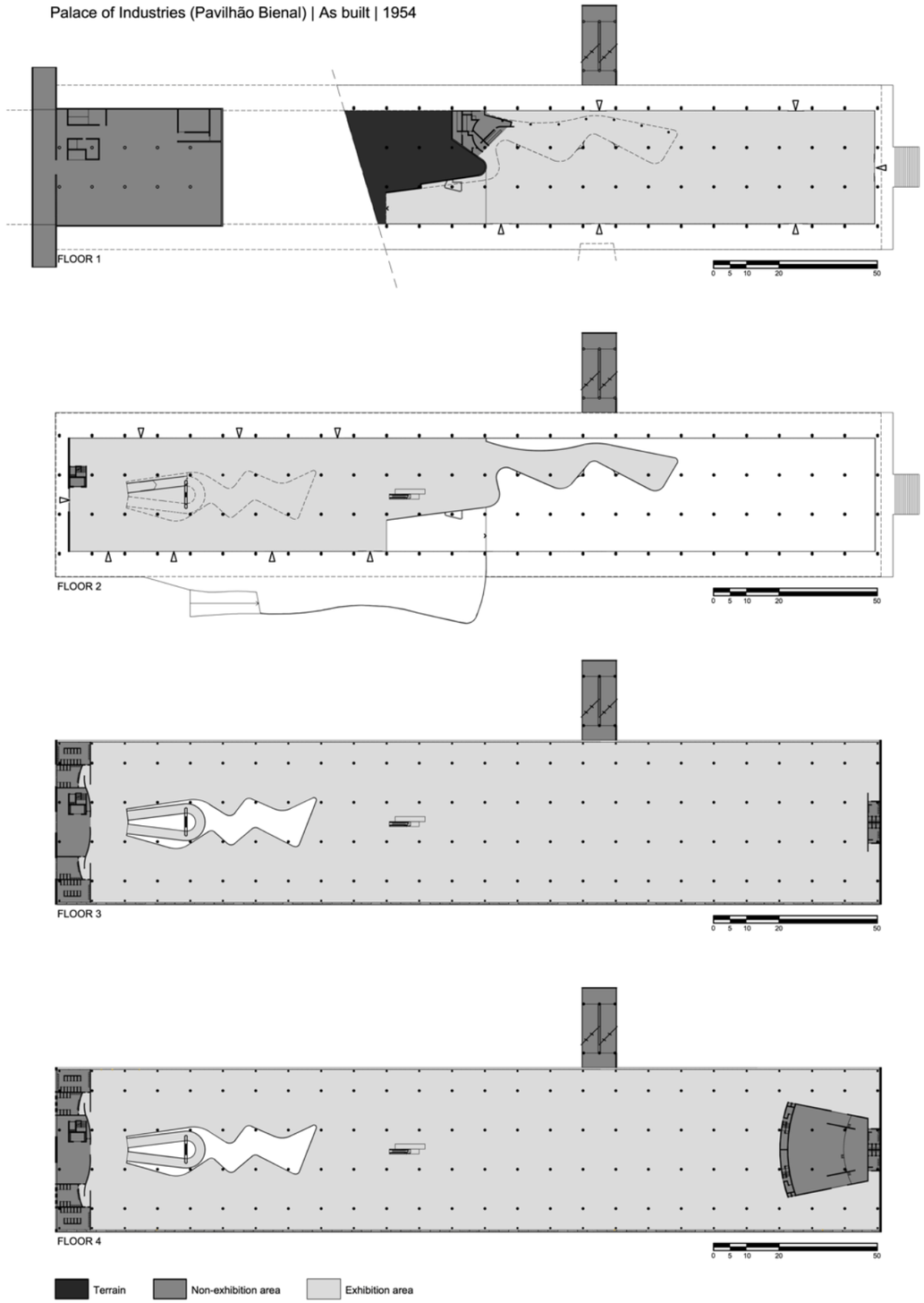
Figure A. BSP exhibitions – Original plans (AHWS/FBSP, author's edition).

APPENDIX C. REDRAWN PLANS OF BSP EXHIBITIONS AND BUILDINGS

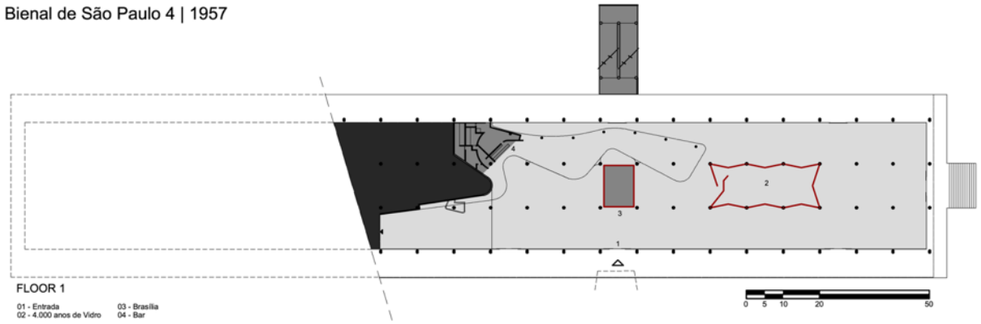
Palace of Industries (Pavilhão Bienal) | Original design | 1954

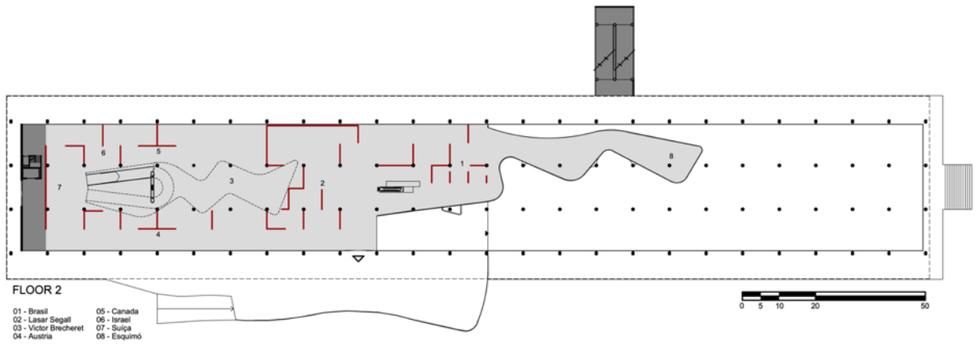


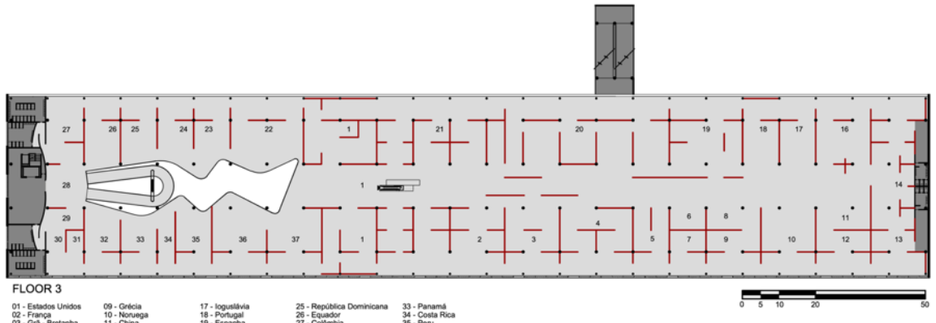
Palace of Industries (Pavilhão Bienal) | As built | 1954

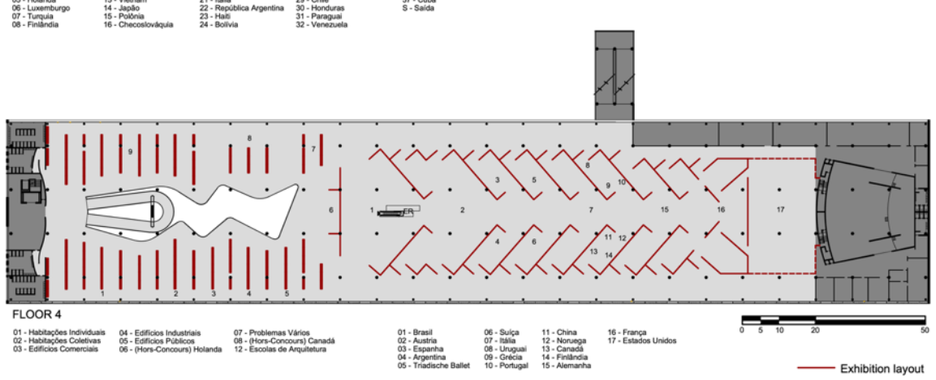


Bienal de São Paulo 4 | 1957

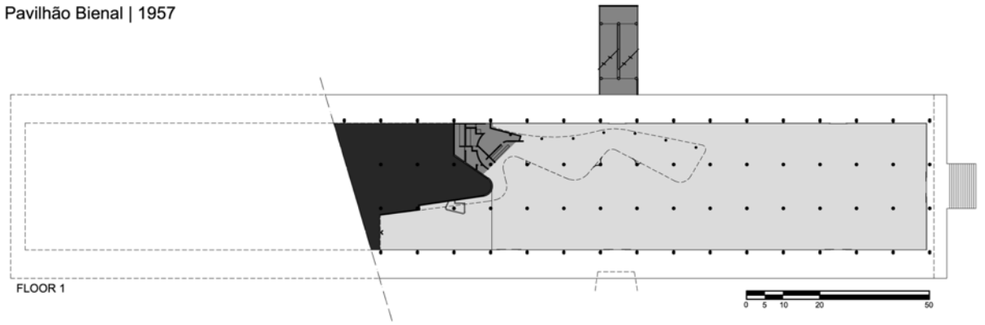


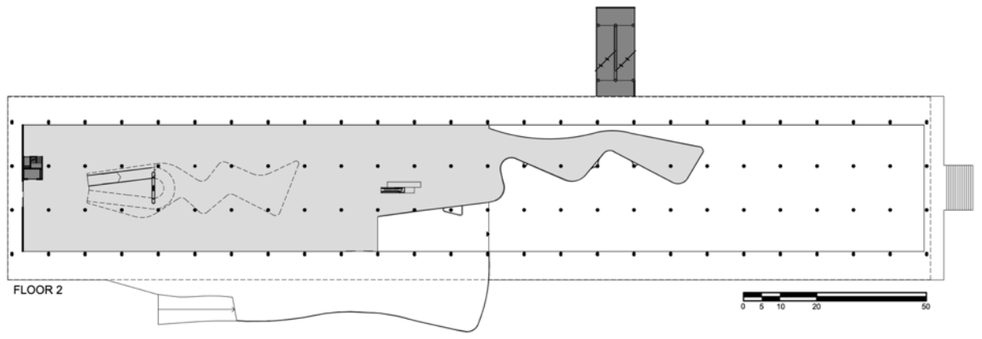


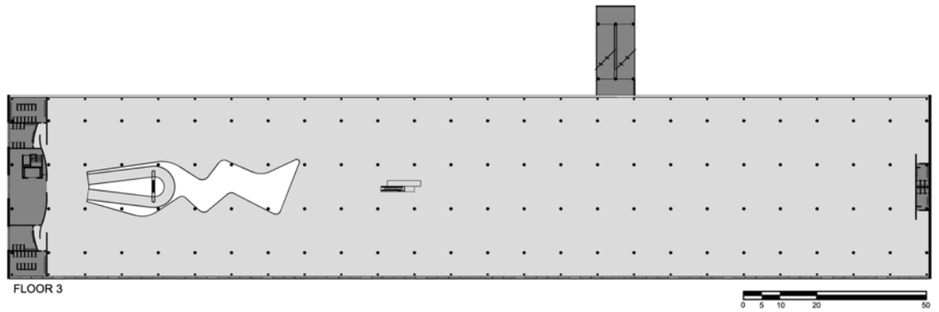


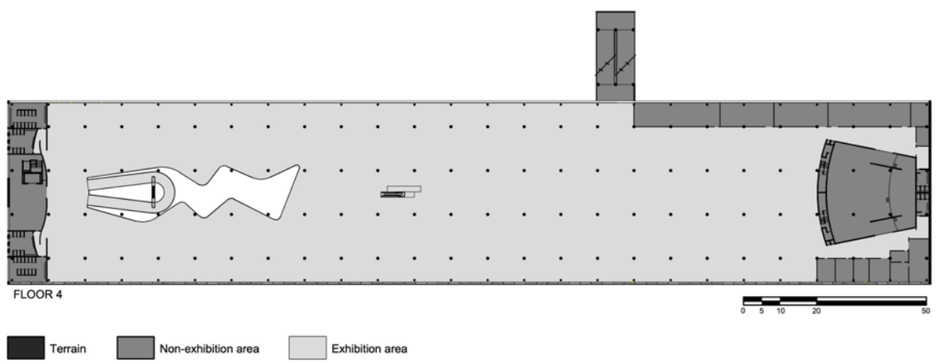


Pavilhão Bienal | 1957



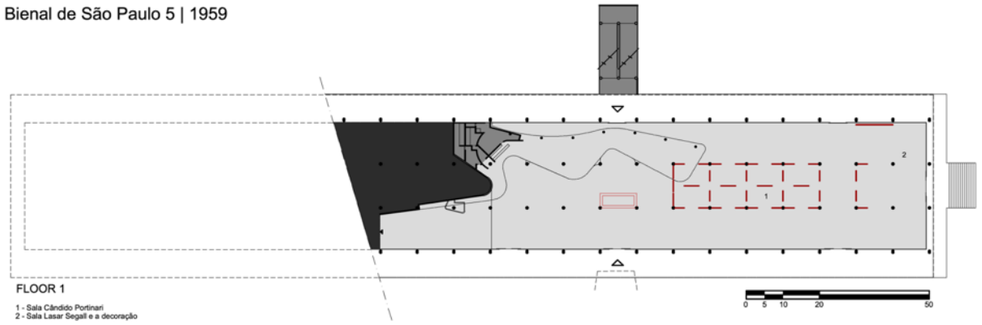






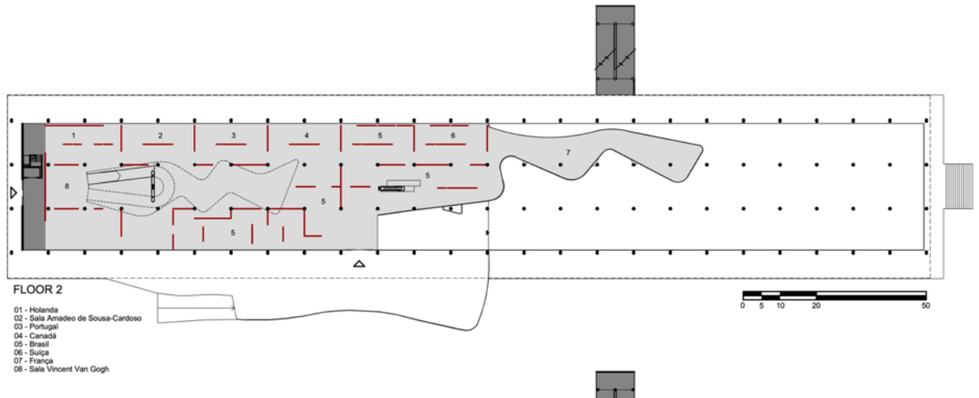
Terrain
Non-exhibition area
Exhibition area

Bienal de São Paulo 5 | 1959



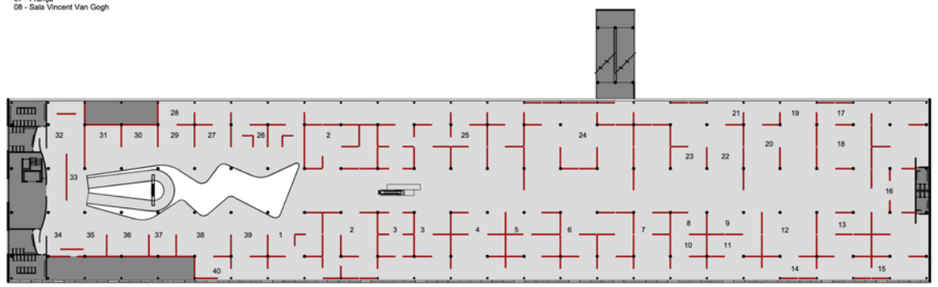
FLOOR 1

1 - Sala Cândido Portinari
2 - Sala Lasar Segall e a decoração



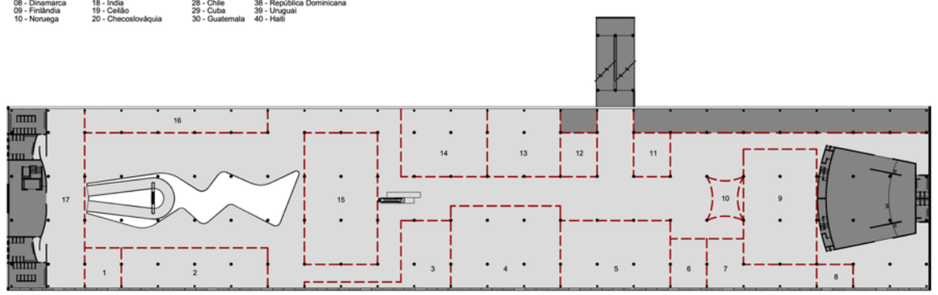
FLOOR 2

01 - Holanda
02 - Sala Amadeo de Sousa-Cardoso
03 - Portugal
04 - Canadá
05 - Brasil
06 - Suíça
07 - França
08 - Sala Vincent Van Gogh



FLOOR 3

01 - México
02 - Estados Unidos
03 - Alemanha
04 - Austria
05 - Grã-Bretanha
06 - Bélgica
07 - Israel
08 - Dinamarca
09 - Finlândia
10 - Noruega
11 - Suécia
12 - União Sul-Africana
13 - República da China
14 - República Árabe Unida
15 - Vietnam
16 - Japão
17 - Indonésia
18 - Índia
19 - Ceilão
20 - Checoslováquia
21 - Grécia
22 - Iugoslávia
23 - Polônia
24 - Espanha
25 - Itália
26 - Argentina
27 - Venezuela
28 - Chile
29 - Cuba
30 - Guatemala
31 - Colômbia
32 - União Panamericana
33 - Perú
34 - Paraguai
35 - Equador
36 - Panamá
37 - Bolívia
38 - República Dominicana
39 - Uruguai
40 - Haiti

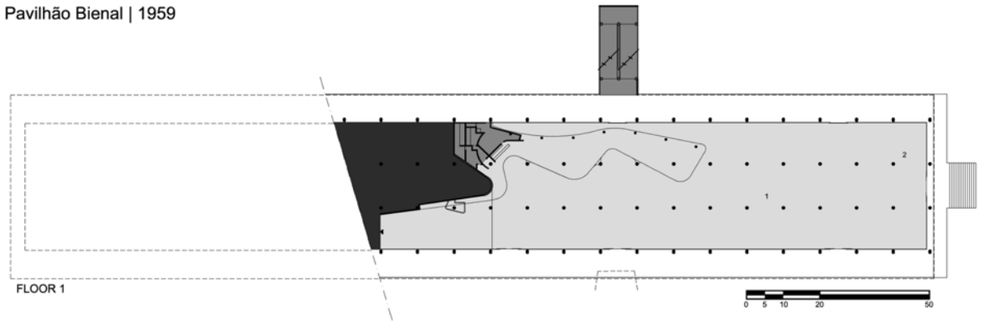


FLOOR 4

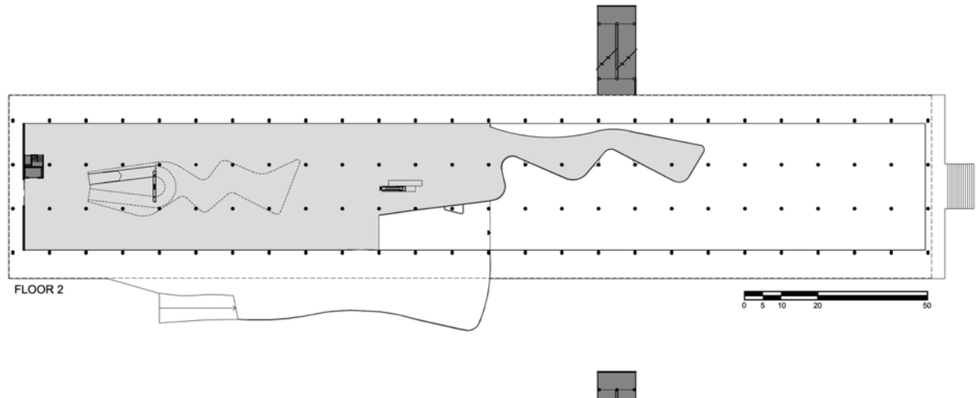
1 - Bélgica, Arquitetura: Sala Victor Horta
2 - Espanha, Arquitetura: Sala Antonio Gaudí
3 - Brasil, teatro
4 - Alemanha, teatro: Wolfgang e Wieland Wagner
5 - Checoslovaquia, teatro
6 - Noruega, teatro
7 - Iugoslávia, teatro
9 - França, teatro
10 - Estados Unidos, teatro: Sala Eugene O'Neil
11 - Espanha, teatro
12 - Suíça, teatro
13 - Grã-Bretanha, teatro
14 - Itália, teatro
15 - Estados Unidos, arquitetura: Sala Mies van der Rohe
16 - Brasil, Arquitetura: Sala Roberto Burle Marx
17 - Bélgica, Arquitetura: Salas Henry van de Velde e Philippe Wolfers

Artwork
Exhibition layout

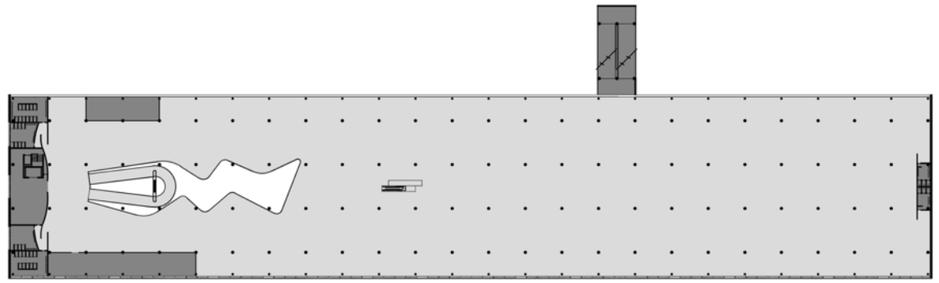
Pavilhão Bienal | 1959



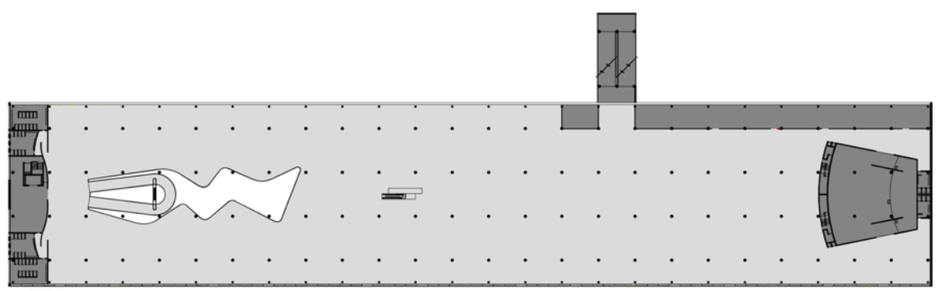
FLOOR 1



FLOOR 2



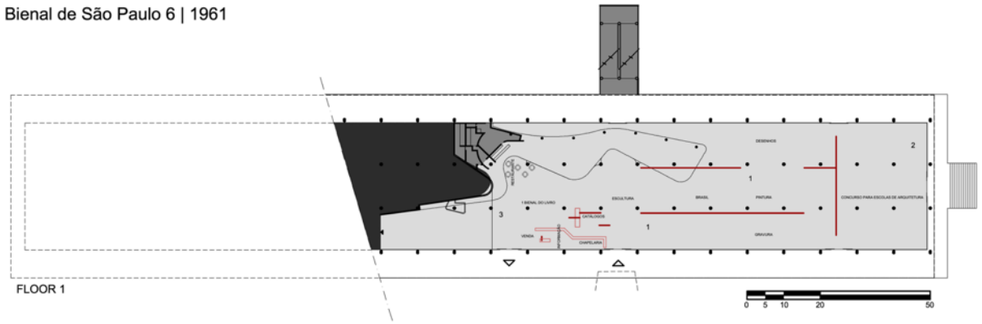
FLOOR 3



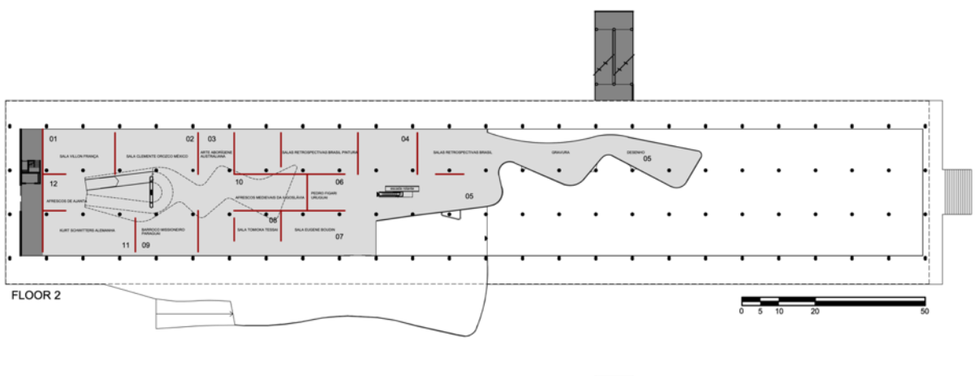
FLOOR 4

Terrain
Non-exhibition area
Exhibition area

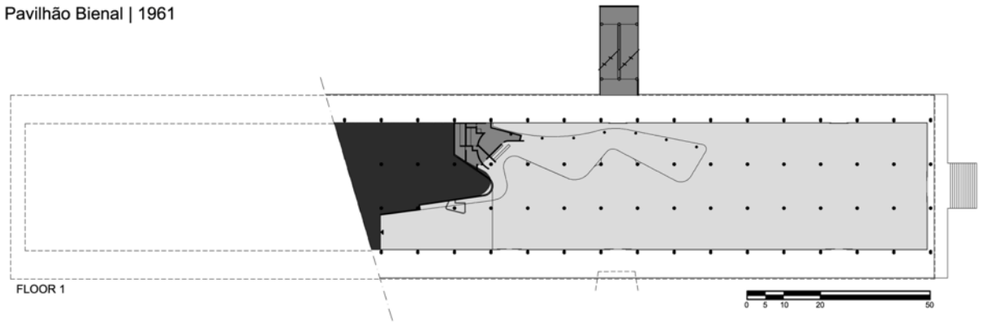
Bienal de São Paulo 6 | 1961



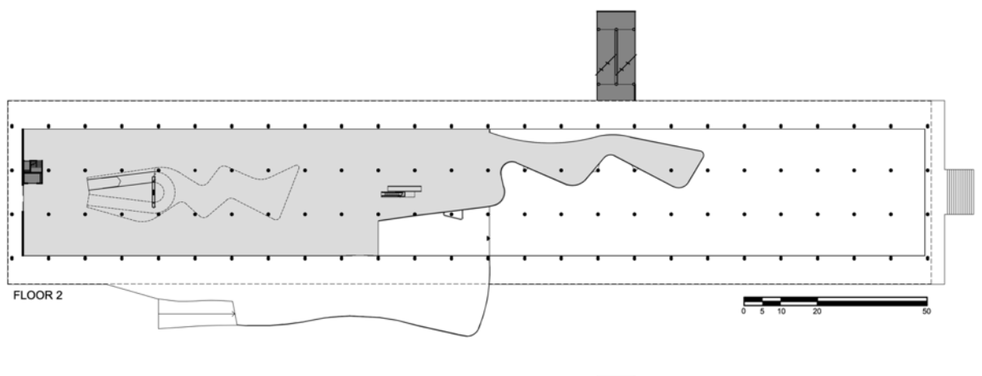
FLOOR 1



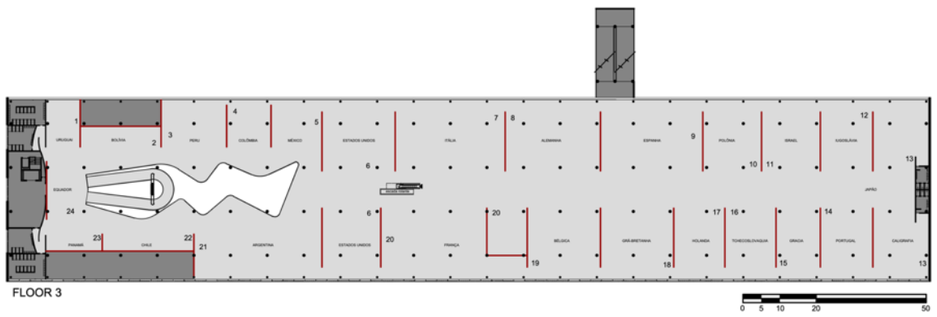
FLOOR 2



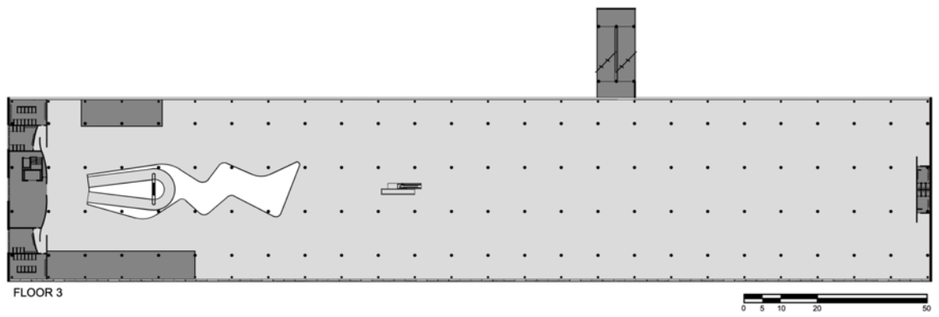
FLOOR 1



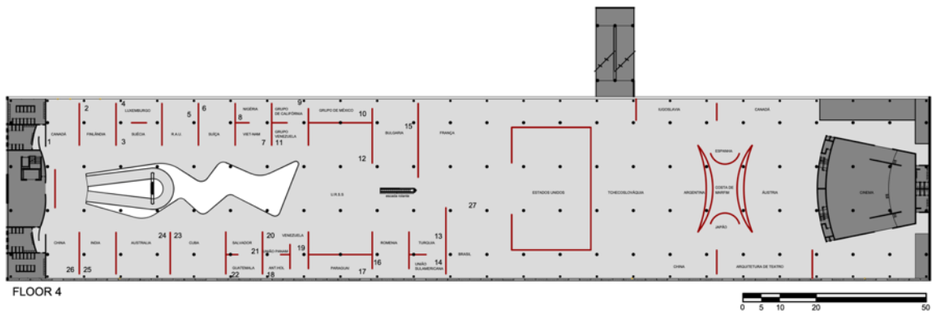
FLOOR 2



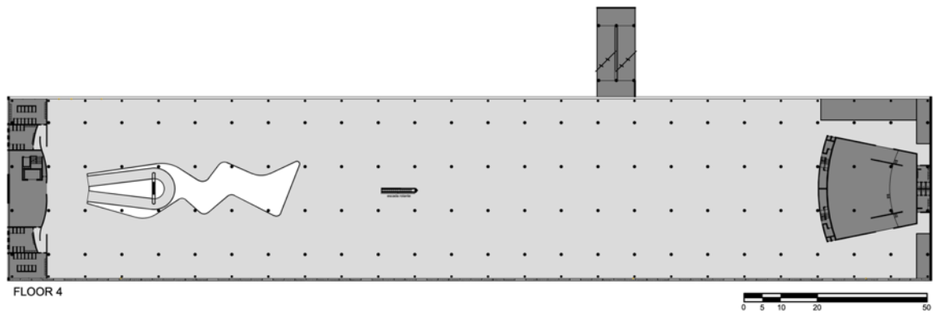
FLOOR 3



FLOOR 3



FLOOR 4

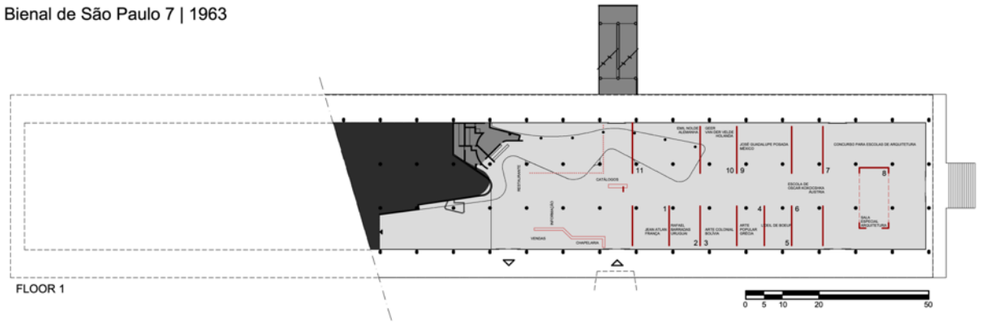


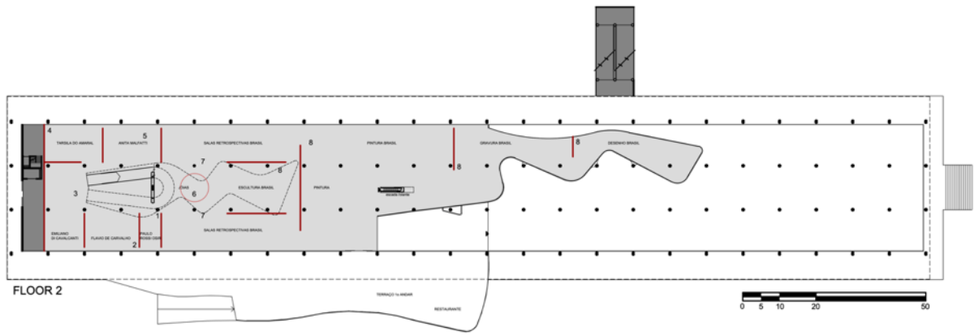
FLOOR 4

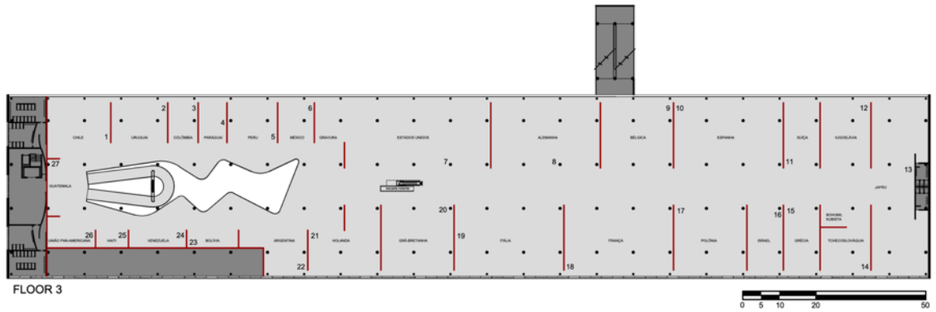
Artwork — Exhibition layout

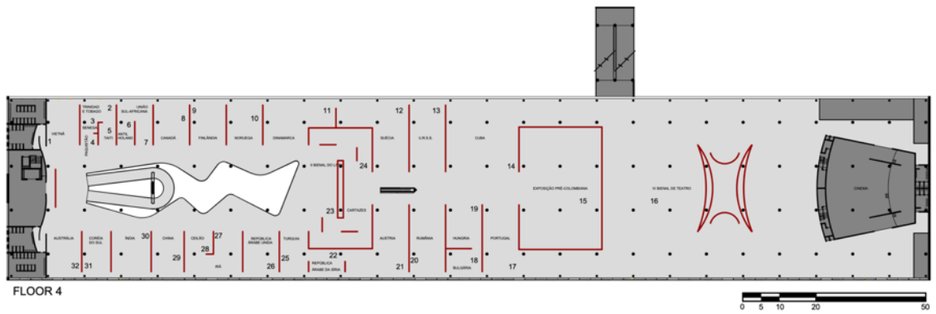
Terrain — Non-exhibition area — Exhibition area

Bienal de São Paulo 7 | 1963

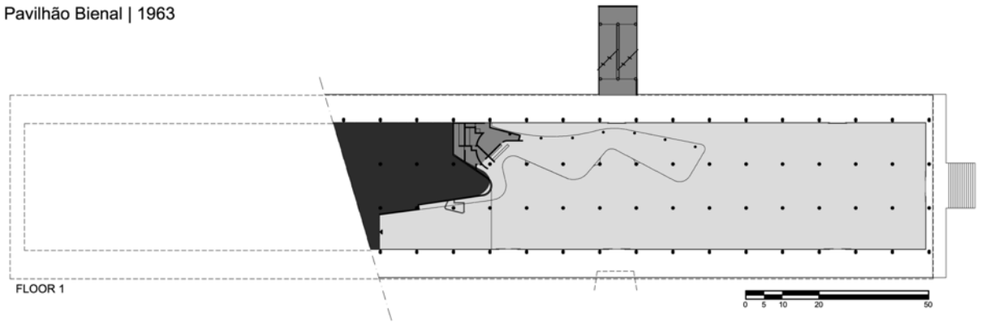


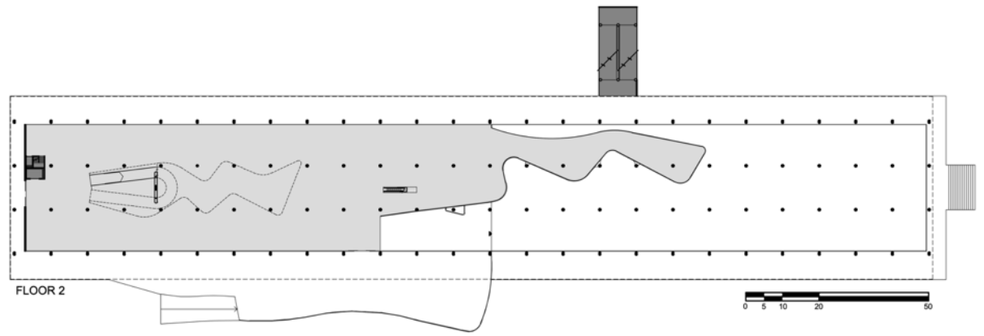


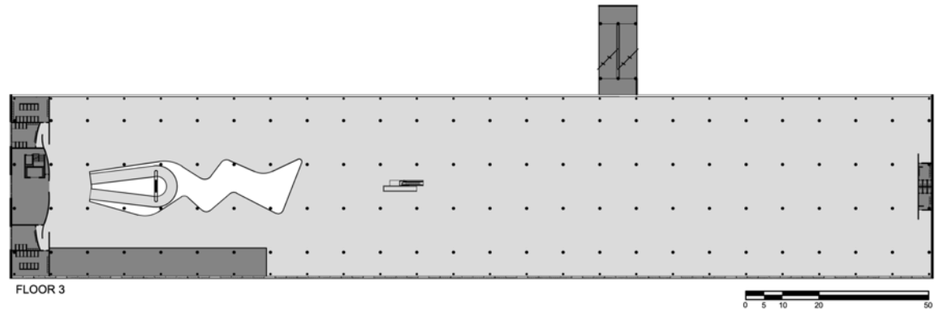


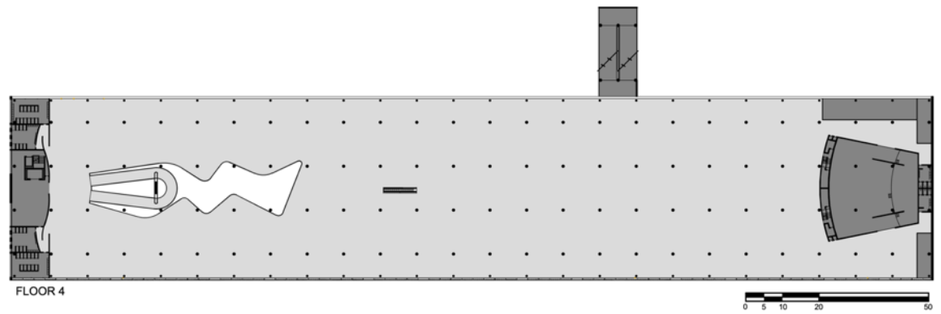


Pavilhão Bienal | 1963

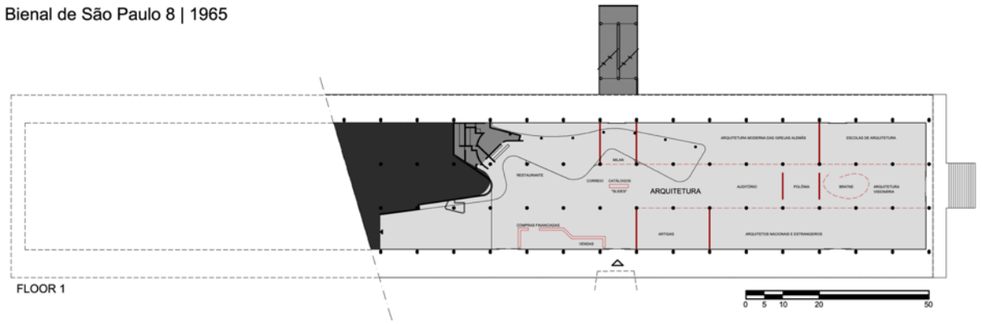


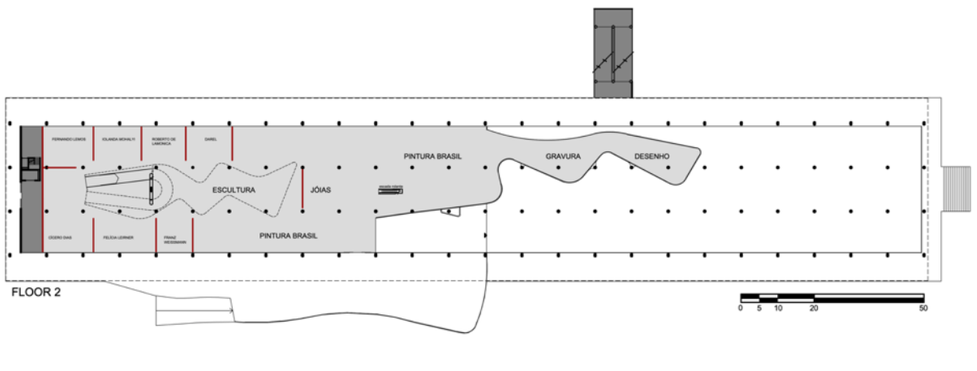


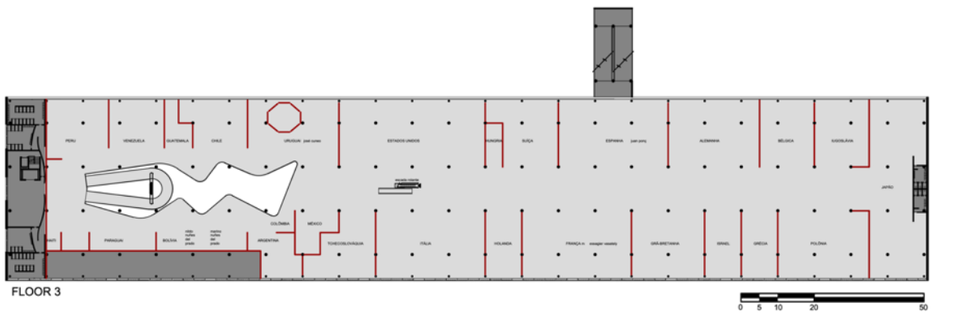


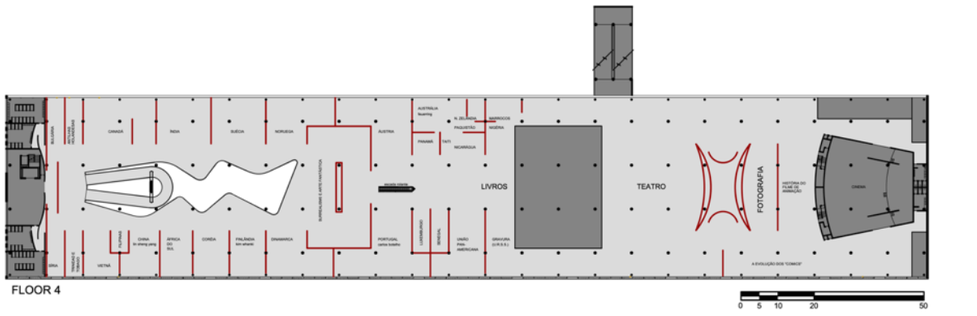


Bienal de São Paulo 8 | 1965



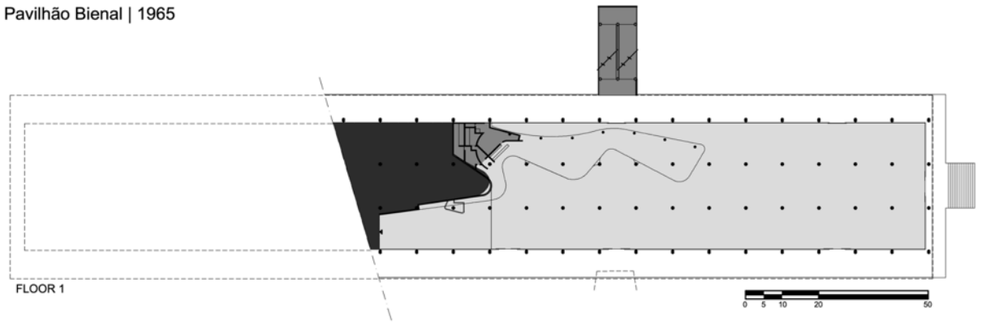


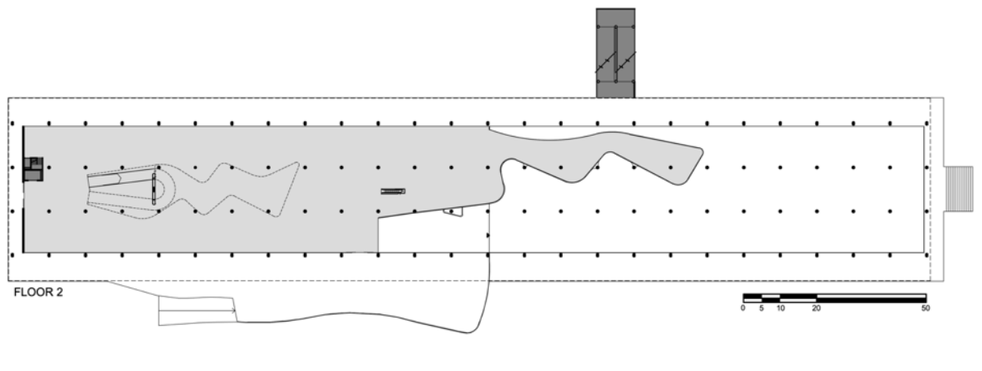


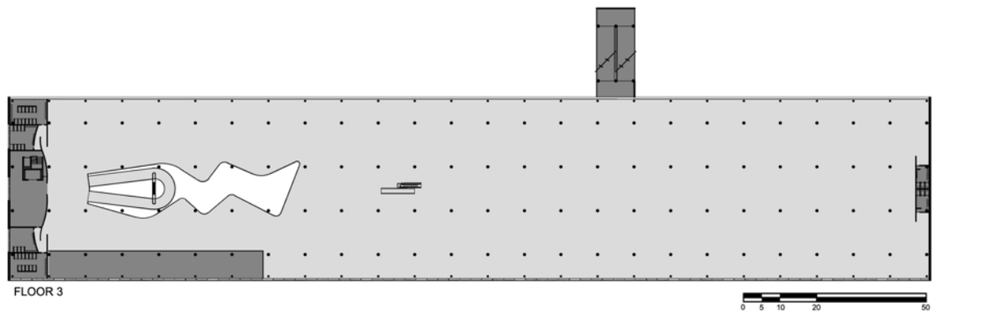


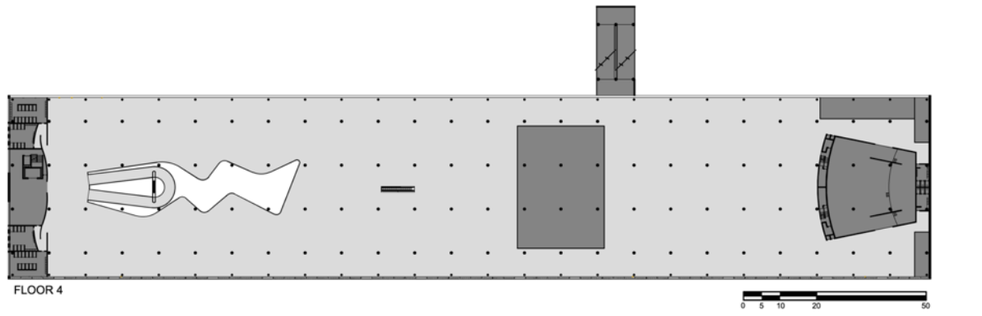
Artwork Exhibition layout

Pavilhão Bienal | 1965



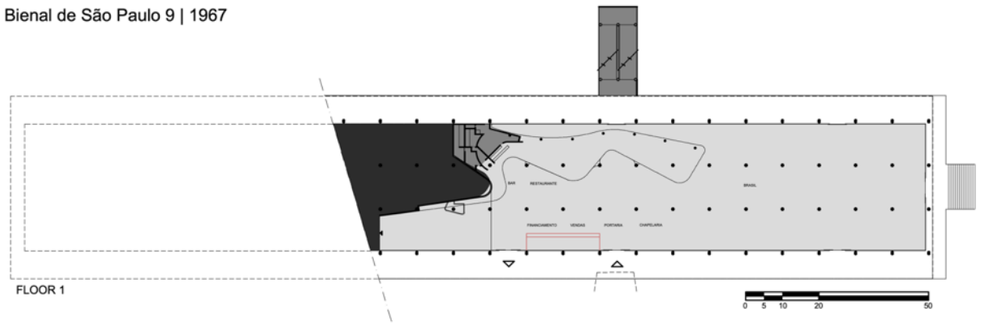


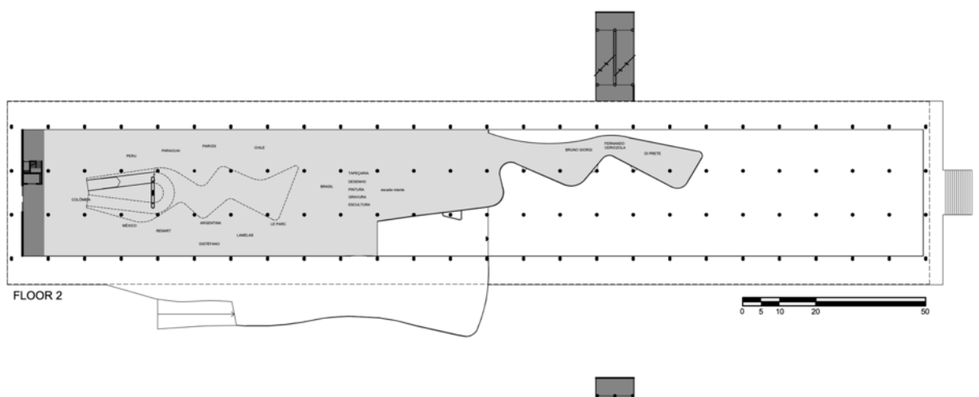


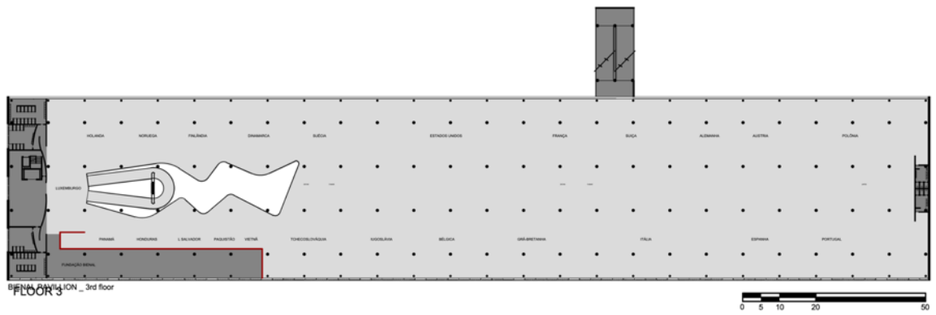


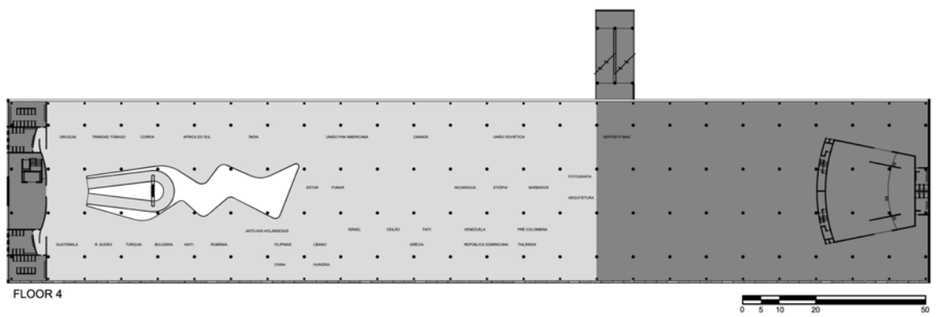
Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 9 | 1967



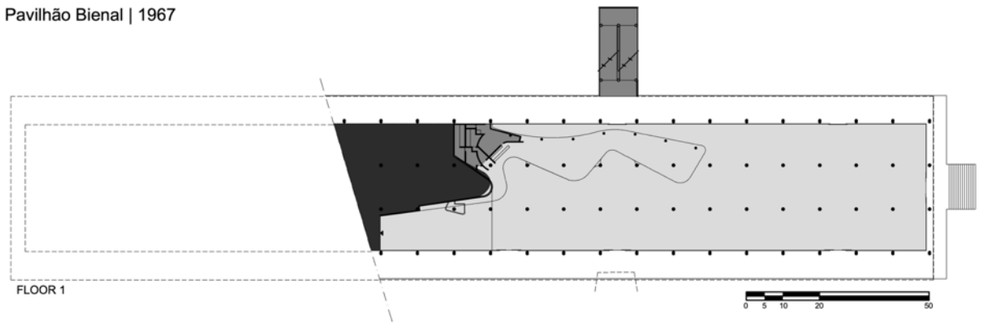


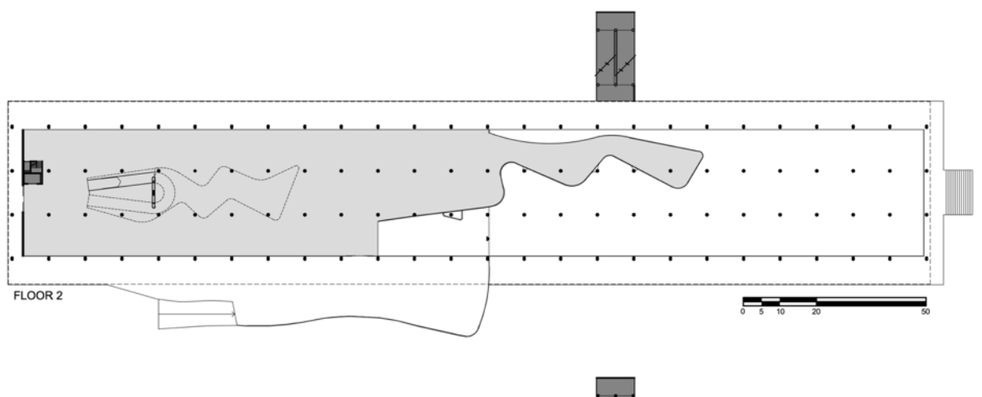


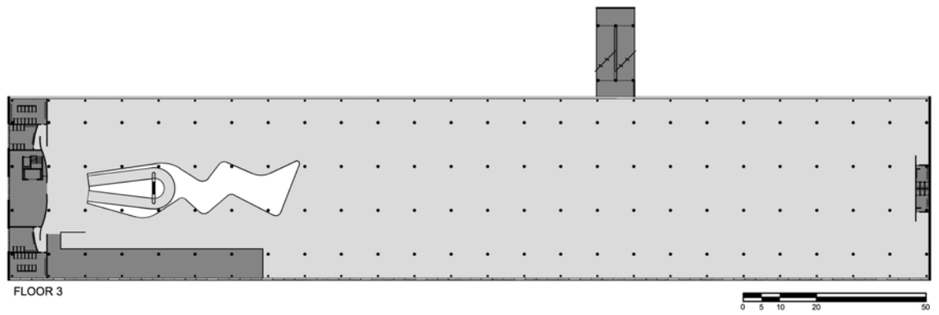


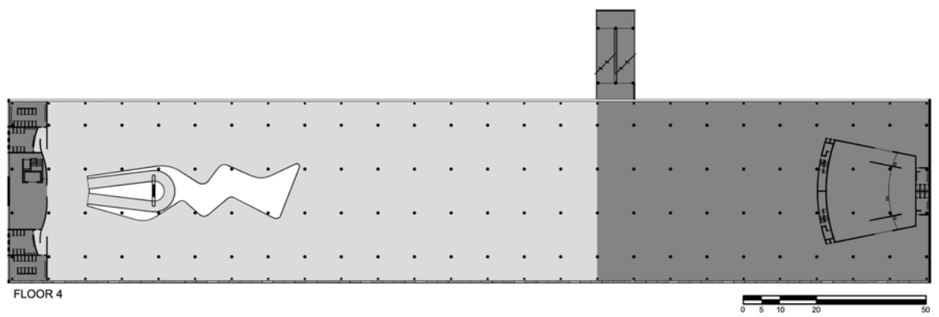
Artwork Exhibition layout

Pavilhão Bienal | 1967



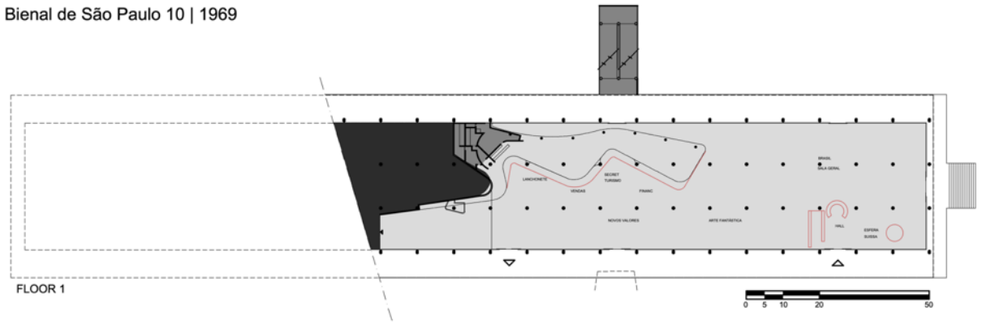


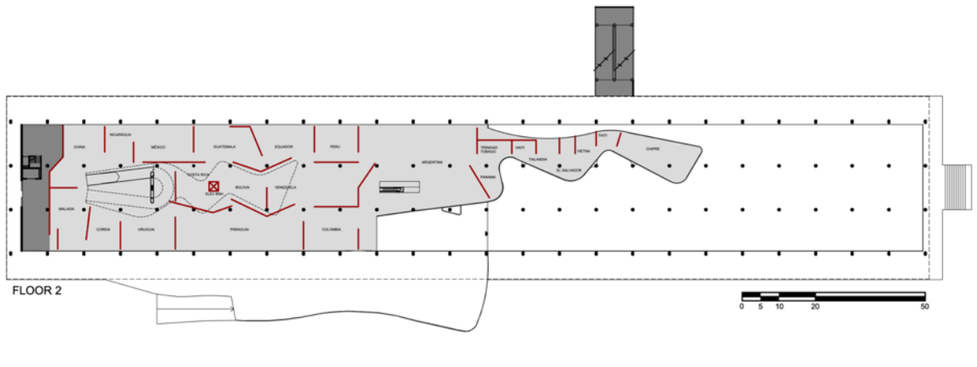


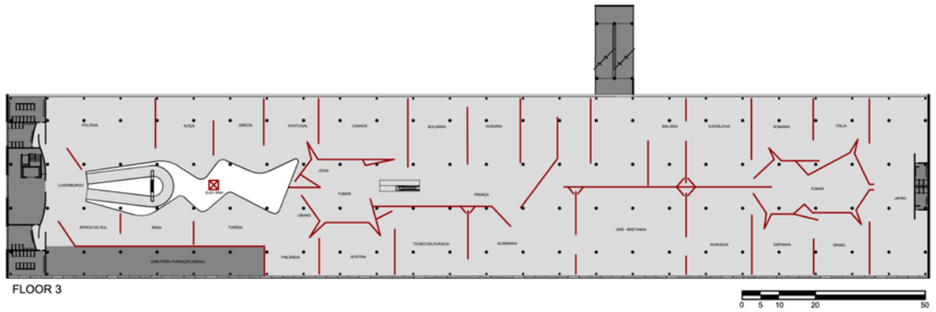


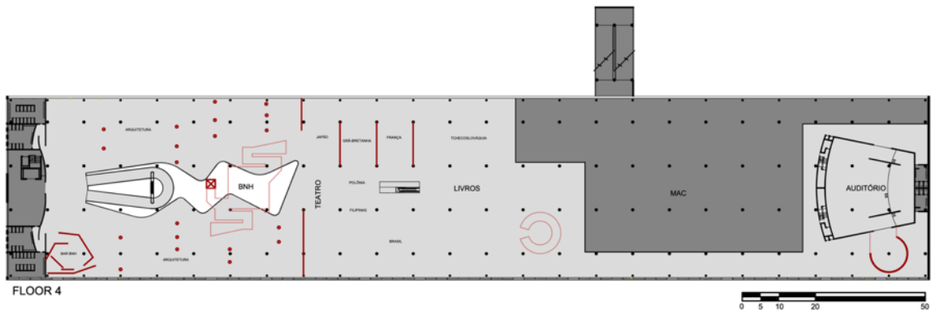
Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 10 | 1969



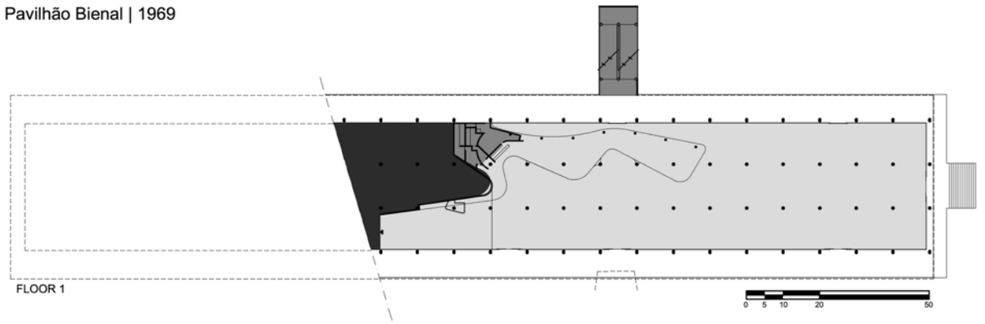


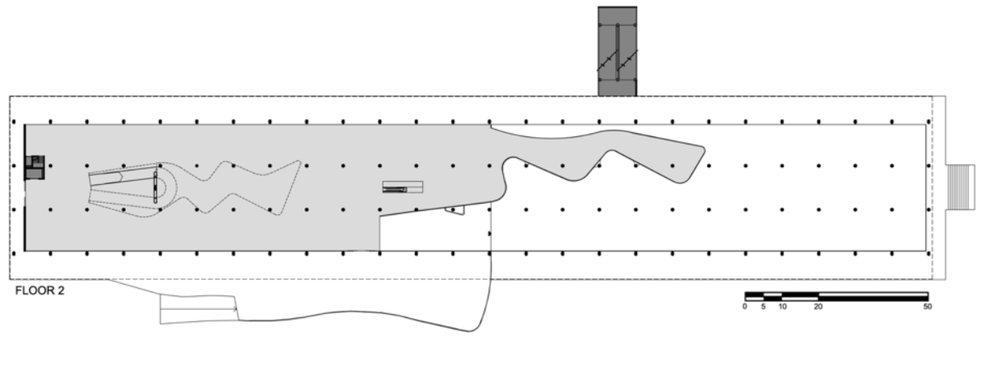


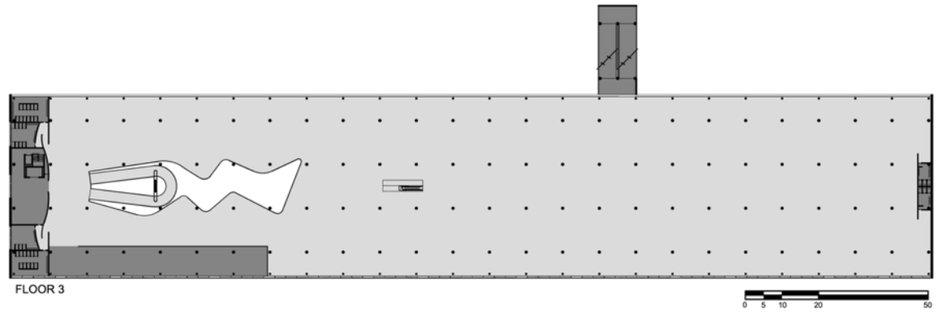


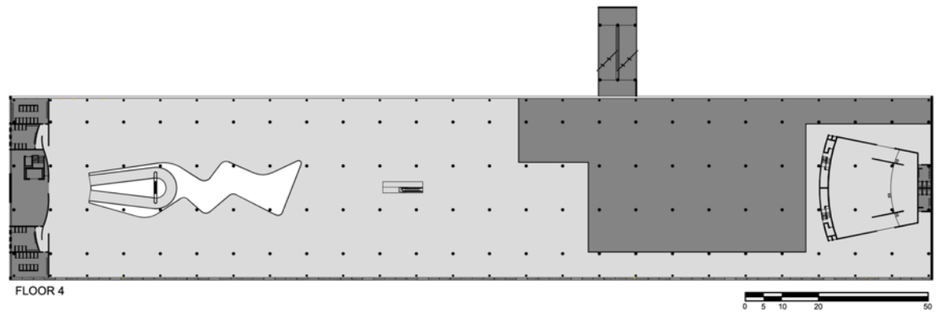
Artwork Exhibition layout

Pavilhão Bienal | 1969



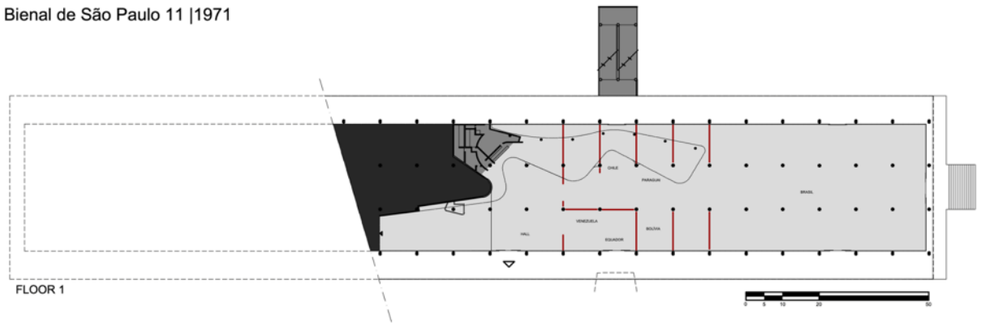


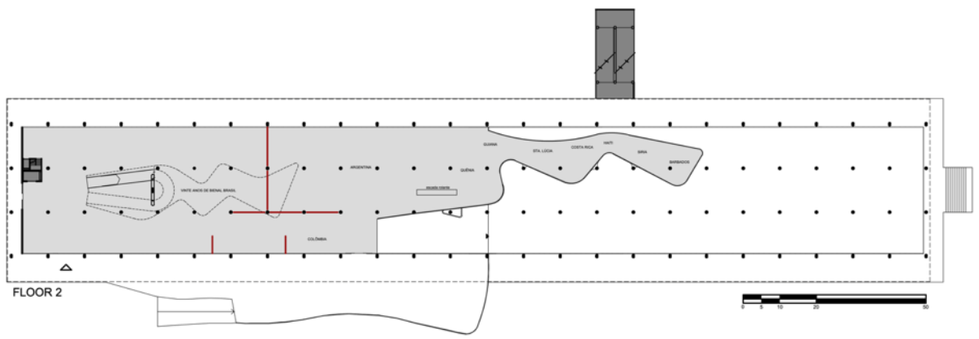


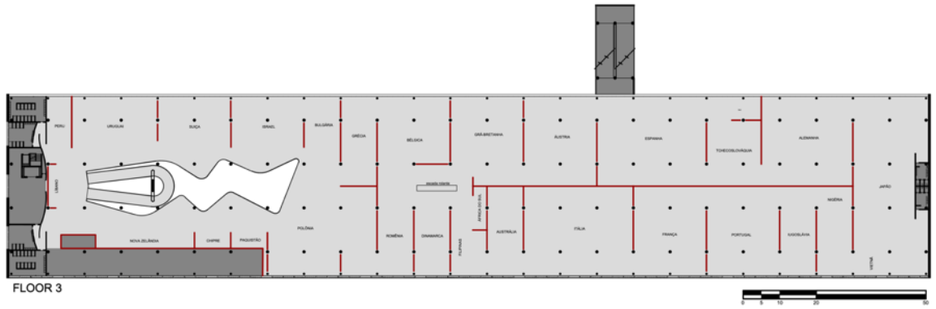


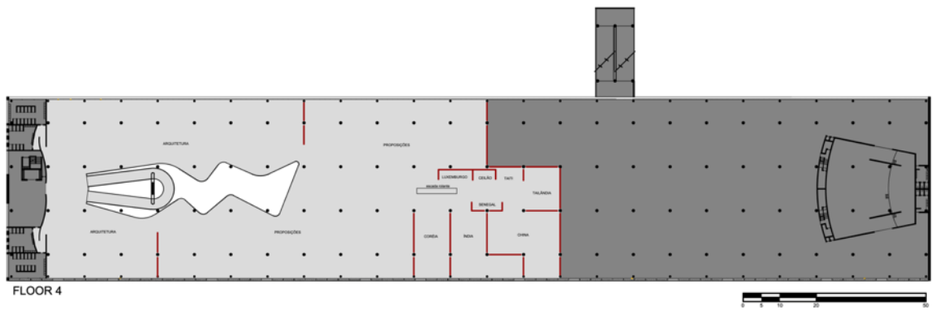
Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 11 |1971

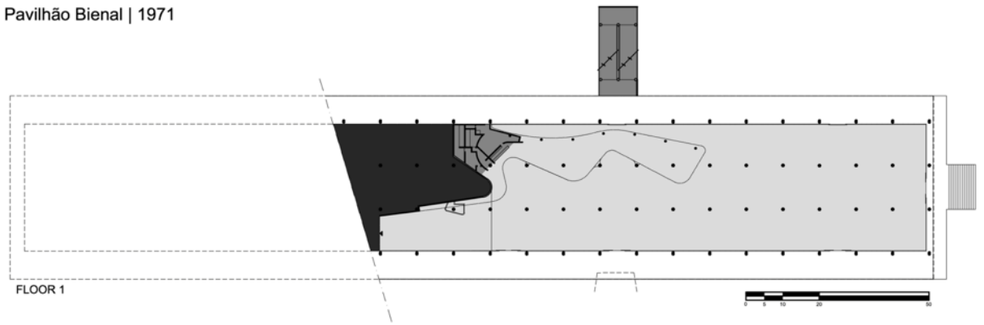


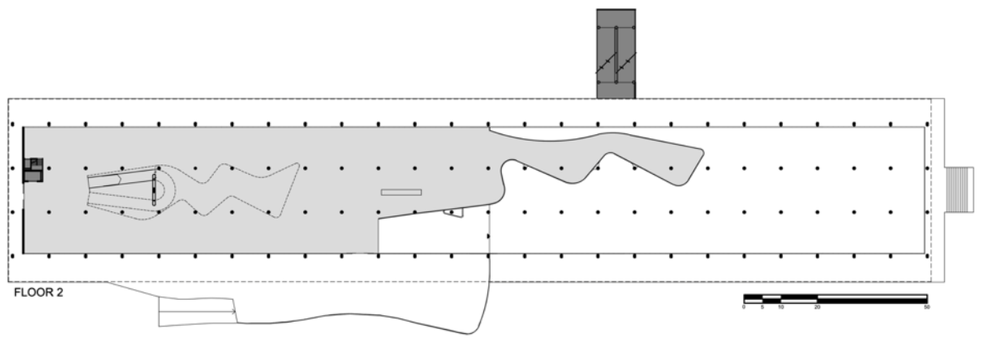


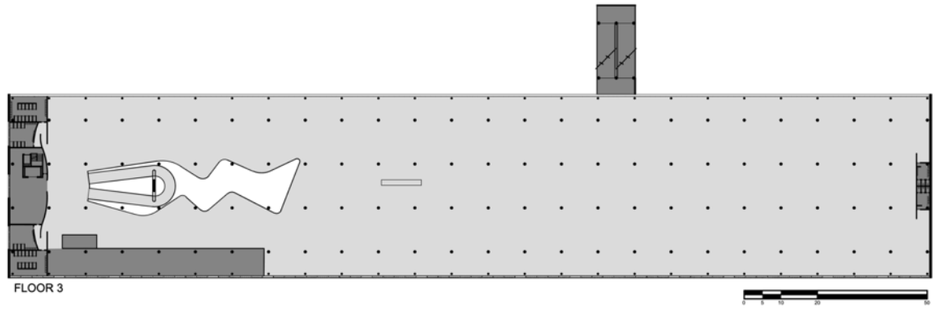


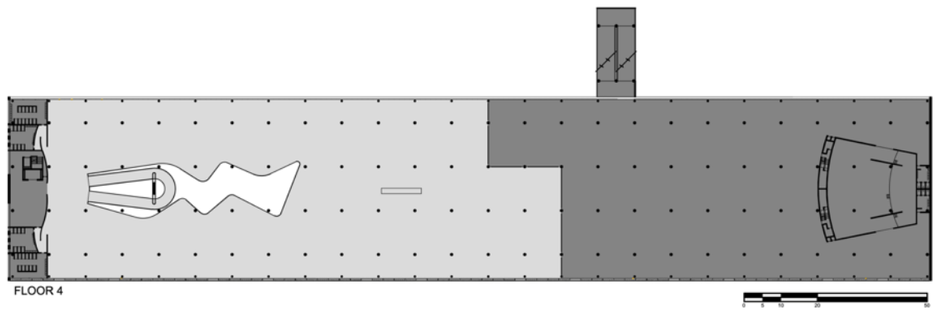


Pavilhão Bienal | 1971





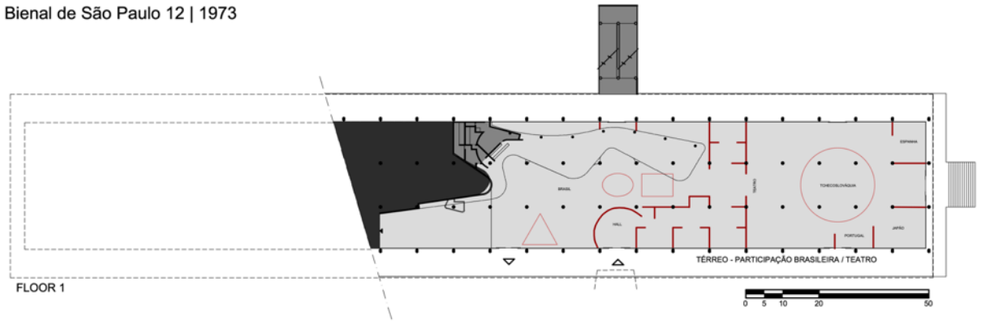


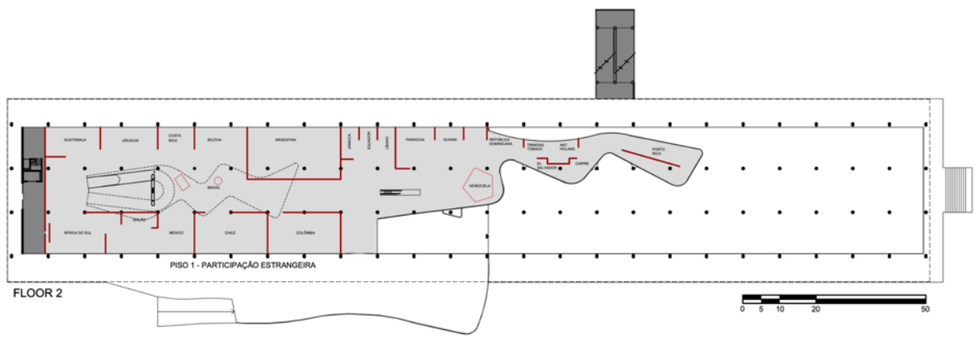


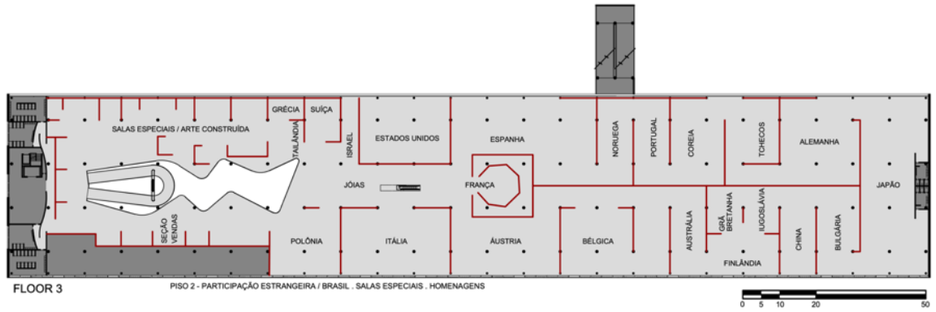
Exhibition layout

Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 12 | 1973



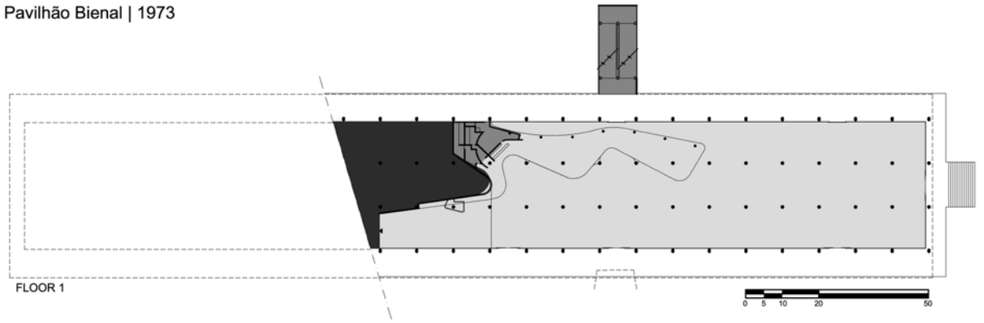


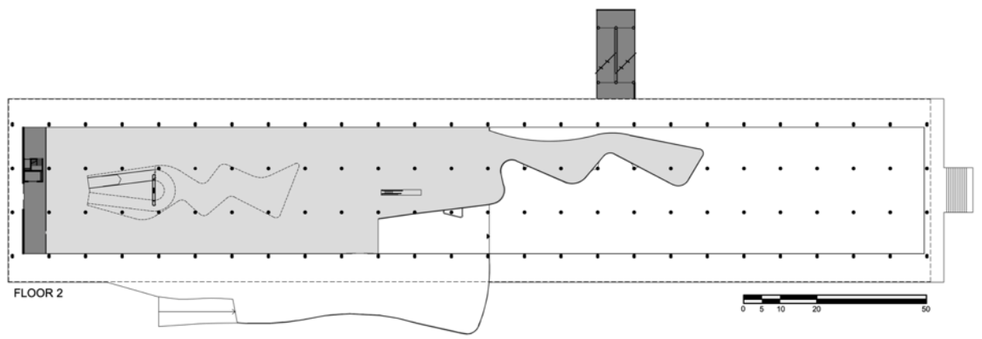


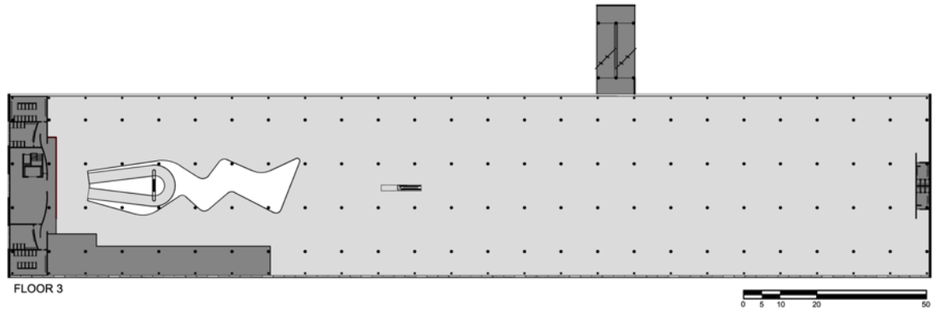


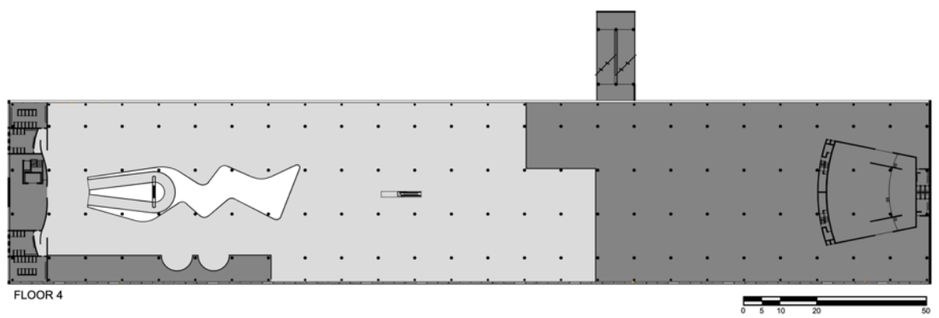
Artwork Exhibition layout

Pavilhão Bienal | 1973



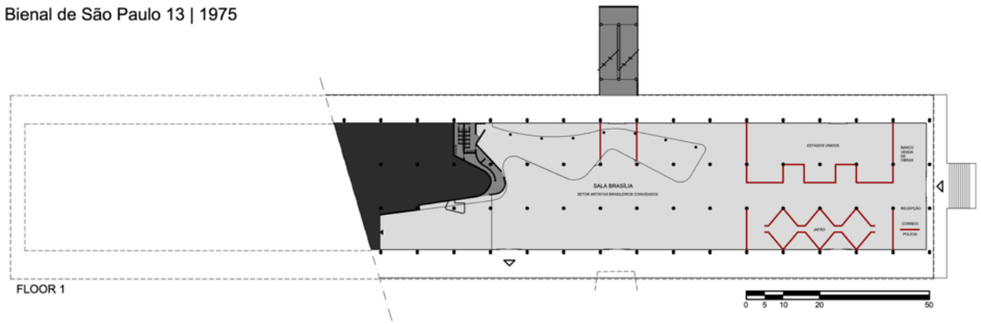




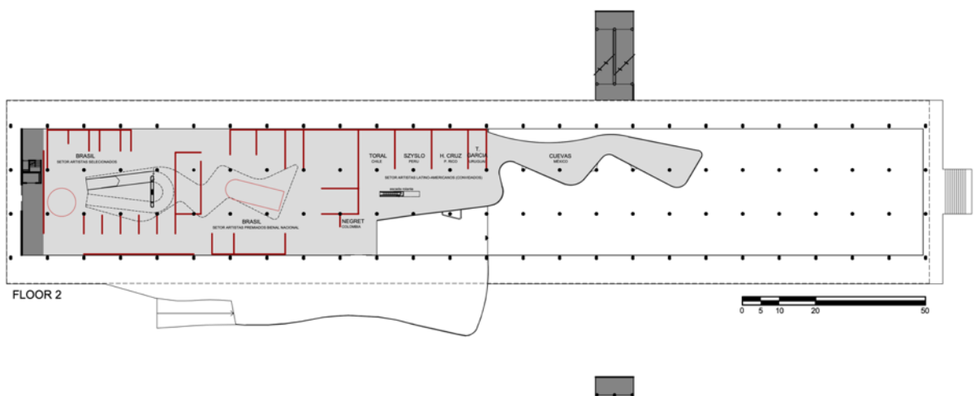


Terrain Non-exhibition area Exhibition area

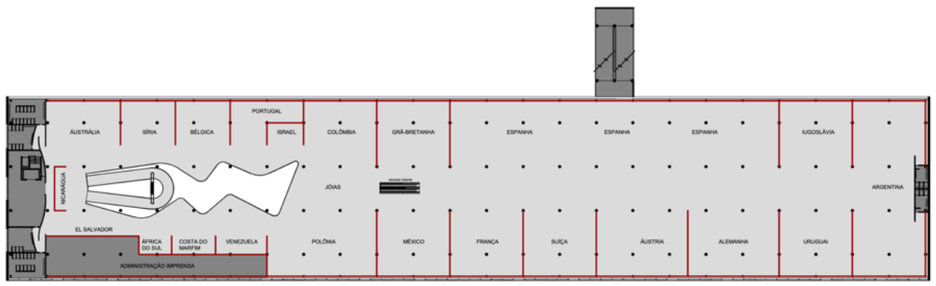
Bienal de São Paulo 13 | 1975



FLOOR 1



FLOOR 2

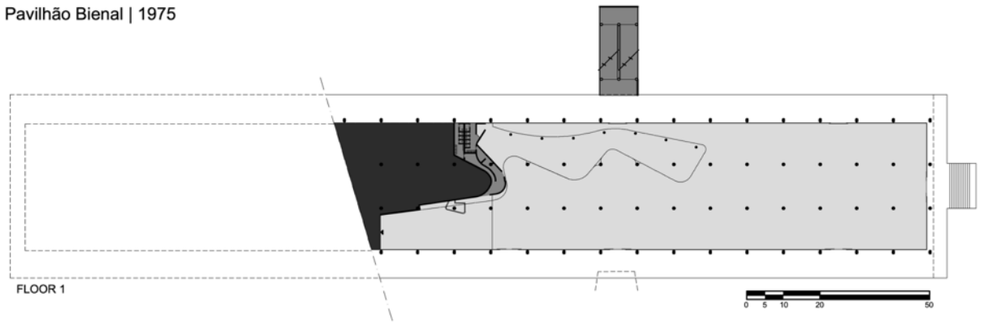


FLOOR 3

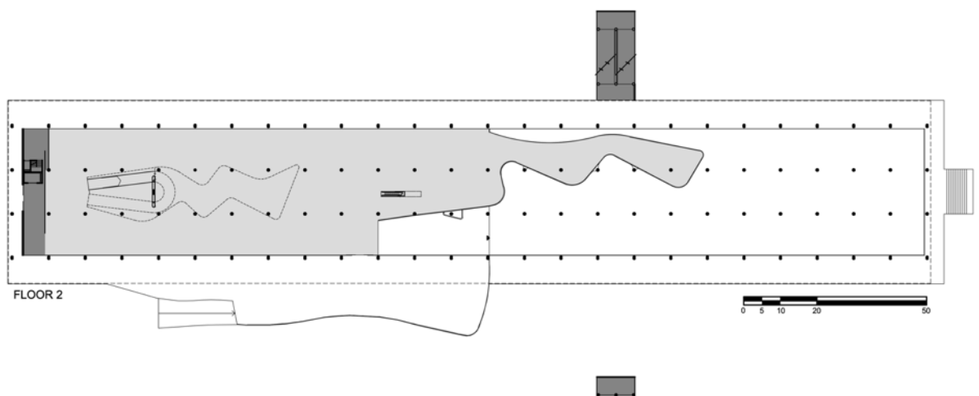


FLOOR 4

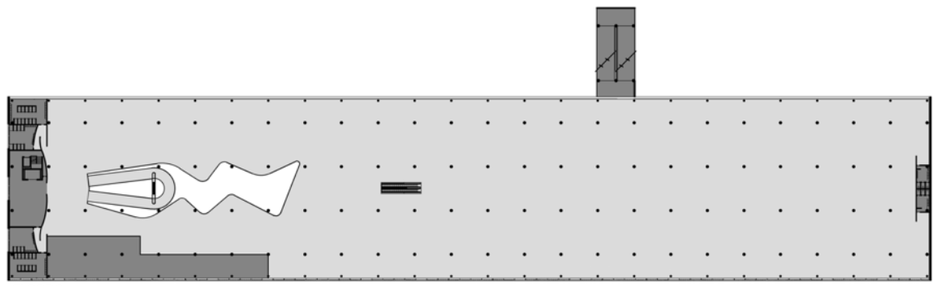
Artwork Exhibition layout



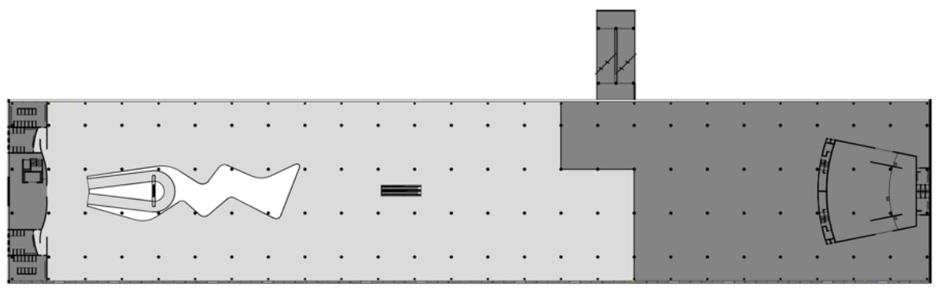
FLOOR 1



FLOOR 2



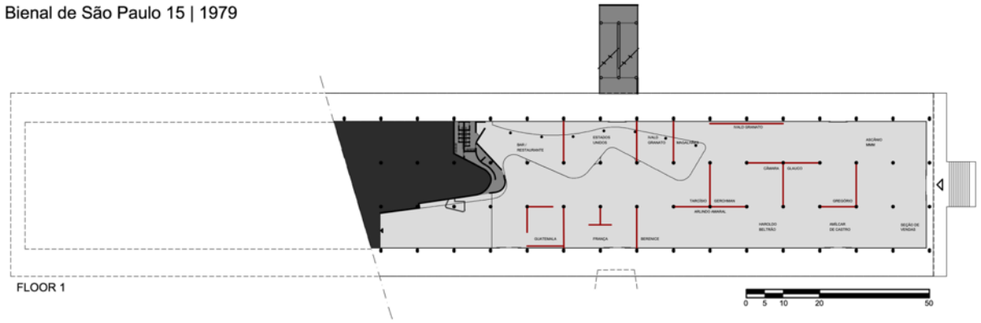
FLOOR 3

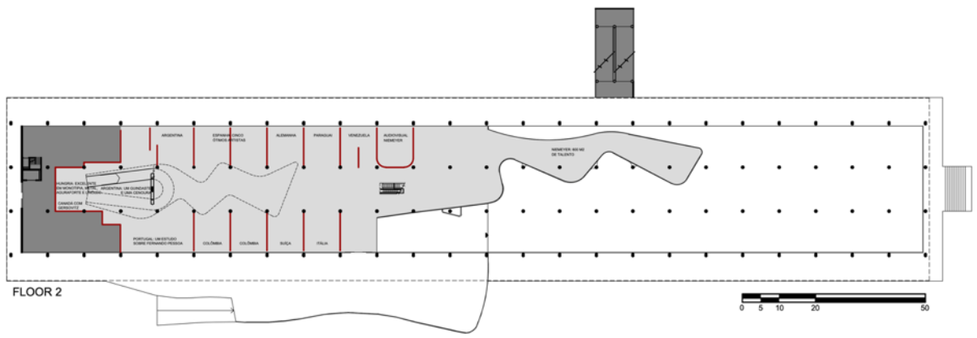


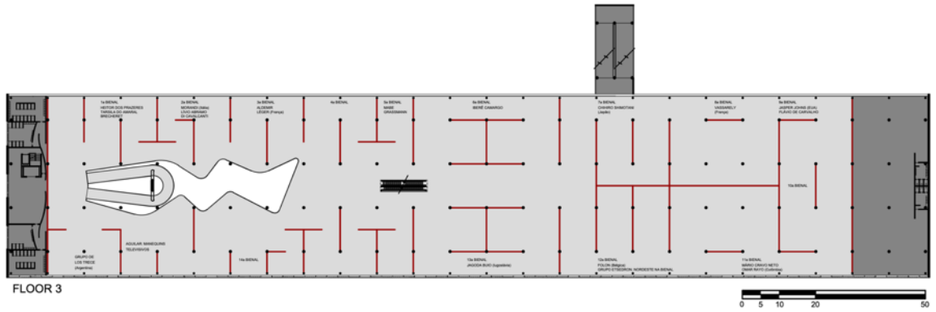
FLOOR 4

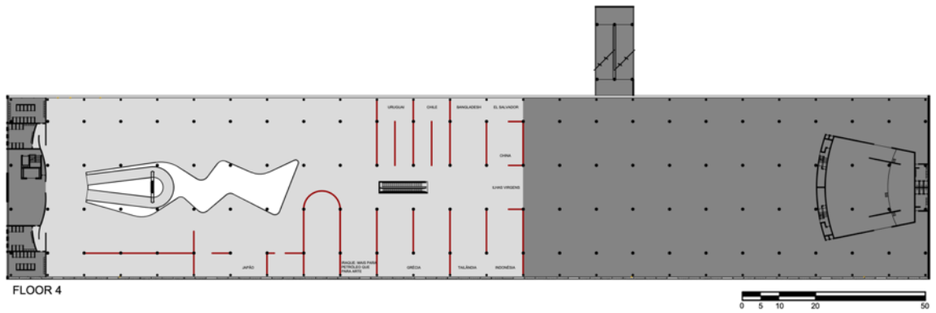
Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 15 | 1979

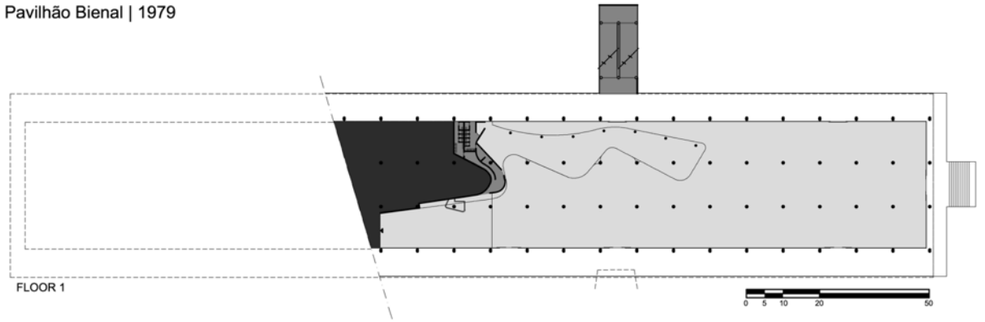


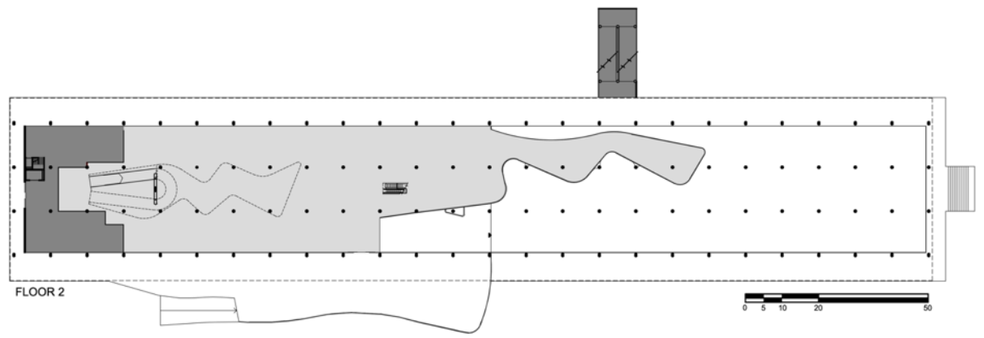


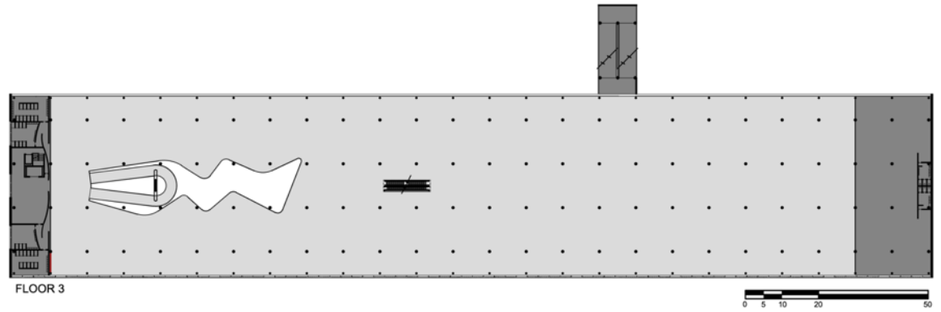


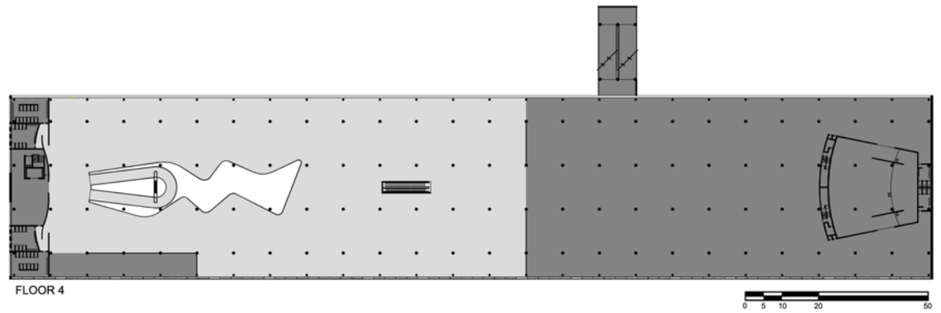


Pavilhão Bienal | 1979

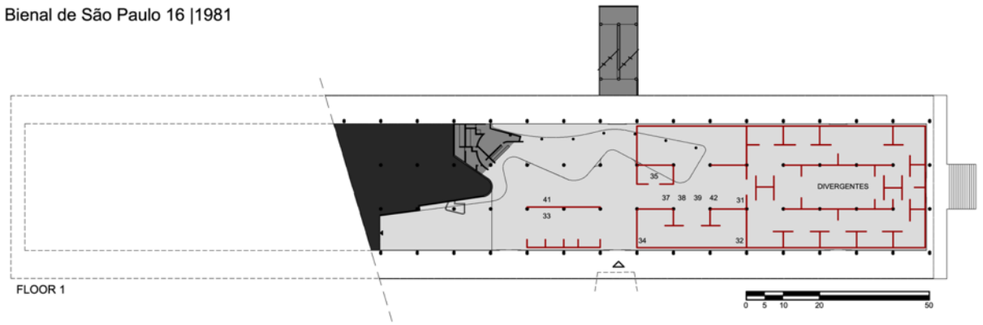


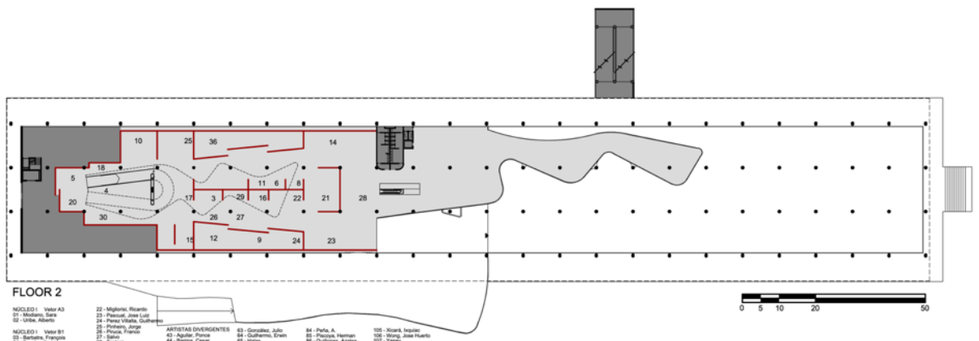


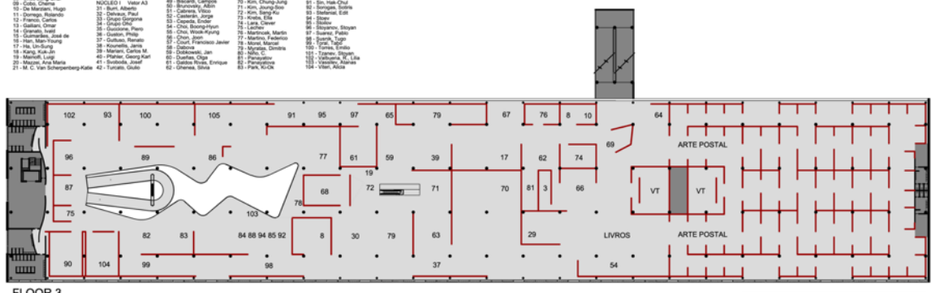


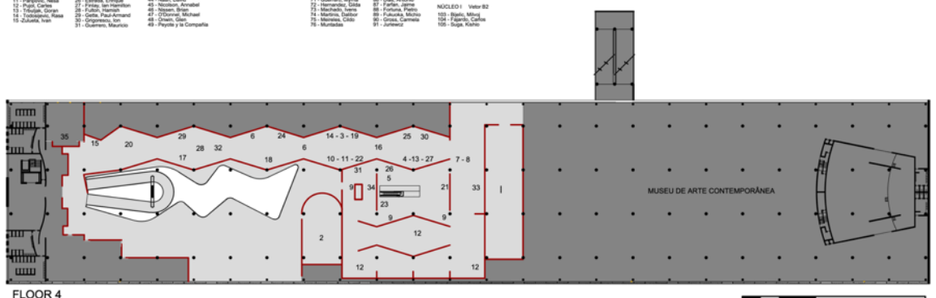


Bienal de São Paulo 16 |1981



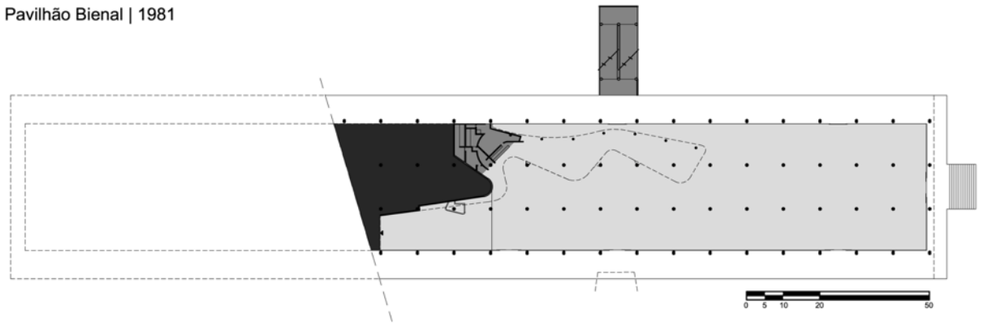


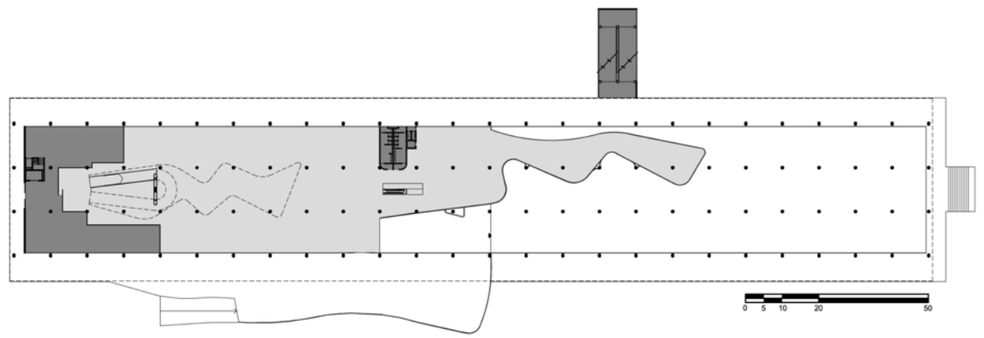


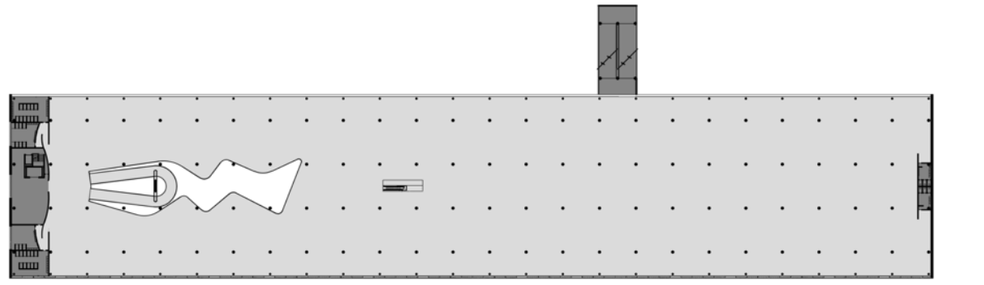


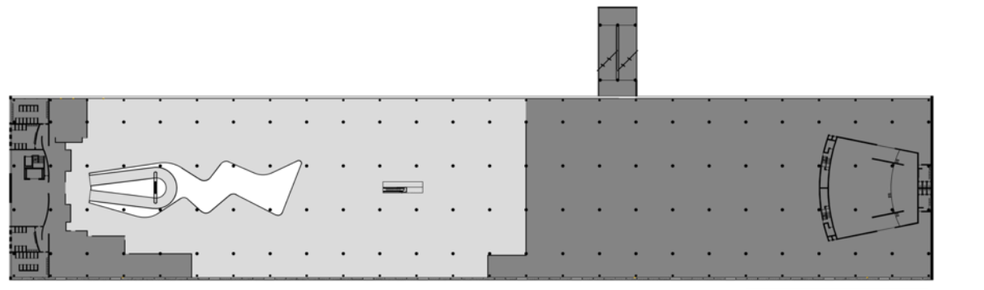
Exhibition layout

Pavilhão Bienal | 1981



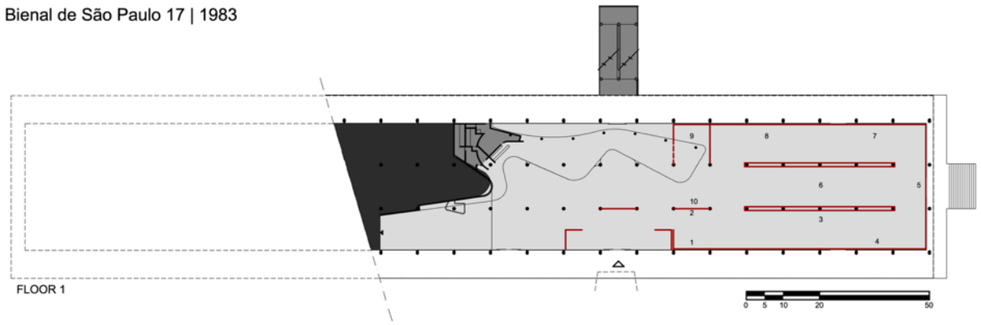


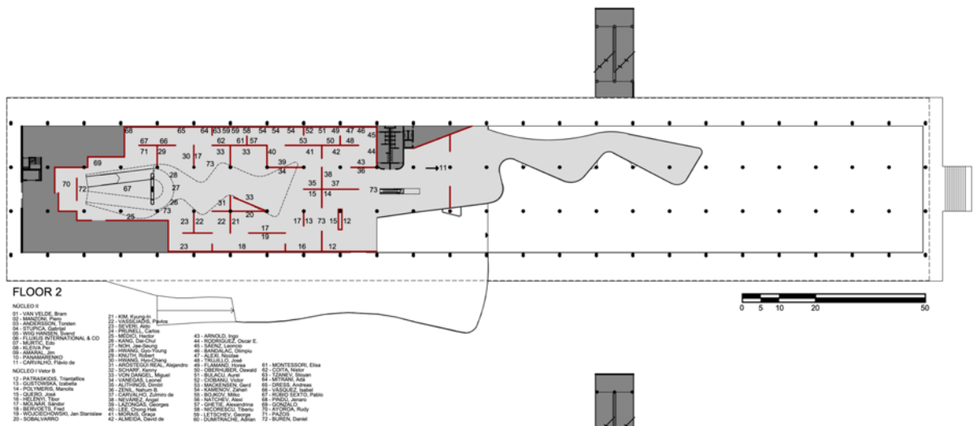


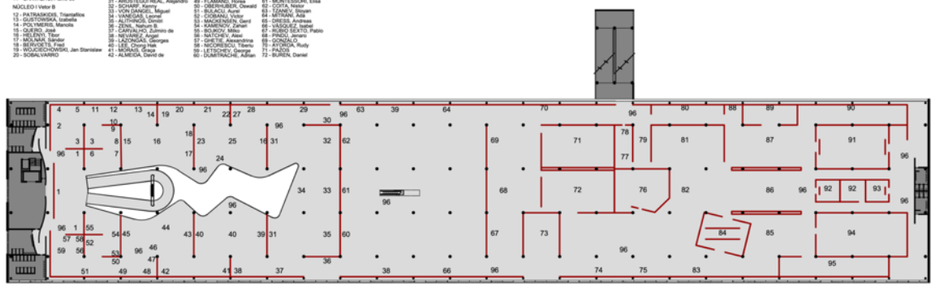


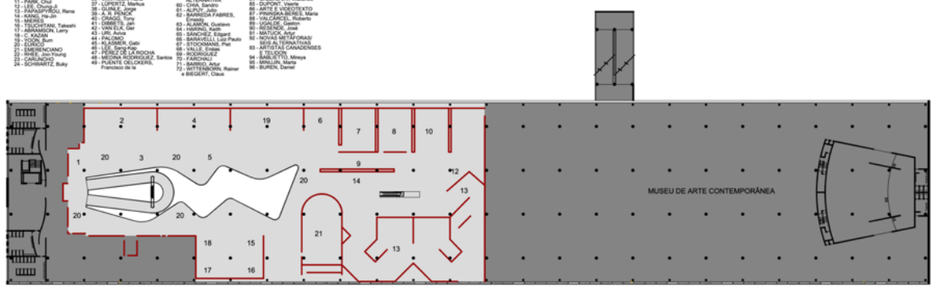
Terrain
Non-exhibition area
Exhibition area

Bienal de São Paulo 17 | 1983

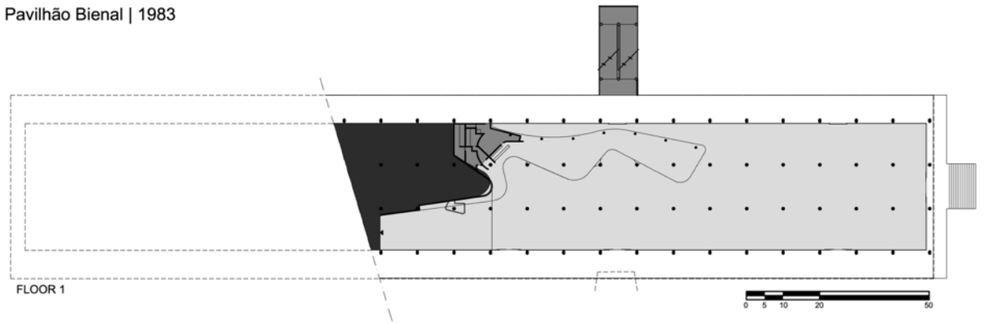


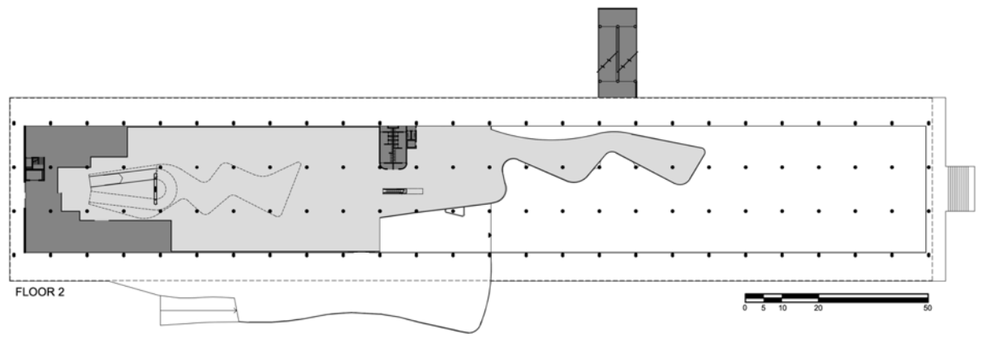


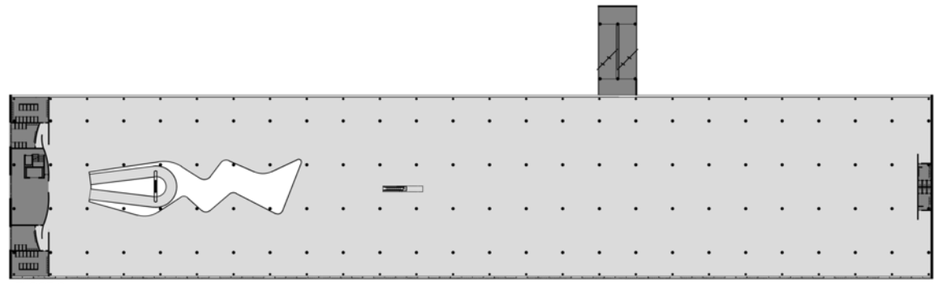


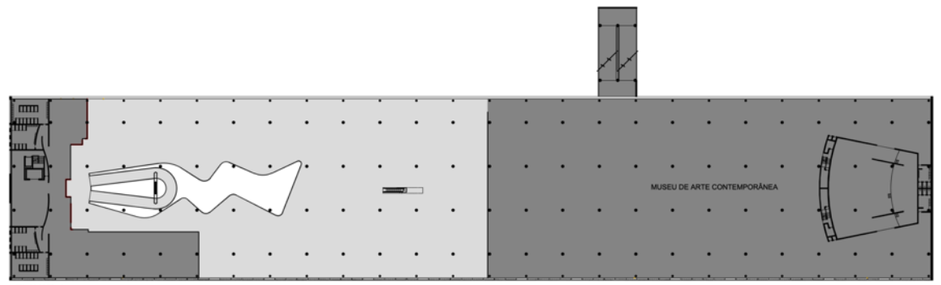


Pavilhão Bienal | 1983





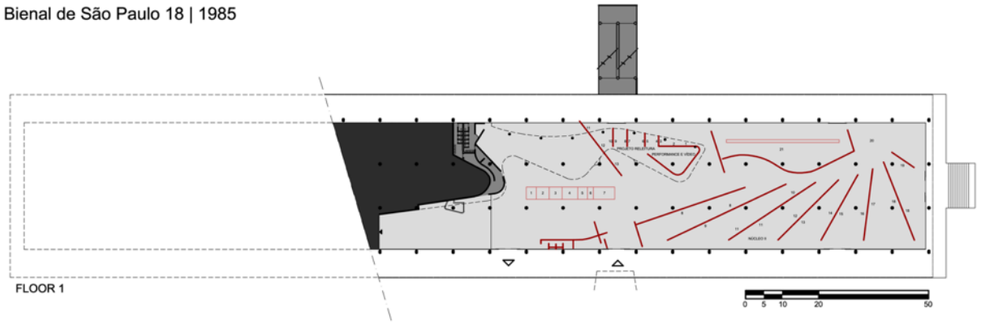


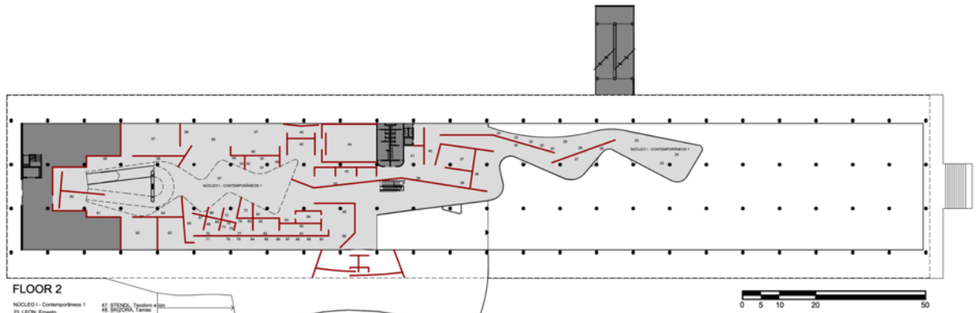


Artwork
Exhibition layout

Terrain
Non-exhibition area
Exhibition area

Bienal de São Paulo 18 | 1985



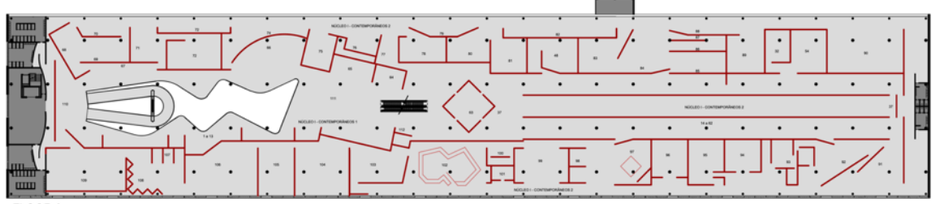


NÚCLEO I - Contemporâneos 1
23. LEON, Ernesto
24. VITAL, Mariza
25. EGERUD, Anna
26. ROSA, Ana Mercedes
27. RIVAS, Juan
28. KOKKINOU, Maria
29. ABDESSEMED, Fahah El
30. NUÑEZ, Elvis
31. TOSAIR, Rose
32. ABDESSEMED, Adel El
33. RIAD, Mohamed
34. PERA, Maria Annenade de Vargas
35. TORRES, Orlando
36. COBA, Silvano
37. CRUZ, Hernandez
38. ALVAREZ, Manuel
39. AGUIRRE, Carlos
40. RUEDA, Francisco
41. MORSELLI, Alejandra
42. OSBORNE, Alejandro
43. CUENCA, Rosa
44. DICANCRO, Agustin
45. STASSINOPOULOS, Aspa
46. RAMOS, Nelson
47. STENDL, Tjeodors e Ivan
48. SKIZORA, Tamas
49. SKIZORA
50. PARK, Rkeinp-Jeon
51. CHON, Jae
52. CHUNG, Seung Jin
53. LEE, Tae-Hyun
54. LEE, Jeong-Soo
55. SEGUEIRA, Rachela
56. SEGUEIRA, Rick Tamas
57. SILVEIRA E ABBONDANZA
58. MARTINS, Jorge
59. ESPINOZA, Eugenio
60. MARTINEZ, Jean Jacques
61. SANCHEZ, Thomas
62. MADLENER, Jörg
63. MARTIN, Jorge
64. DIMITRIEB, Evangelos
65. GRILO, Rubem
66. GRILO, Antonio
67. OLIVEIRO, Nuria
68. YORDANOV, Lubomir
69. HAMPEL, Andreas
70. HAMPEL, Andreas
71. ALCANTARA, Pedro
72. HEYN, Miguel
73. STOEV, Borislav
74. TZANEV, Stoyan
75. REETHERO, Jaime R M
76. BRAYLOVA, Ivanka
77. BRAYLOV, Manuel
78. BICARD, Lucy
79. NEGRA ALVAREZ
80. STERLING, Amadeo
81. DE LA FUENTE
82. DE LA FUENTE, Manuel
83. GONDORA, Leonel
84. MARTINS, Carlos Nabil
85. ARARIO, Fatima
86. KAHN, M. S.
87. ALMEIDA, Adonai Rivera
88. BLANCO, D.
89. MONTENEGRO, Carlos
90. ROBERTS, Victor
91. ROBERTS, Leonora
92. LOOCHKARTT, Angel
93. PANG, Tan De
94. MARTINS, Carlos
95. VALDEZ, Wilfredo Diaz
96. MANTES, Gugo
97. Praga

Projeto Reletura
1. BRECHET, Victor / VALLE, Marco do
2. CLARK, Lygia / PORTELLA FILHO, Paulo
3. PORTINARI, Cândido / EUDOXO, Tomoshige
4. SANTOS, Hermilo Borba Filho
5. CINTADE, Tomie / SALVADOR, Gilberto
6. ALMEIDA JUNIOR, José Ferraz de / FERRARI, Léon
7. ALMEIDA JUNIOR, José Ferraz de
8. KRAVCHENKOFF, Bernardo / HILDEBRUSSON JUNIOR
9. LIMA, Maurício Nogueira / TOZZI, Cláudio
10. RAMOS, Graciliano / BARRETO, Hermilo
11. FIGUEIREDO, Antonio / DEUS, Waldemar de
12. CARNEIRO, Antonio Teixeira / MORAES, Stevon Pinto de
13. ALMEIDA JUNIOR, José Ferraz de / TRAPPELLI, Percival

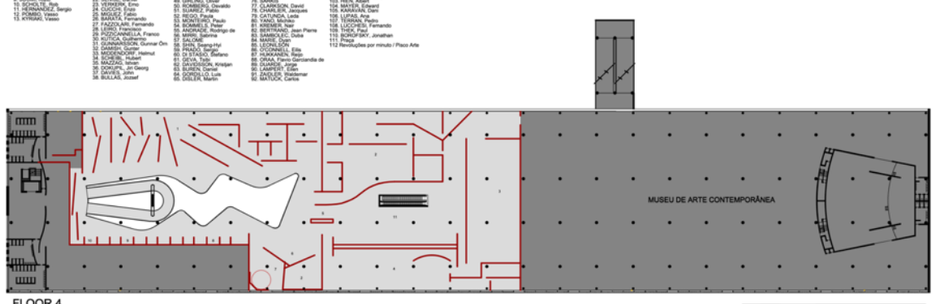
Serviços
1. Monitoria
2. Secretaria Municipal da Cultura
3. Ministério da Cultura / Funarte
4. Cafeteria
5. Informações
6. BOVESPA / Gradiente - Eventos Musicais
7. Comind / Vendas de Obras

Núcleo II
8. LIMA, Wilfredo
9. MARTINS, Fernando
10. DACOSTA, Antonio
11. DE LA VEGA, Jorge
12. DE LA VEGA, Jorge
13. MACIOCI, Romulo
14. DEIRA, Ernesto
15. DEIRA, Ernesto
16. CUSCHIERI, Peter
17. GALANTE, Jo
18. BRAVO, Manuel
19. BRAVO, Manuel Alvarez
20. SAITO, Yoshishige
21. Movimento Cobra
22. Secretaria de Estado da Cultura



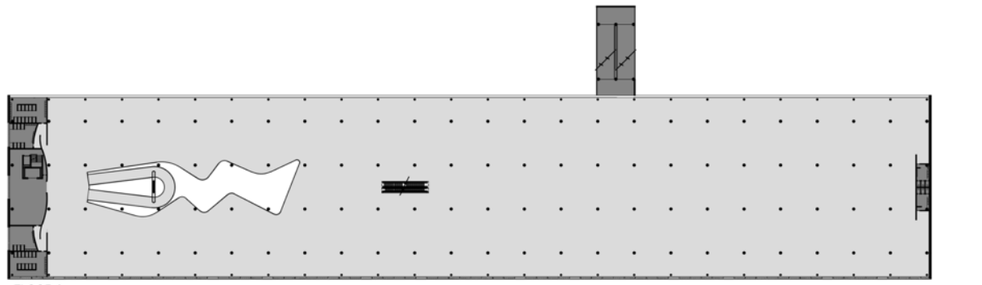
NÚCLEO I - Contemporâneos 1
1. GIRONELLA, Alberto
2. ARANGO, Alejandro
3. BLOM, Ansuya
4. EGAN, Charlie
5. EGAN, Fabre
6. POMAR, Julio
7. MARTINEZ, Mary
8. ROCHA, Ricardo
9. GUIOMI, Ryoji
10. HERNANDEZ, Rubi
11. HERNANDEZ, Sergio
12. POMBO, Vasco
13. KITSIKIS, Vasso

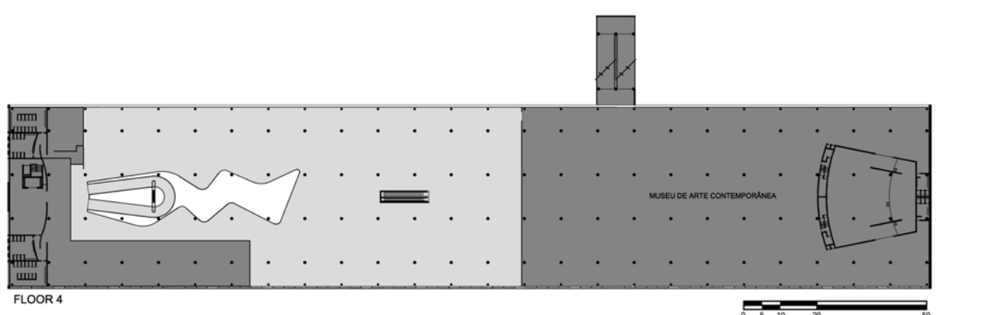
NÚCLEO I - Contemporâneos 2
14. ZOLTAN, Adam
15. RIBON, Alfredo
16. ECKELL, Ana
17. MARTIN, Anna
18. MUNTE, Armando
19. KOBERLING, Bernd
20. MARTINEZ, Carlito
21. FONSECA, Claudio
22. SENISE, Daniel
23. CUOCO, Erica
24. CUOCO, Erica
25. MIGUEZ, Fabio
26. BARATA, Fernando
27. FAZOLARI, Fernando
28. PIZZANELLI, Franco
29. PIZZICANNELLA, Franco
30. KUTICA, Guilherme
31. GAMRATH, Gunnar Orn
32. GAMRATH, Gunter
33. MODENDORF, Helmut
34. MAZZALI, Ivan
35. MAZZALI, Ivan
36. DOKUPIL, Jiri Georg
37. DOKUPIL, Jiri
38. BULLAS, Josef
39. CAMBRE, Juan José
40. SALDARRIEG, Juan Navarro
41. VELEZ, Juan Pablo
42. VELEZ, Juan
43. ILARTJANSSON, Magnus
44. LAMAS, Manoel
45. LAMAS, Manoel
46. YOSHIZAWA, Mika
47. INAGOS, Nuno
48. SPOLIDORO, Ole
49. SPOLIDORO, Ole
50. ROMBERG, Osvaldo
51. SUAREZ, Pablo
52. SUAREZ, Pablo
53. MONTEIRO, Paulo
54. BOMMELS, Peter
55. MARTINS, Rodrigo de
56. MIRRI, Sabrina
57. SALOME
58. Seung-Hyul Hyung-Hyl
59. PAUSO, Sergio
60. DI STASIO, Stefano
61. DI STASIO
62. GEVERSON, Kristjan
63. BUREN, Daniel
64. DORTA O, Luis
65. DISLER, Martin
66. PIZZANI, Jorge
67. SANTAROSSA, Hatia
68. VELEZ, Juan
69. VERMEIREN, Dieter
70. ALEXANDER, Shelagh
71. FRANKEL, Susan
72. FRANKEL, Susan
73. GORLTZ, Will
74. KALKSEIN, Gea
75. LAVOS, S.
76. LAVOS, S.
77. CLARKSON, David
78. CHARLES, Jacques
79. CHARLES
80. YANO, Michiko
81. KREMER, Noel
82. LAMOUREUX, Jean Pierre
83. SAMSOLEC, Dulce
84. MARIE, Sven
85. MARIE, Sven
86. UCCHINELLI, Elis
87. HUKKANEN, Reijo
88. OLIVEIRA, Waldecanda de
89. OLIVEIRA, Jorge
90. LAMPERT, Edeh
91. ZADLER, Waldemar
92. BATUCK, Carlos
93. VALLAURI, Alex
94. LACAZ, Guto
95. BOISANTE, Christian
96. BORGES, José Eduardo Garcia de
97. GARCEZ, Paulo
98. ABRAMATO, Sergio
99. ABRAMATO, e ULAY
100. BRISLEY, Stuart
101. ALLEN, Terry
102. RUBIN, D. Per Inge
103. BUEN, Ivan
104. MAYER, Edgard
105. KARAVAN, Dani
106. KARAVAN
107. TERRAN, Pedro
108. LUCCHESI, Fernando
109. ZAJAC
110. BOROFSKY, Jonathan
111. Praga
112 Revólveres por minuto / Placo Arte



Exposições Especiais e Grupos
1. Expressionismo no Brasil: Heranças e Afinidades
2. Entre a Ciência e a Ficção
3. O Tumulo Aprendiz / Máscaras da Bolívia
4. Vídeo Arte na Alemanha Federal
5. Vídeo Arte na República Federal da Alemanha
6. Vídeo Arte: Uma Comunicação Criativa
7. Waka Tipiso
8. Gravuras do Calcichuí
9. Xilogravuras Contemporâneas na Literatura de Cordel
10. Fotografias do Atelié Viennese
11. Shopping
12. Auditório

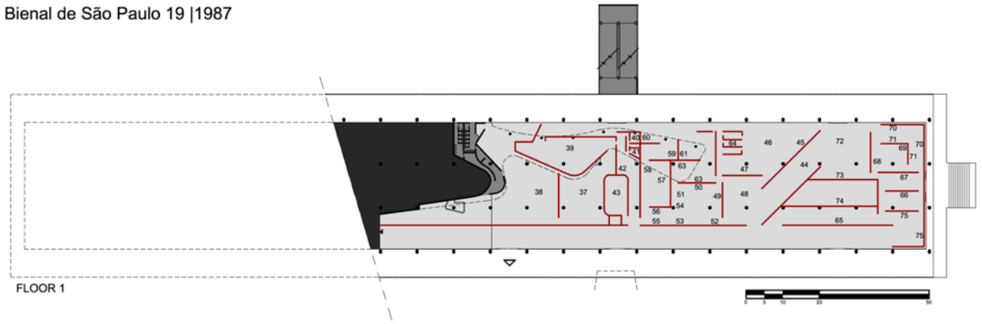
Artwork — Exhibition layout

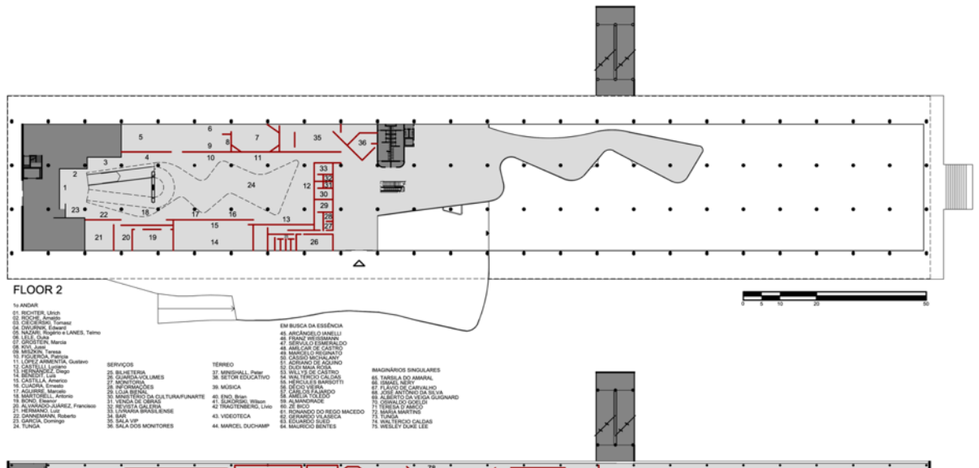


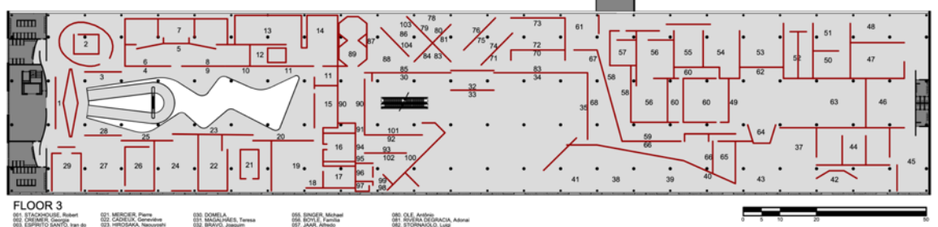


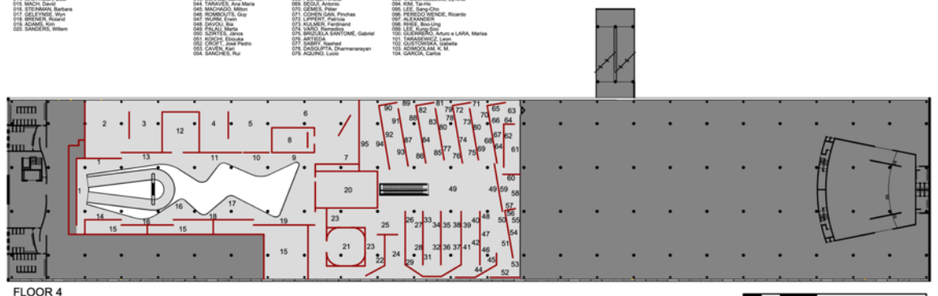
Terrain — Non-exhibition area — Exhibition area

Bienal de São Paulo 19 |1987

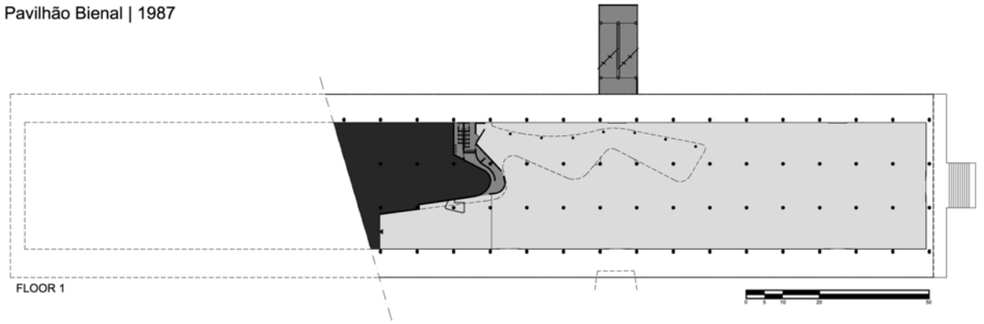


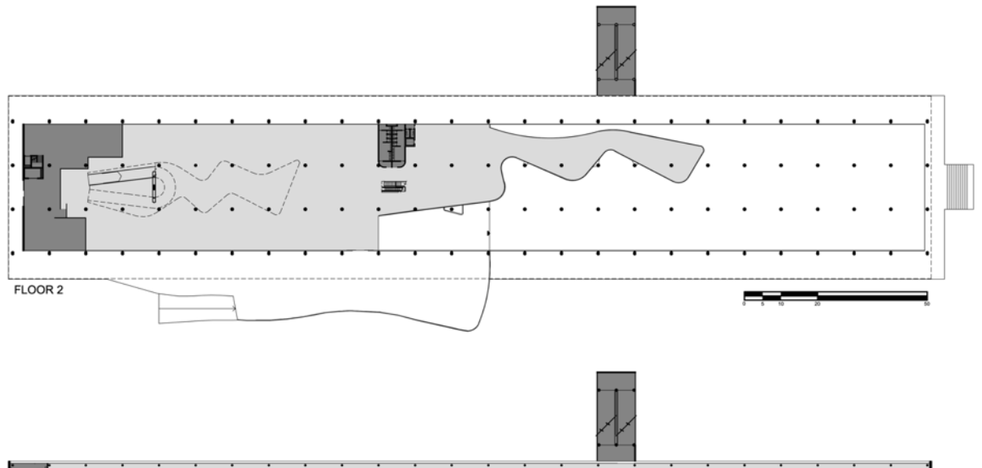


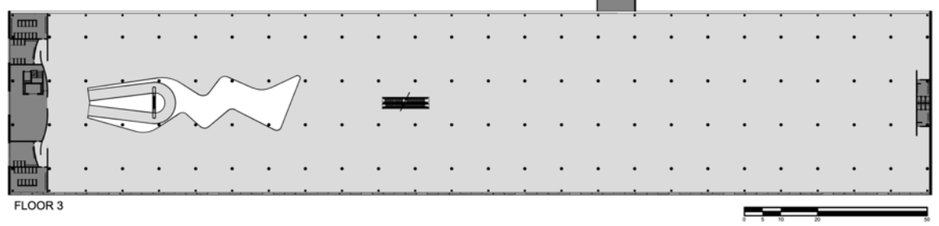


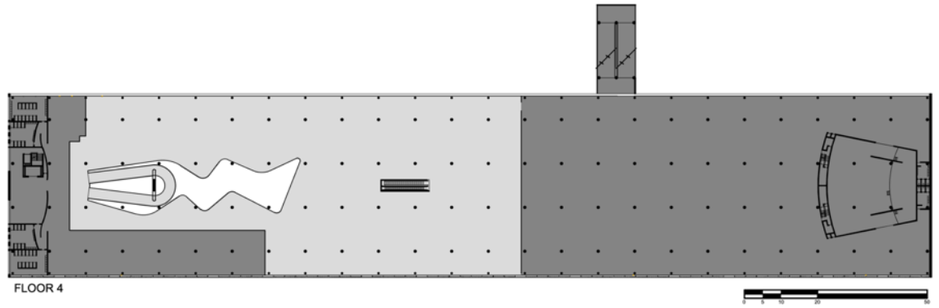


Pavilhão Bienal | 1987





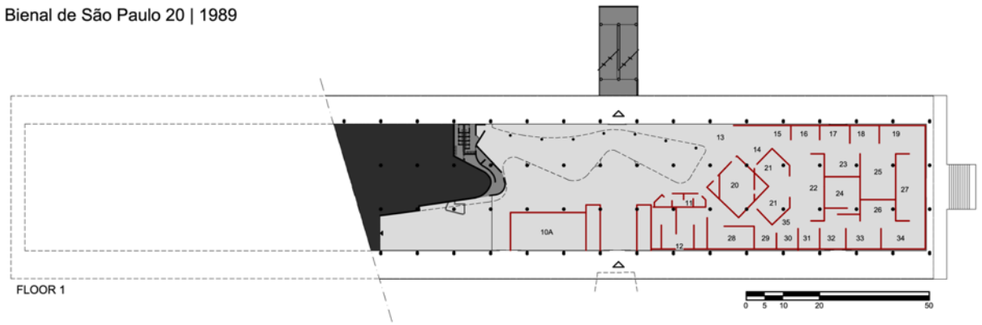


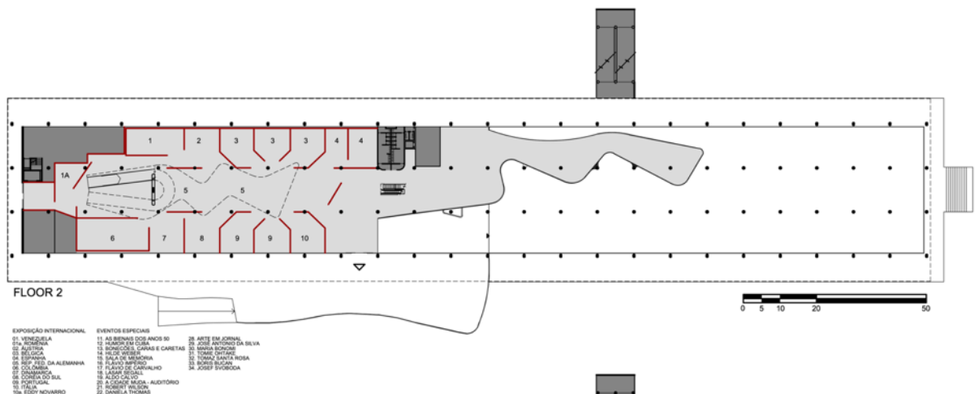


Exhibition layout

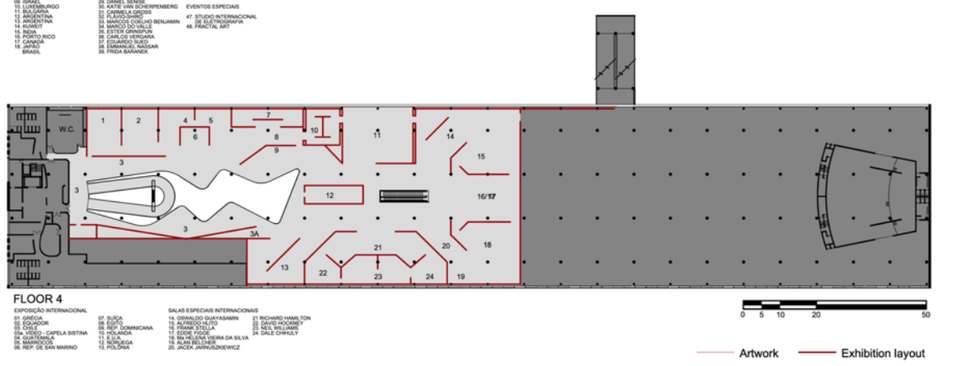
Terrain
Non-exhibition area
Exhibition area

Bienal de São Paulo 20 | 1989









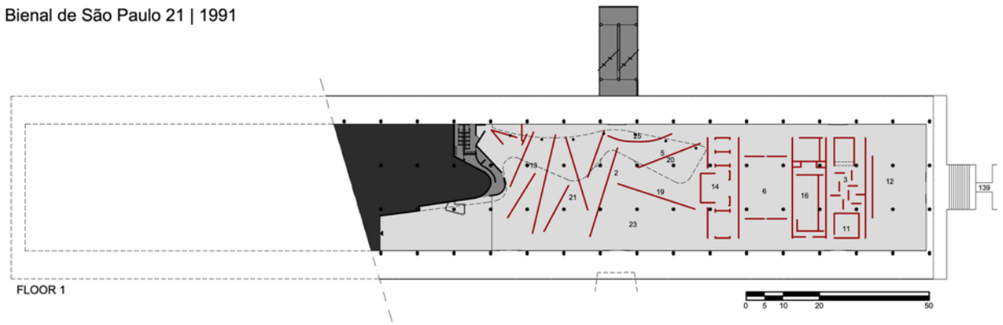
EXPOSIÇÃO INTERNACIONAL
01. URUGUAI
02. REP. DEMOCRÁTICA ALEMÃ
03. CUBA
04. CHILE
05. FINLÂNDIA
06. FRANÇA
07. GRÃ-BRETANHA - SALA ESPECIAL INTERNACIONAL
07. GRÃ-BRETANHA
08. MÉXICO
09. ISRAEL
10. LUXEMBURGO
11. BULGÁRIA
12. ARGENTINA
13. HOLANDA
14. KUWEIT
15. ÍNDIA
16. PORTO RICO
17. CANADÁ
18. JAPÃO
BRASIL
19. NUNO RAMOS
20. ANNA BELLA GEIGER
21. FABIO MIGUEZ
22. ANTONI MUNTADAS
23. HELTON BERREDO
24. CILDO MEIRELES
25. ANTONIO DIAS
26. AMILCAR DE CASTRO
27. SERGIO DE CAMARGO
28. LYGIA CLARK
29. DANIEL SENISE
30. KATIE VAN SCHERPENBERG
31. CARMELA GROSS
32. FLAVIO-SHIGUEHO BENJAMIN
34. MARCO DO VALLE
35. ESTER GRINSPUN
36. ANNA MARIA MAIOLINO
37. COLABORA SUÉCIA
38. EMMANUEL NASSAR
39. FRIDA BARANEK
40. ANÉSIA PACHECO E. CHAVES
41. MÔNICA SARTORI
42. JORGE GUINLE
SALAS ESPECIAIS NACIONAIS
43. ARQUITETURA
44. ABSTRAÇÃO "EFEITO BIENAL" - 54-63
45. VICTOR BRECHERET
46. OCTAVIO PEREIRA
EVENTOS ESPECIAIS
47. STUDIO INTERNACIONAL
48. ARTE POR COMPUTAÇÃO
49. FRACTAL ART

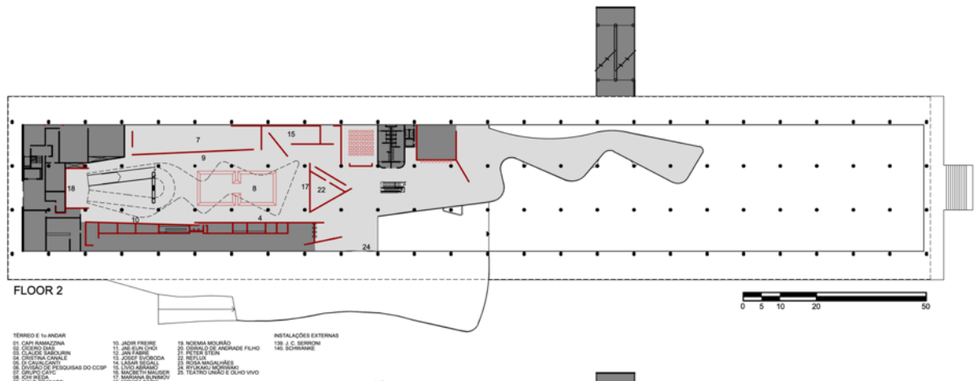
EXPOSIÇÃO INTERNACIONAL
01. EQUADOR
03. CHILE
03a. VATICANO - CAPELA SISTINA
04. VENEZUELA
05. MARROCOS
06. REP. DE SAN MARINO
07. SUÍÇA
08. EGITO
09. REP. DOMINICANA
11. HOLANDA
12. NORUEGA
13. POLÔNIA
SALAS ESPECIAIS INTERNACIONAIS
14. OSWALDO GUAYASAMIN
15. ALFREDO HLITO
16. FRANK STELLA
17. EDDIE FISCH
18. ANTONIO MANUEL DA SILVA
19. ALAN BELCHER
20. JACEK JARKUZKIEWICZ
21 RICHARD HAMILTON
22. DAVID HOCKNEY
23. NEIL WILLIAMS
24. DALE CHIHULY

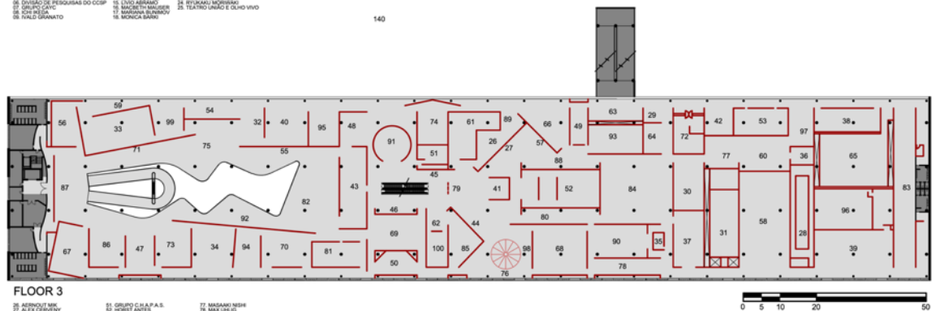
Artwork
Exhibition layout

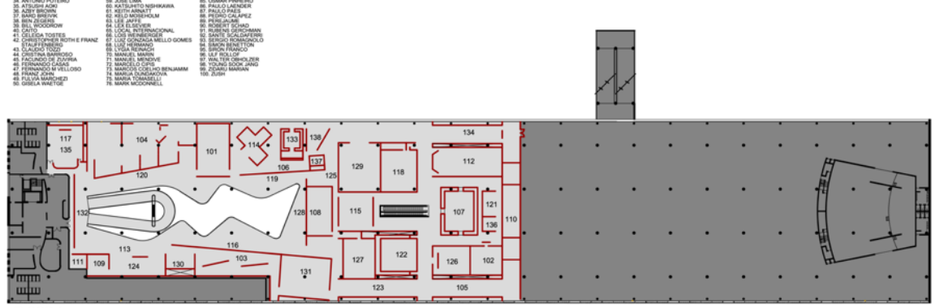
Terrain
Non-exhibition area
Exhibition area

Bienal de São Paulo 21 | 1991

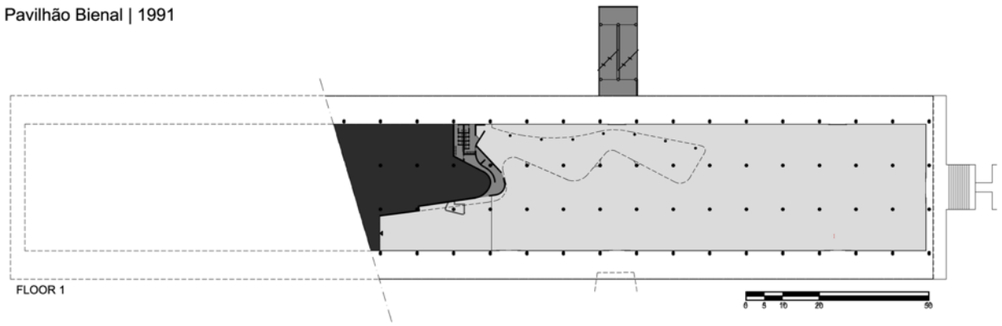


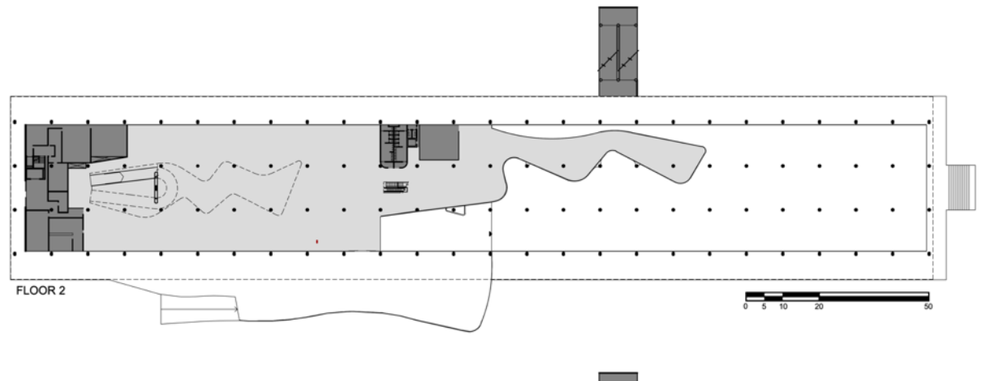


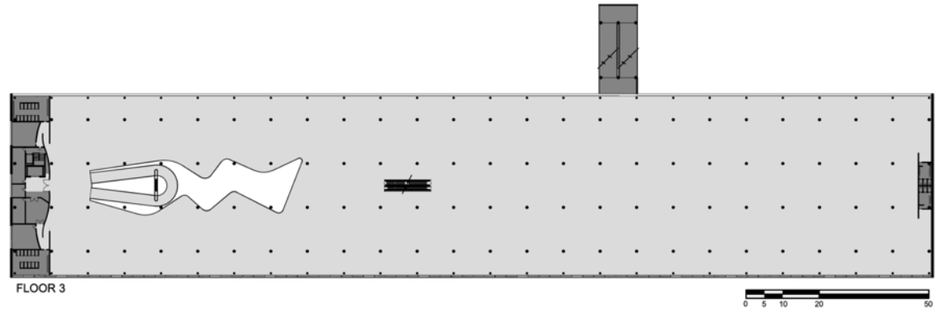


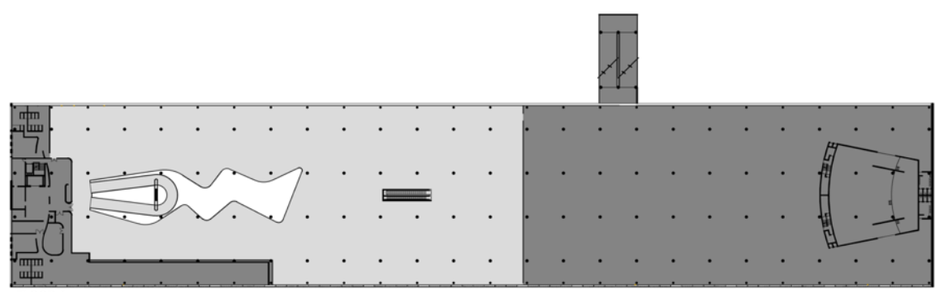


Pavilhão Bienal | 1991



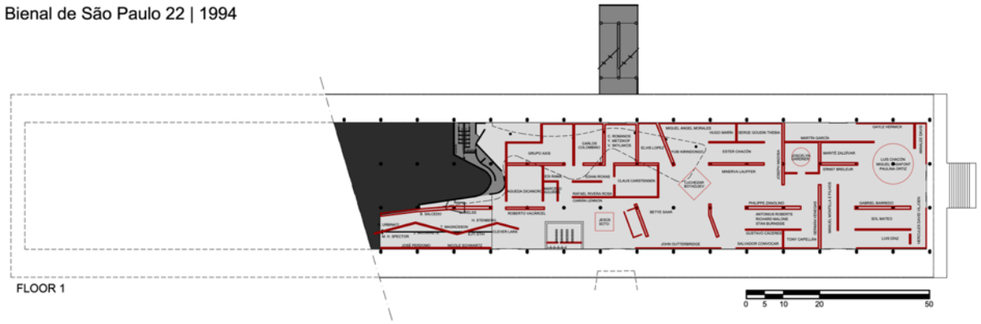


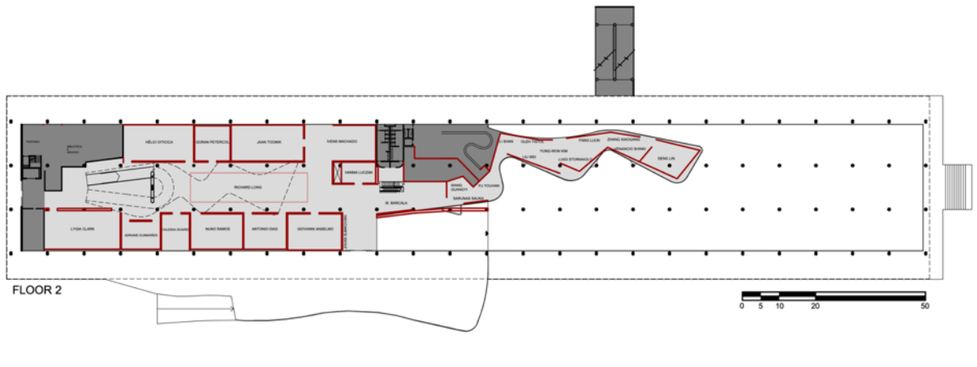


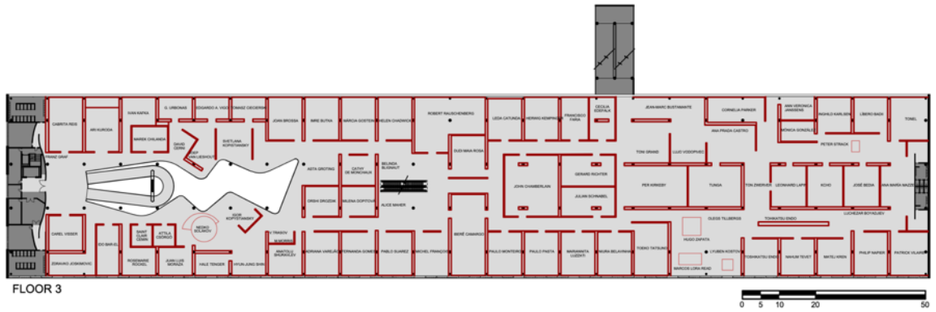


Artwork — Exhibition layout

Bienal de São Paulo 22 | 1994



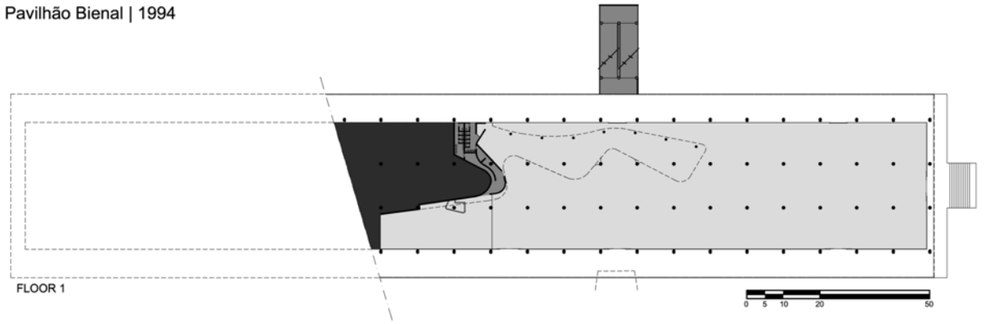


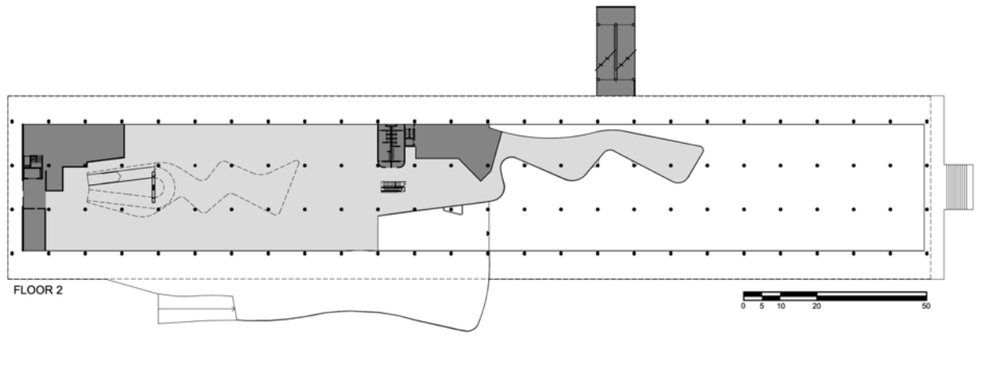


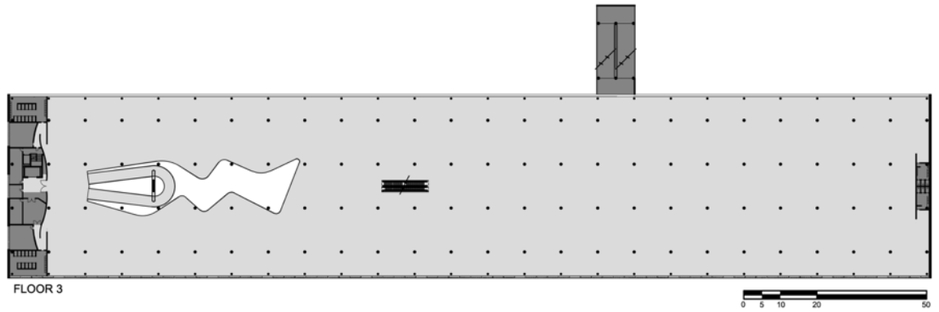


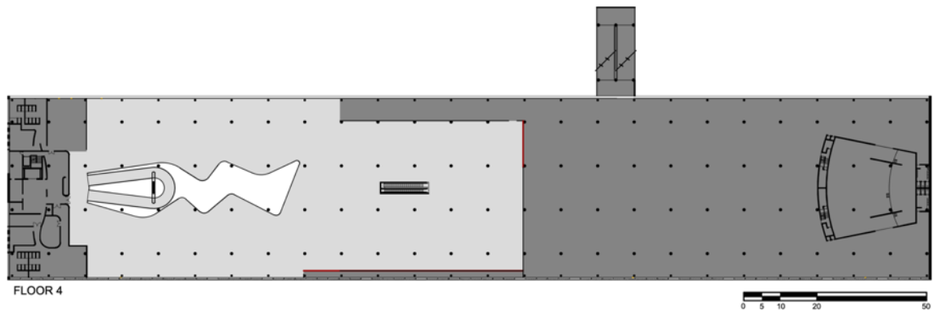
Artwork Exhibition layout

Pavilhão Bienal | 1994



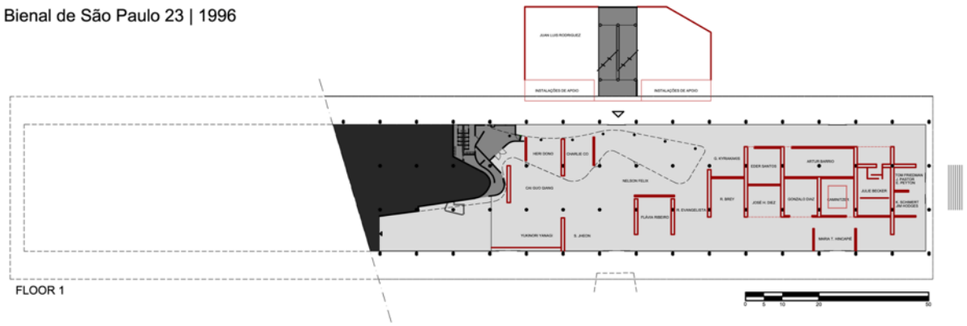


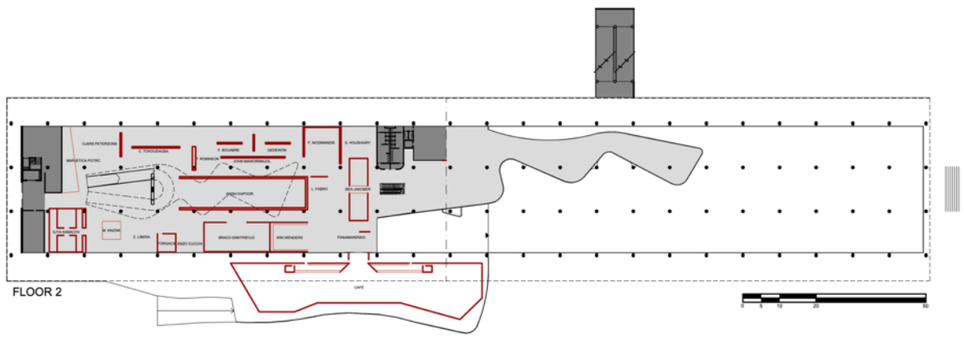


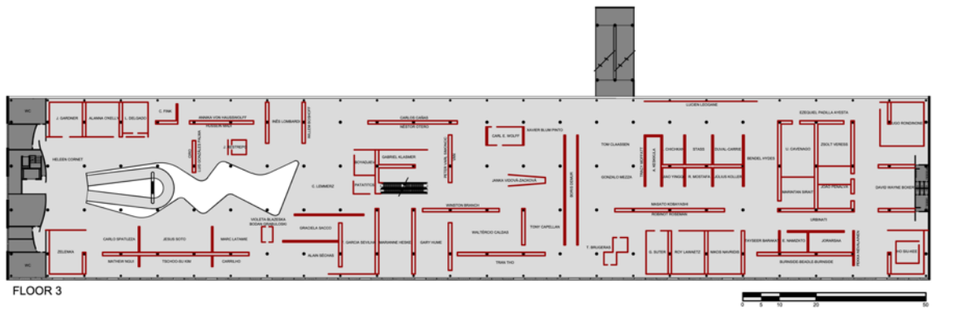


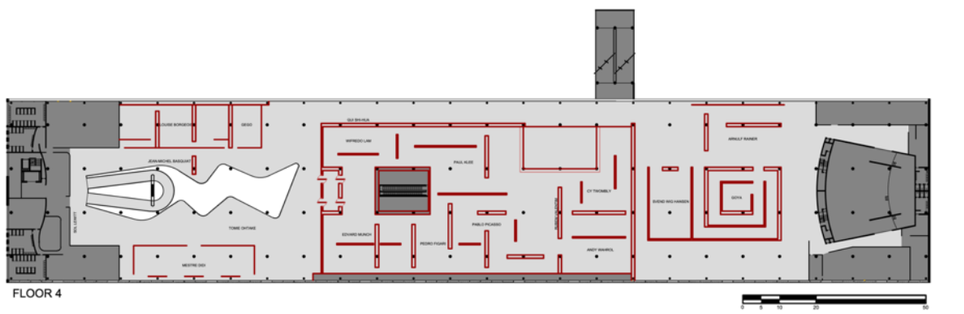
Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 23 | 1996

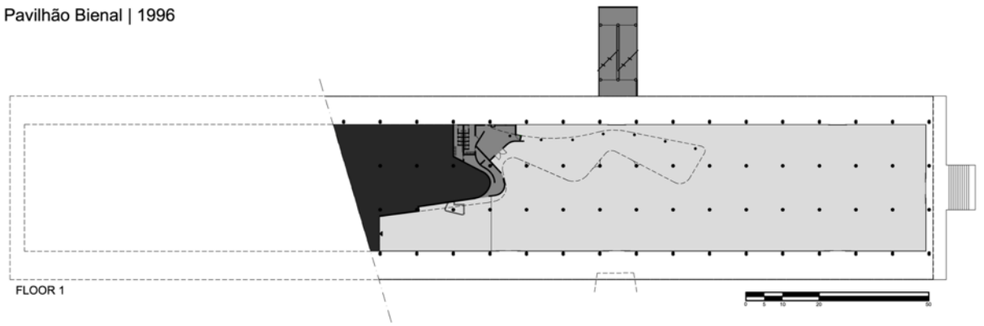


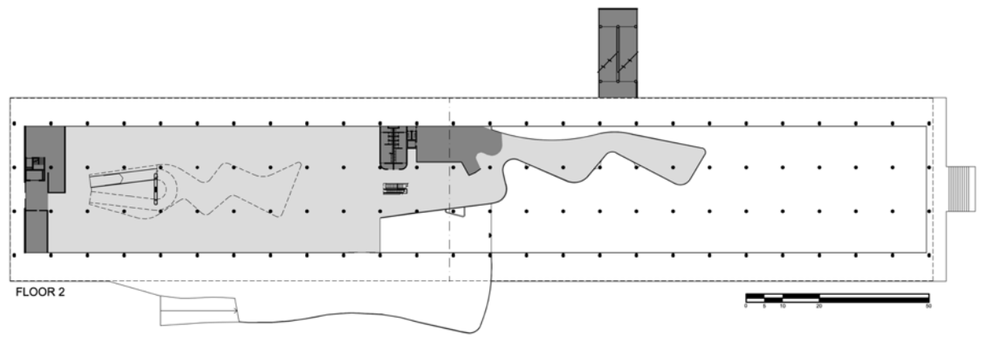


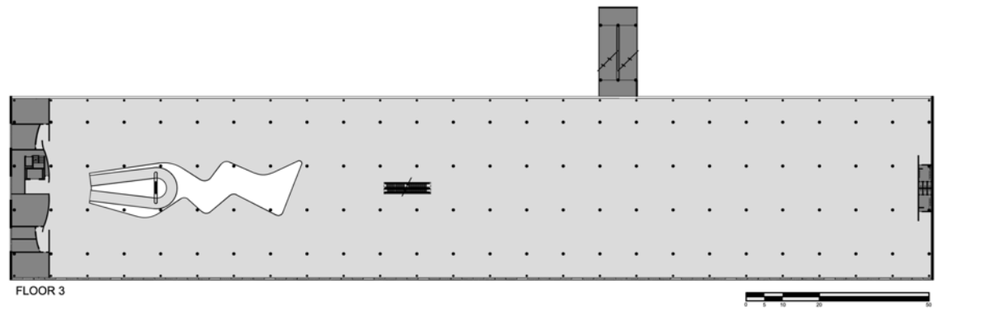


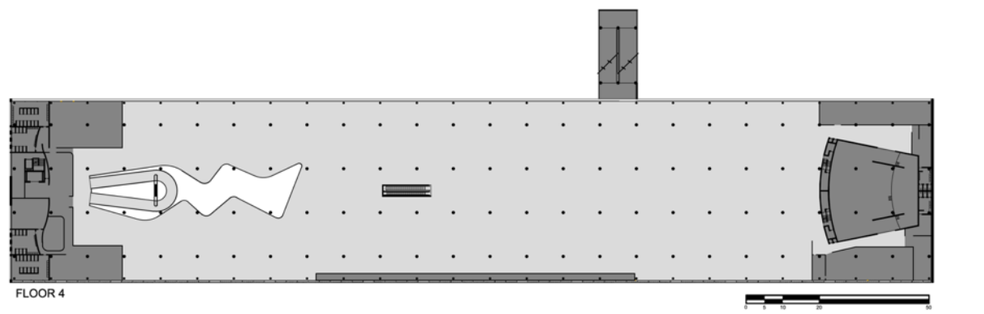


Pavilhão Bienal | 1996





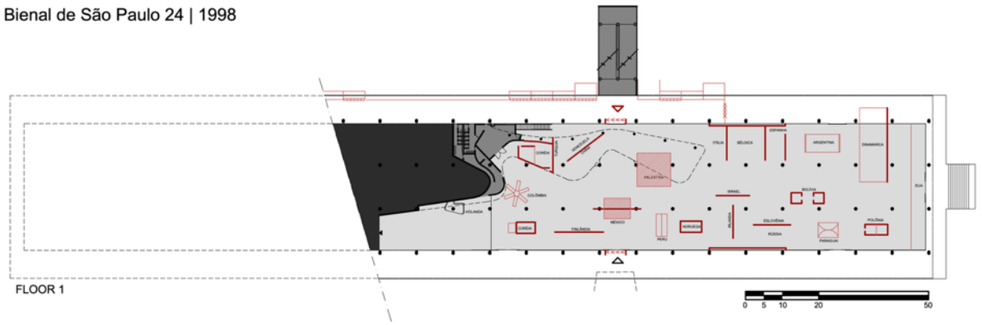


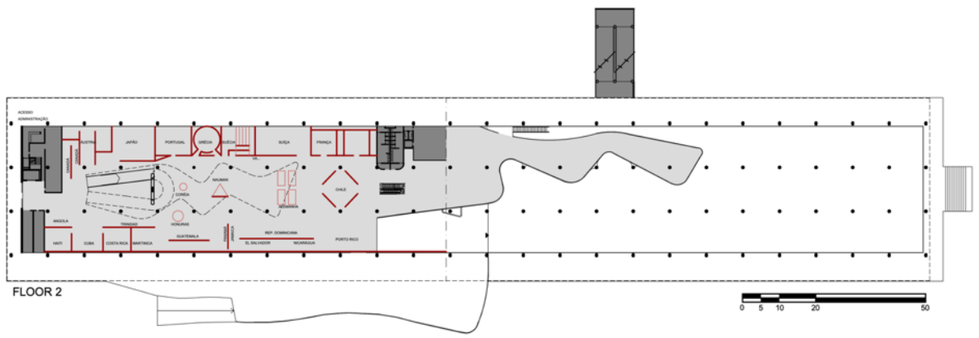


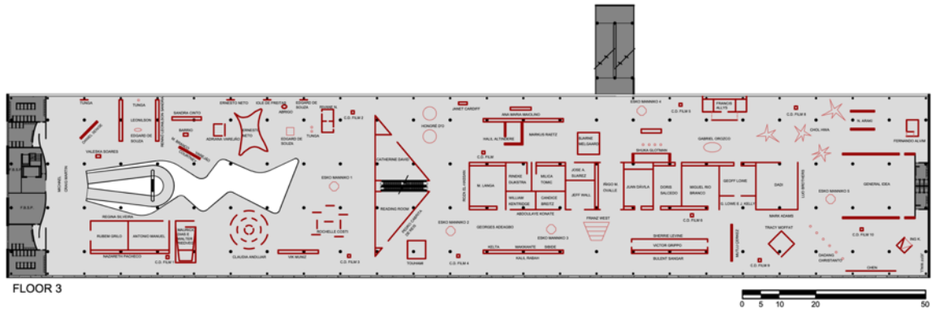
Artwork
Exhibition layout

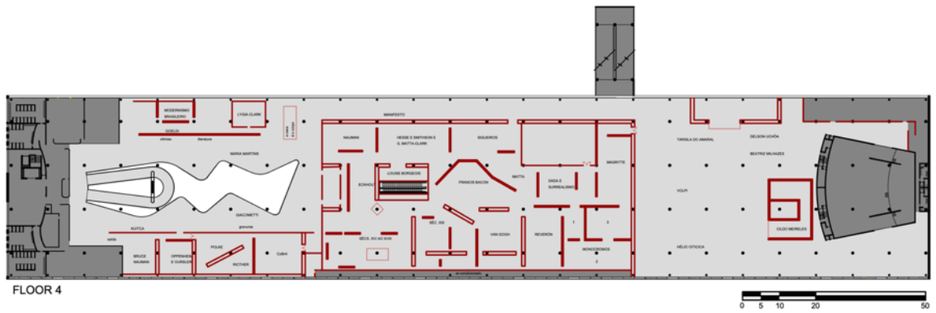
Terrain
Non-exhibition area
Exhibition area

Bienal de São Paulo 24 | 1998

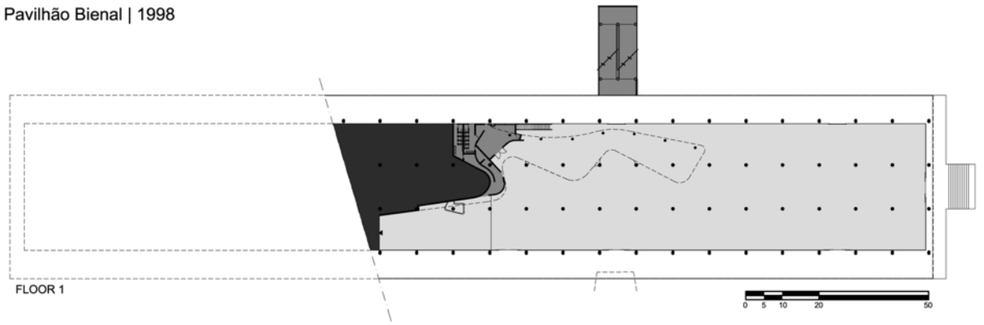


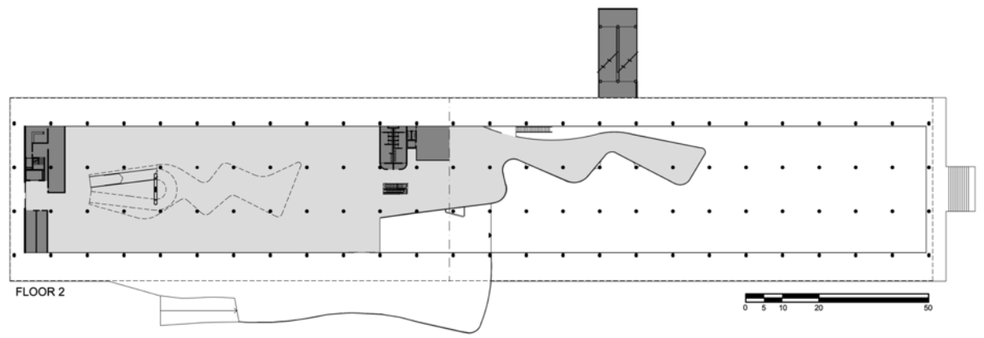


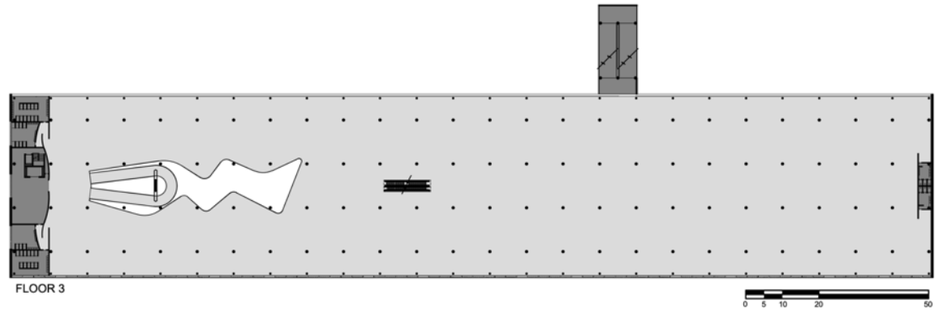


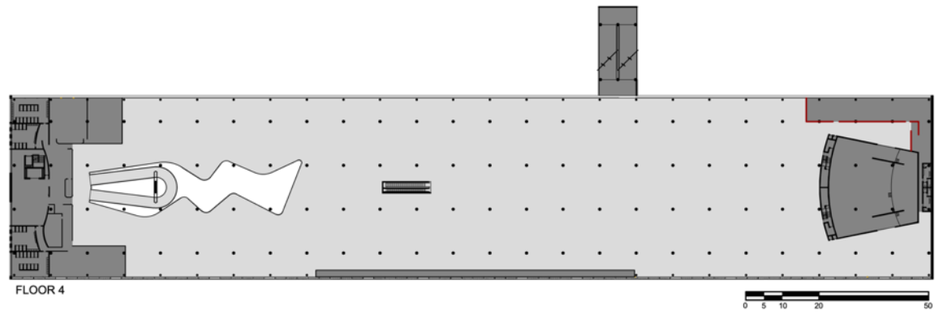


Pavilhão Bienal | 1998

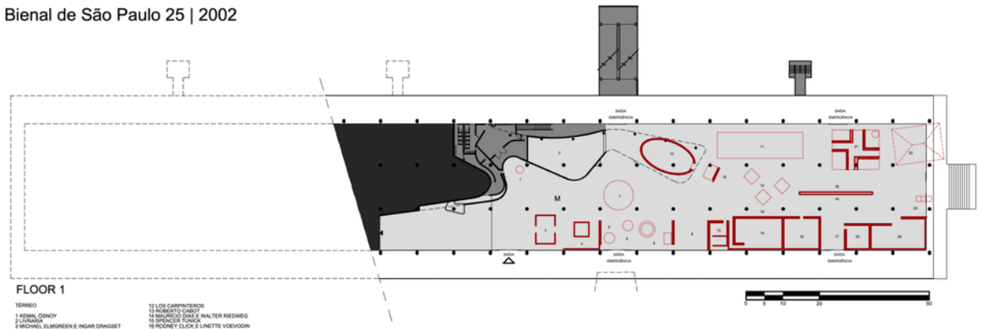






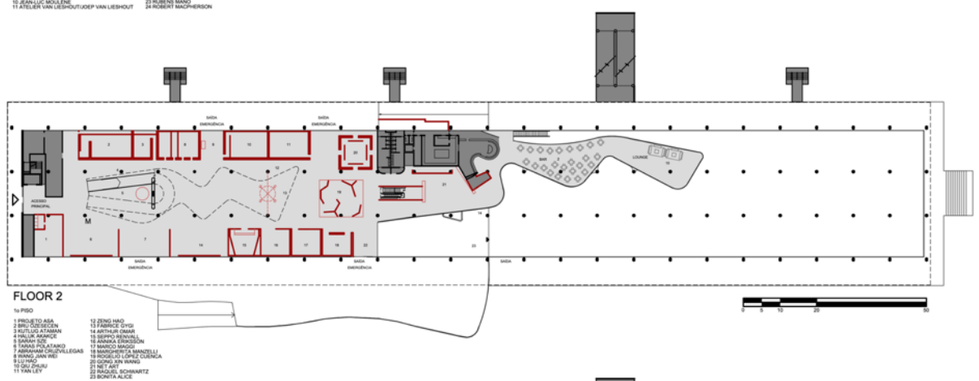


Bienal de São Paulo 25 | 2002



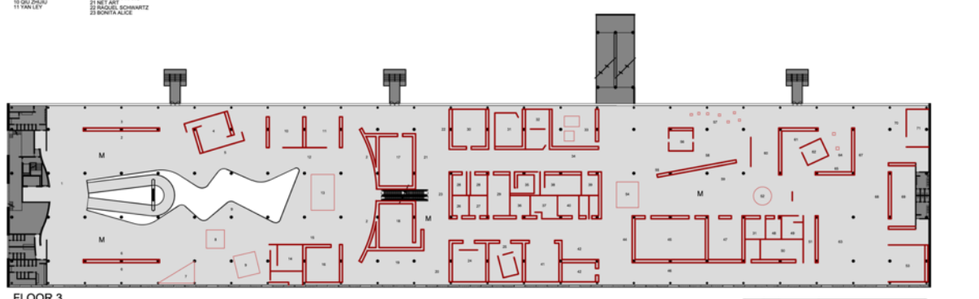
FLOOR 1

TÉRREO
1 KEMAL ÖZKOY
2 MICHAEL VISSELY
3 MICHAEL ELMGREEN E INGAR DRAGSET
4 ISAY WEINGOLD E MARCIO KOGAN
5 JOHN MILLER
6 YUTAKA SONO
7 HSIANG YONG PING E SHEN YUAN
8 BODYS ISEA KINGELEZ
9 ANNA MAGMONE
10 LINA KIM
11 ATELIER VAN LIESHOUT/JOEP VAN LIESHOUT
12 LOS CARPINTEROS
13 ROBERTO CABOT
14 MAURICIO DIAS E WALTER RIEDWEG
15 SERPIO RENAULT
16 RODNEY CLICK E LINETTE VOEVODIN
17 JOHN BARBOUR
18 JOSÉ RESENDE
19 RAQUEL CRÉMILLA
20 JAN NELSON
21 ART CENTER NITELKOVA MESTO
22 ANNETTE MESSAGER
23 RUBENS MANO
24 ROBERT MACPHERSON



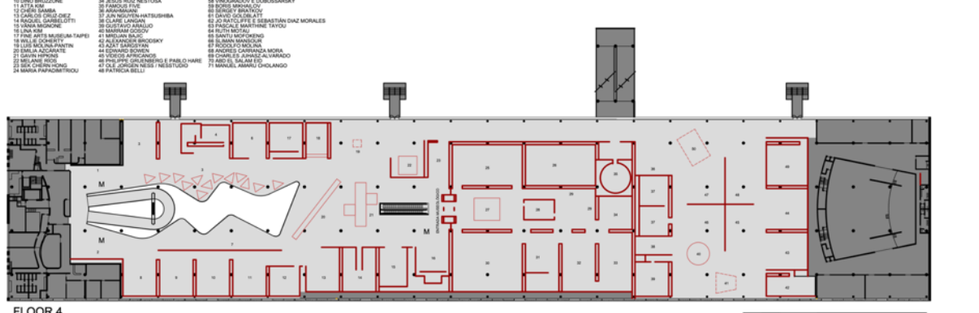
FLOOR 2

1o PISO
1 PROJETO ASIA
2 ANTONI MUNTADAS
3 KUTLUG ATAMAN
4 HALUK AKINCE
5 JOSÉ BECHARA
6 SARAH SZE
7 ABRAHAM CRUZVILLEGAS
8 HSIANG JIANN WEI
9 LIU HAO
10 QIU ZHIJIU
11 YAN LEY
12 ZENG HAO
13 ZHANG QING YIGI
14 ARTHUR OMAR
15 SERPIO RENAULT
16 ROSANGELA RENNÓ
17 MARCO MAGGIONI
18 MARGHERITA MANZELLI
19 ROGELIO LÓPEZ CUENCA
20 GONG JUN WANG
21 NET ART
22 RAQUEL SCHWARTZ
23 BONITA ALICE



FLOOR 3

1 KATHARINA GROSSE
2 MICHAEL WESELY
3 ALEXANDER APOSTOL
4 RUPPRECHT GEIGER
5 ANNETTE MESSAGER
6 FRANK THIEL
7 OLAF METZEL
8 ANDREAS SLOMKA
9 RUBENS MANO
10 DINO BRUZZONE
11 LIU WEI
12 CHÉRI SAMBA
13 CARLOS CRUZ-DIEZ
14 VANDA MAGMONE
15 LINA KIM
17 FINE ARTS MUSEUM-TAIPEI
18 WILLIE DOHERTY
19 ANTONI MUNTADAS
20 EMILIA AZCÁRATE
21 GAVIN HIPKINS
22 ANTONIO OLLER
23 SEK-CHEN HONG
24 MARIA PAPADIMITRIOU
25 TAMÁS KOMORÓCZKY
26 JOSÉ ANTONIO HERNÁNDEZ DIEZ
27 MARCEL ODENBACH
28 STAN DOUGLAS
29 GEORG HEROLD
30 GEORG P. THOMANN
31 AMRI SALA
32 ANNA ERIKSSON KOZYRA
33 RICHARD VENLET
34 JESÚS RUIZ NESTOSA
35 ARAHMAIANI
36 ARAHMAIANI
37 JUN NGUYEN-HATSUSHIBA
38 CLARA FILIPPI
39 CLARA LUO XIAN LI
40 MARRAM GOSOV
41 MRGJAN BAJIC
42 ALEXANDR BRODSKY
43 ANTONI MUNTADAS
44 EDWARD BOWEN
45 VÍDEOS AFRICANOS
46 ANTONIO OLLER E PABLO HARE
47 OLE JORGEN NILSS / NESTGUDO
48 PATRÍCIA BELLI
49 YIOULA HAGJIGEORGHIOU
50 PITSO CHINZIMA
51 JOHANNA MONTERO MATAMOROS
52 JOÃO TABARRA
53 ANTONIO MUÑOZ PELÁEZ
54 PABLO RIVERA
55 VALERY KOSHLIAKOV
56 ANTON VIDOKLE
57 ANATOLY OSMOLOVSKY
58 VINOGRADOV E DUBOSSARSKY
59 ANTON VIDOKLE
60 BORGUY BAATAOV
61 DAVID GOLDBLATT
62 JOSÉ ANTONIO SEBASTIÁN DIAZ MORALES
63 FABIOLA FRATTINE TAYOU
64 RUTH MOTAU
65 SANTU MOFOKENG
66 SUNIN MANSOUR
67 ANTONIO OLLER
68 ANDRES CARRANZA MORA
69 CHARLES JUHASZ-ALVARADO
70 ANTONIO OLLER
71 MANUEL AMARU CHOLANGO

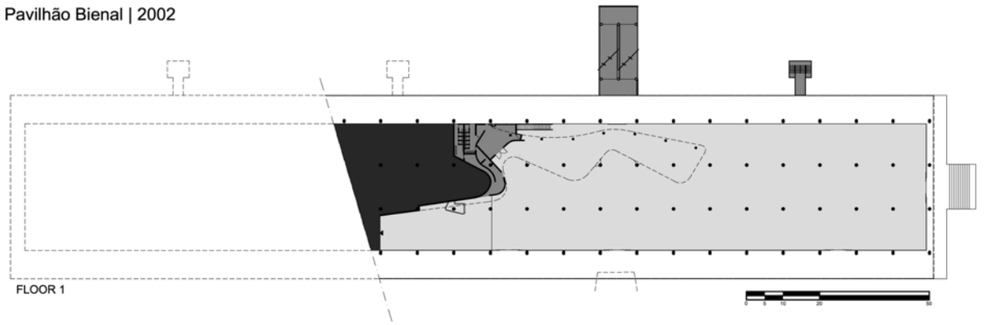


FLOOR 4

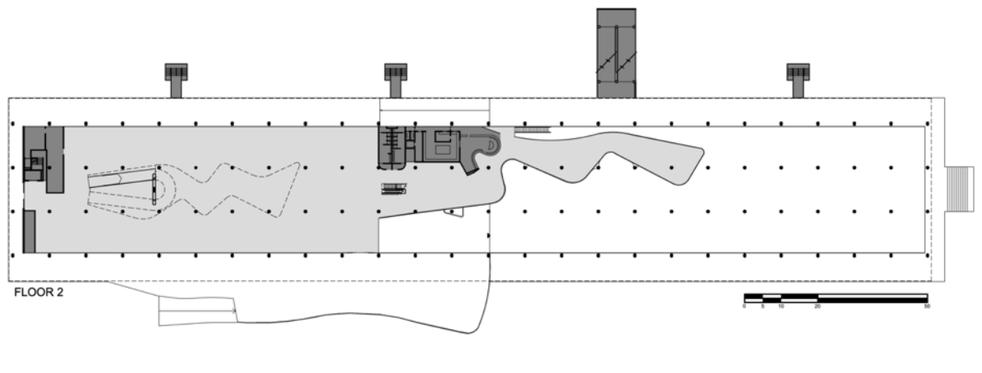
1 MANEPA
2 ANTONIO AGOSTA
3 MARCELO SOLÁ
4 CAO GUIMARÃES
5 ANTONIO DIAS
6 SERGIO SISTOK
7 FÁBIO CARDOSO
8 ALEXANDER PALIS
9 PAULO WHITAKER
10 JOSÉ DAMASCENO
11 JOSÉ BECHARA
12 MARCOS CHAVES
13 GIL VICENTE
14 ANTONIO DIAS
15 CARINA WEGLE
16 CHELPA FERRO
17 ORIANA DUARTE
18 ANA MIGUEL
19 HELMUT BATISTA
20 ELIANE PRIOLIK
21 RICARDO BARBUIM
22 KARIN LAMBRECHT
23 ANTONIO DIAS
24 NABIL NAHAS
25 SEAN SCULLY
26 ACERVO MAC
27 CARLOS FAJARDO
28 NELSON LERNER
29 GLENN BROWN
30 JEFF KOONS
31 VANESSA BEECROFT
32 ANDY WARHOL
33 ANDREAS GURSKY
34 JULIÃO SARMENTO
35 KIANA WALKER
36 NANCY DAVENPORT
37 SARAH MORRIS
38 MAKOTO AIDA
39 KIMIO TSUCHIYA
40 MARKO MORI
41 TAKASHI MURAKAMI
42 DARREN NEWHAT
43 MICHAEL LANDY
44 KEITH TYSON
45 RICHARD WENTWORTH
46 TATSUMI ORIMOTO
47 DOUG AITKEN
48 LUCINDA DEVLIN
49 GILLIAN WEARING
50 KYOICHI TSUZUKI

Artwork Exhibition layout

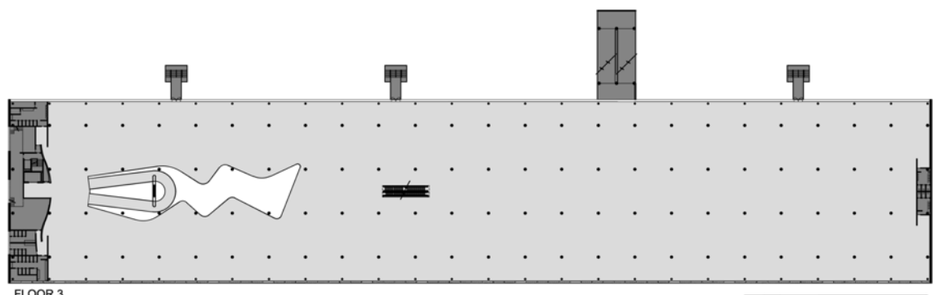
Pavilhão Bienal | 2002



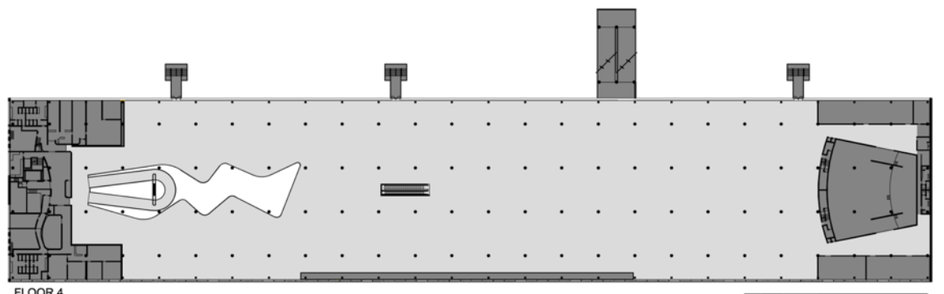
FLOOR 1



FLOOR 2



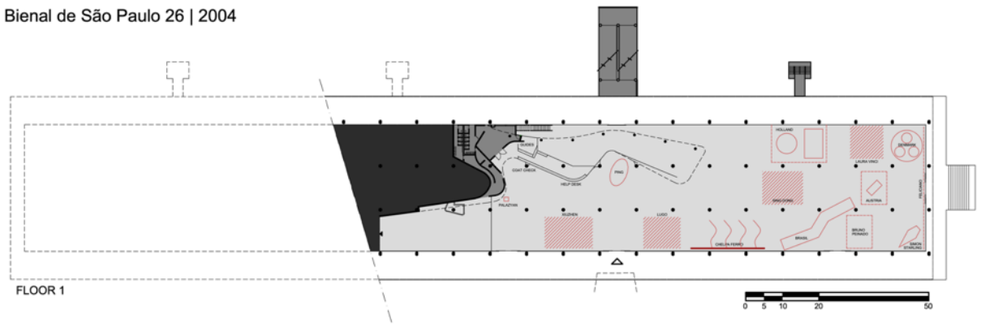
FLOOR 3

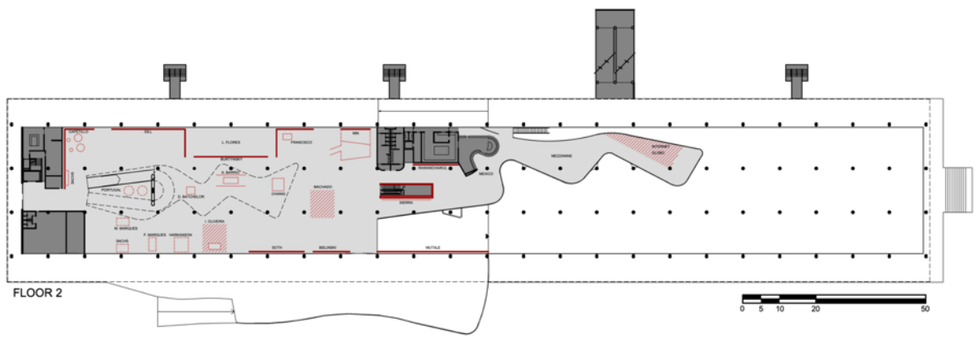


FLOOR 4

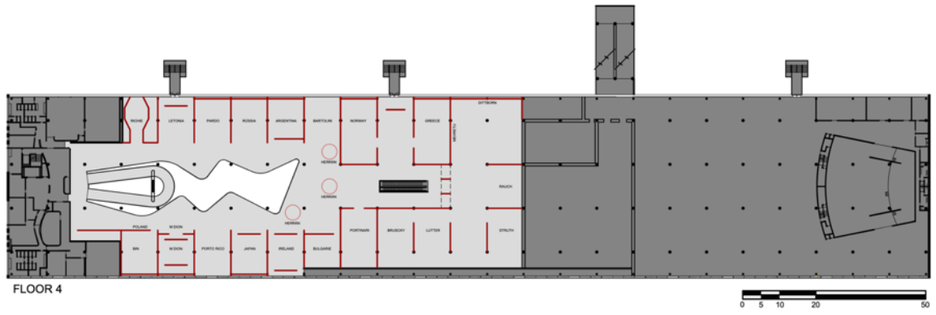
Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 26 | 2004

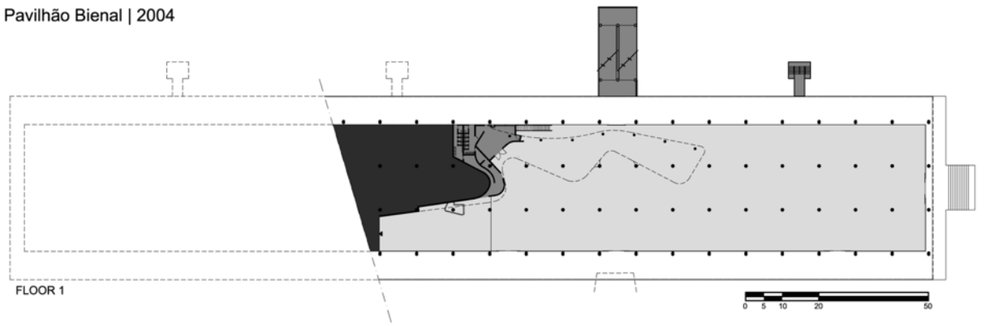


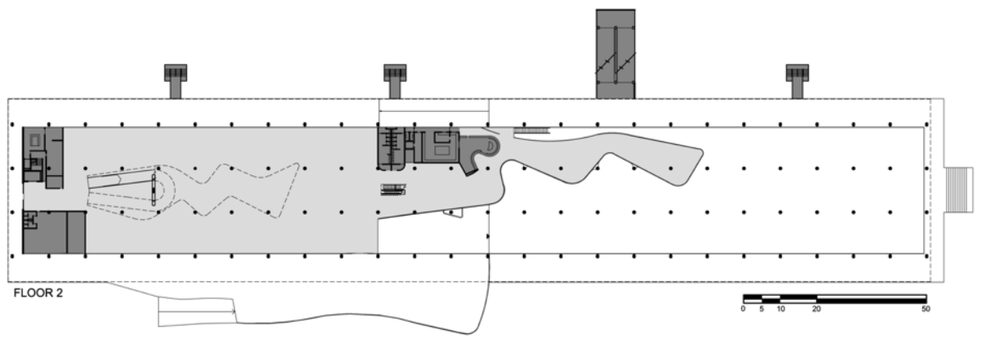


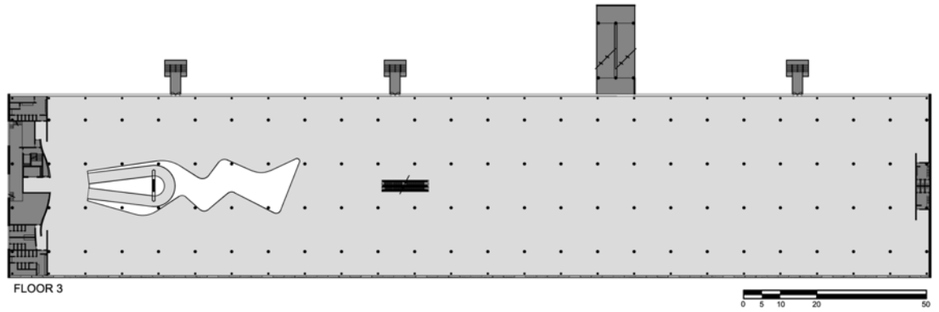


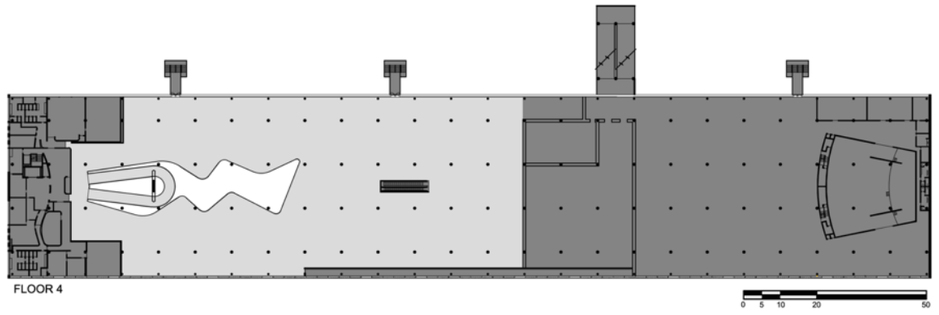


Pavilhão Bienal | 2004

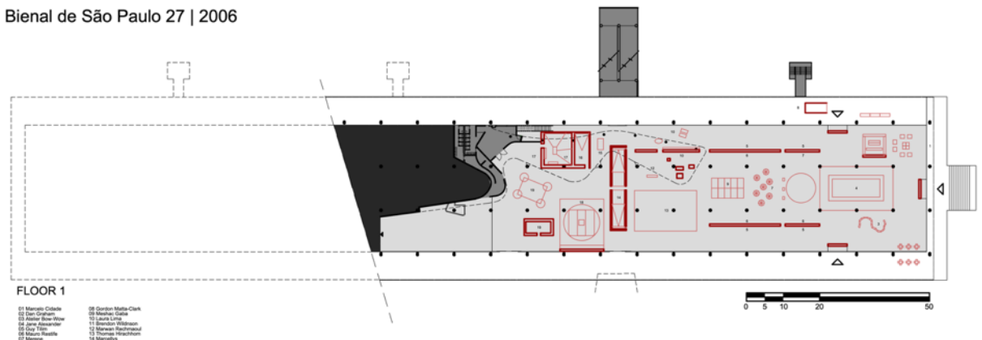


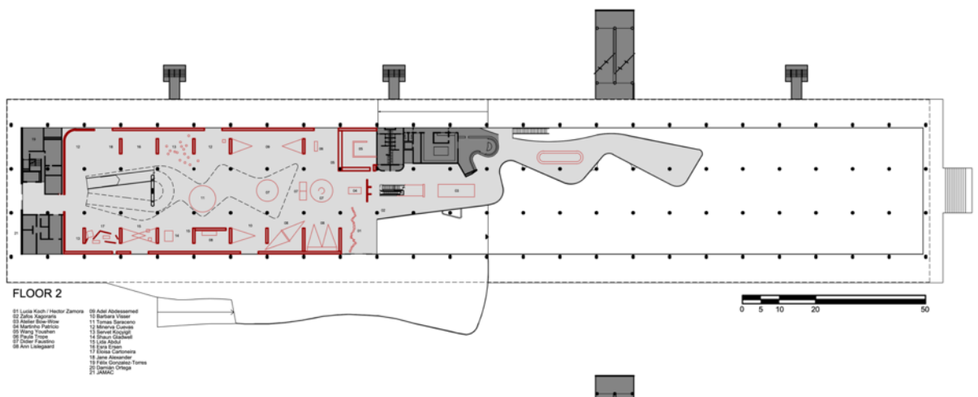


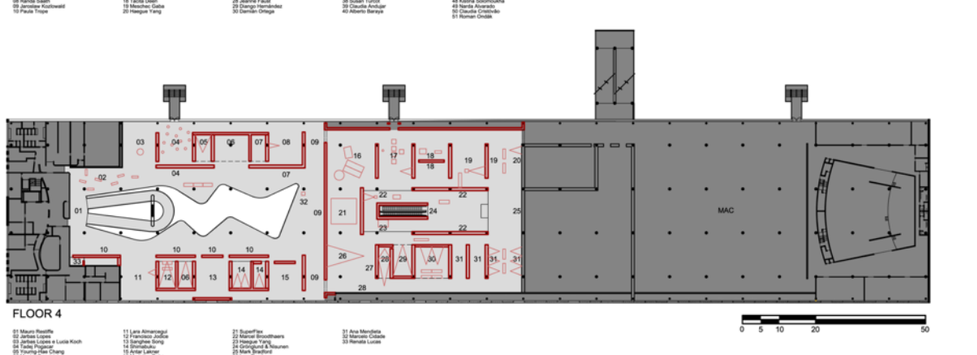




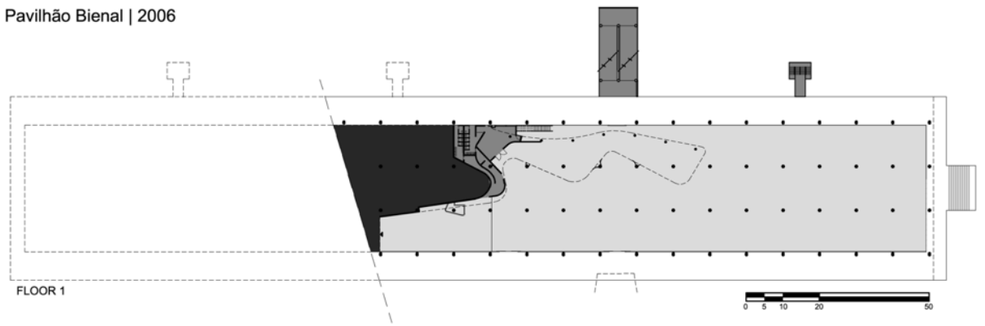
Bienal de São Paulo 27 | 2006

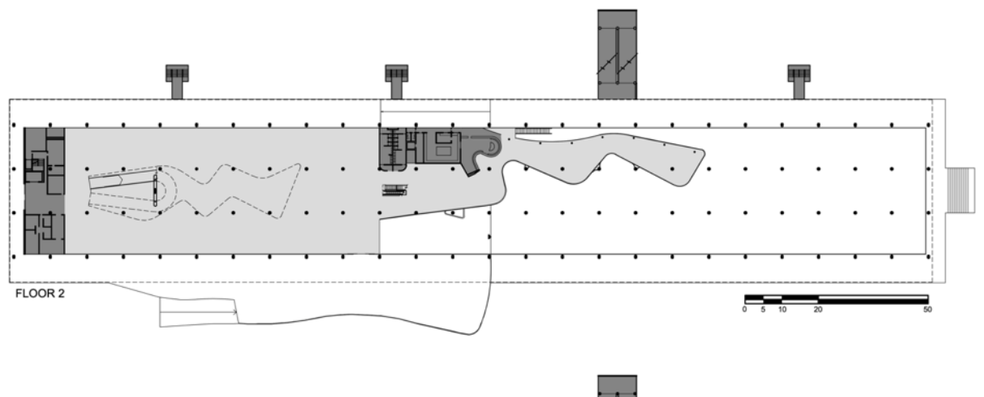


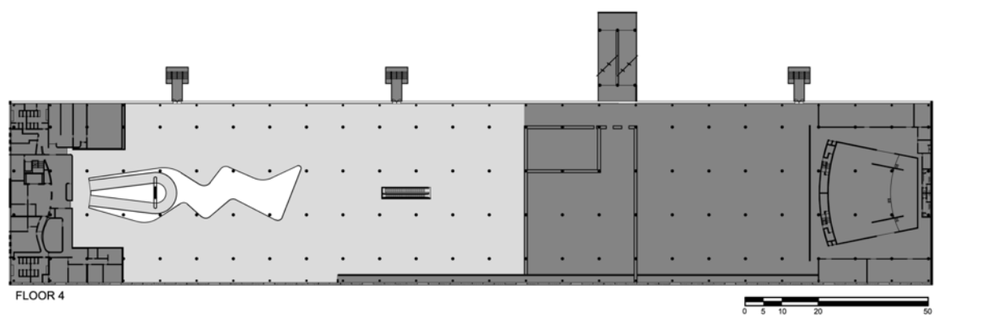




Pavilhão Bienal | 2006

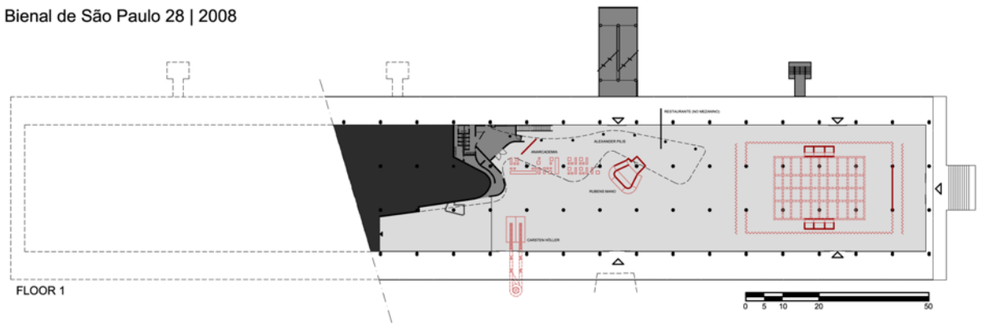


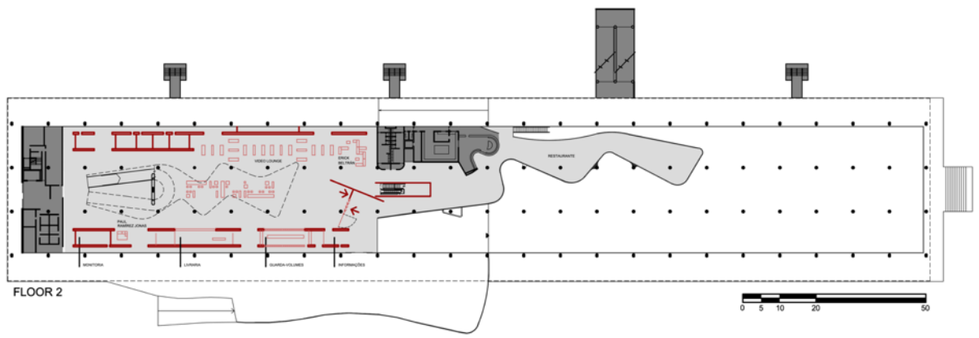


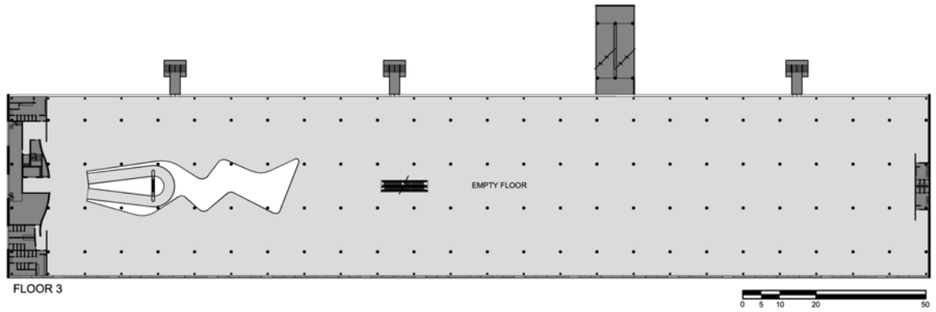


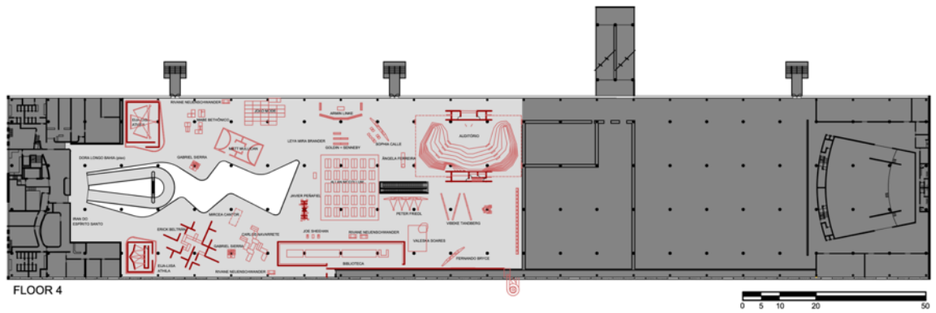
Artwork
Exhibition layout
Terrain
Non-exhibition area
Exhibition area

Bienal de São Paulo 28 | 2008



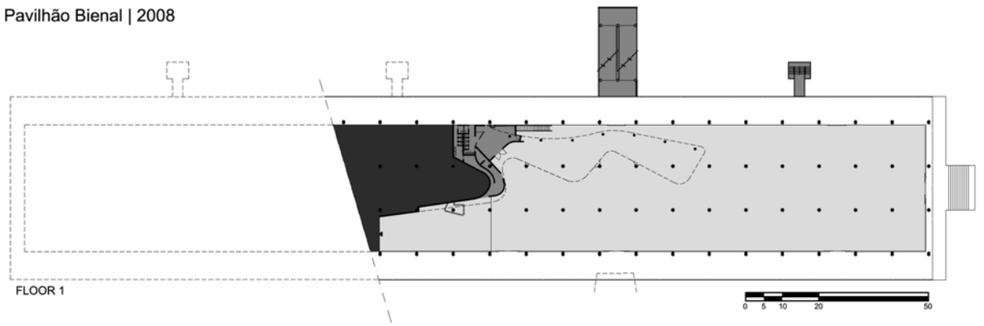


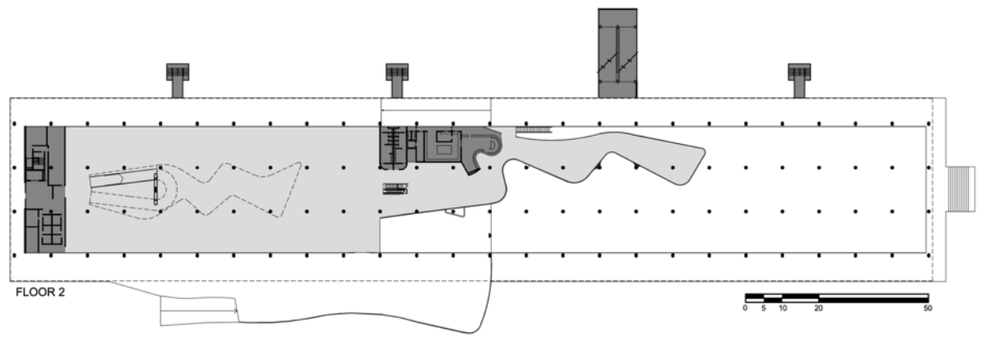


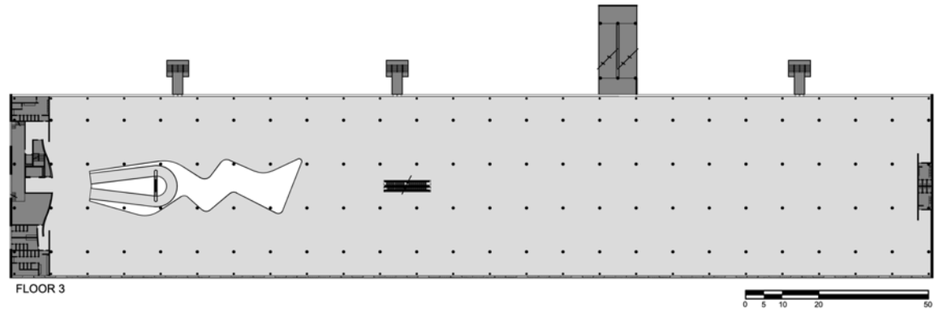


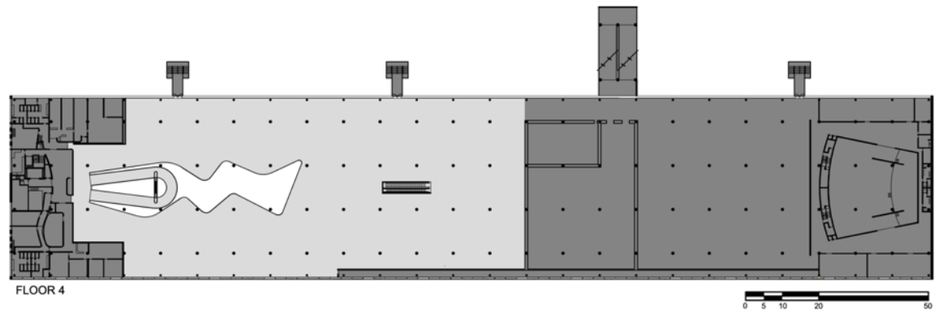
Artwork Exhibition layout

Pavilhão Bienal | 2008



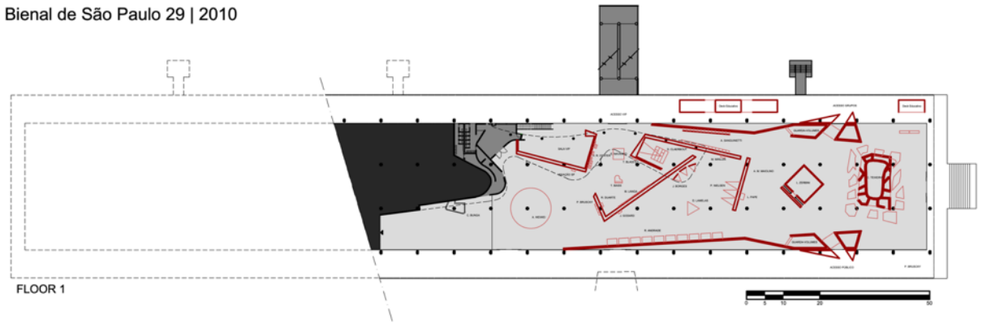


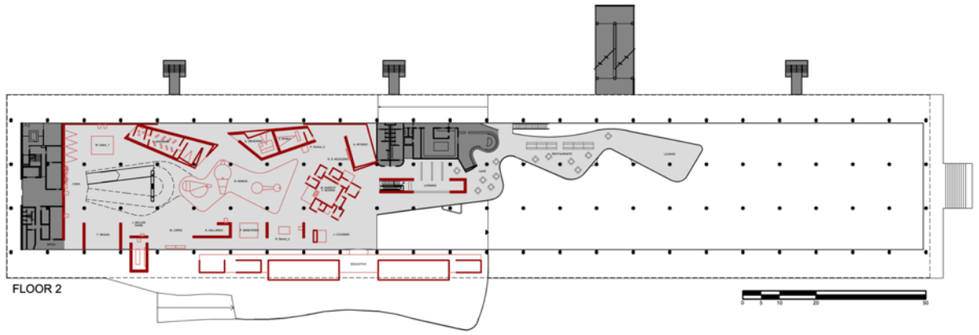




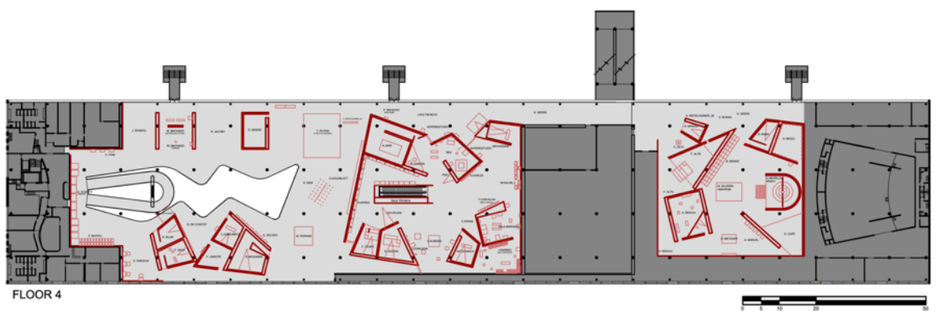
Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 29 | 2010



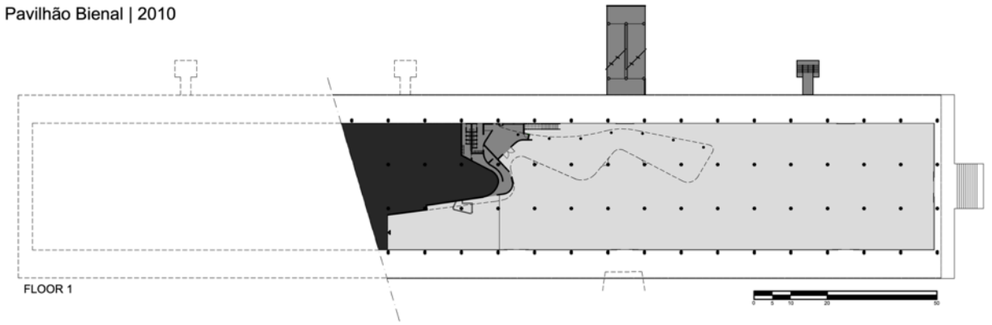


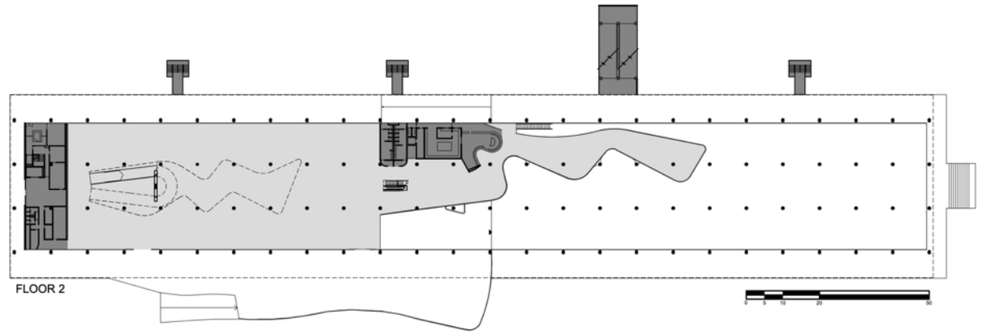


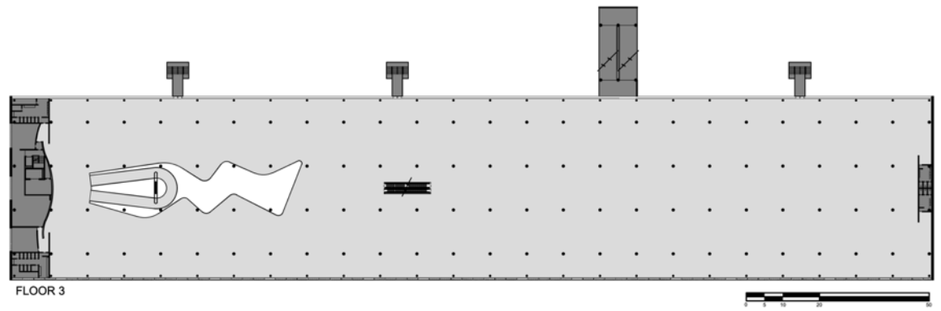


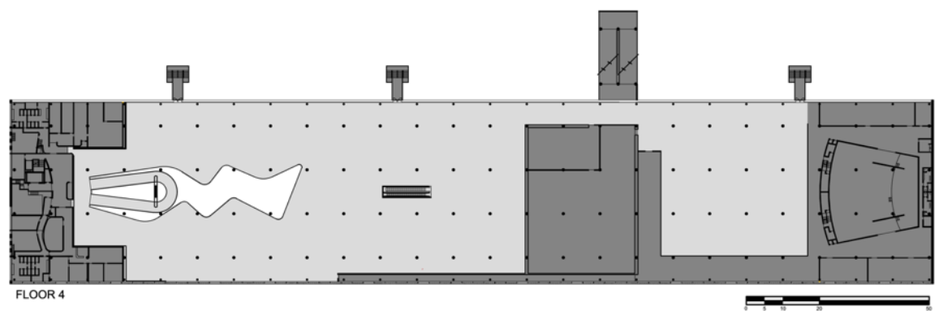
Artwork
Exhibition layout

Pavilhão Bienal | 2010



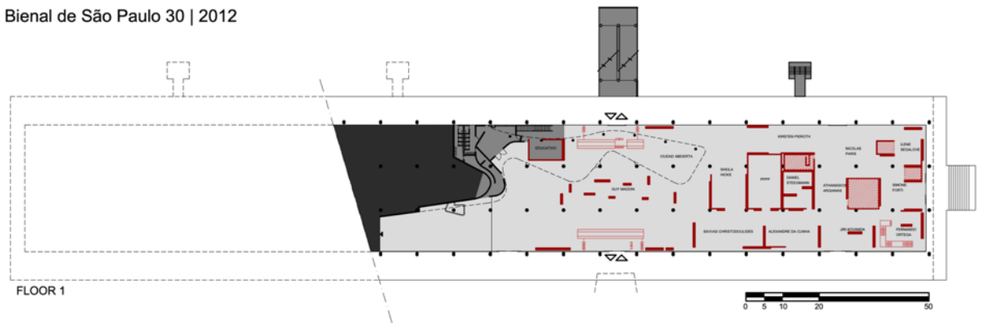


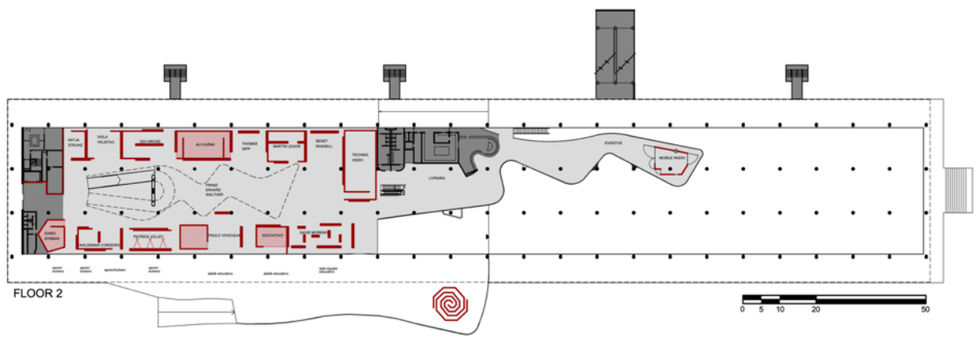


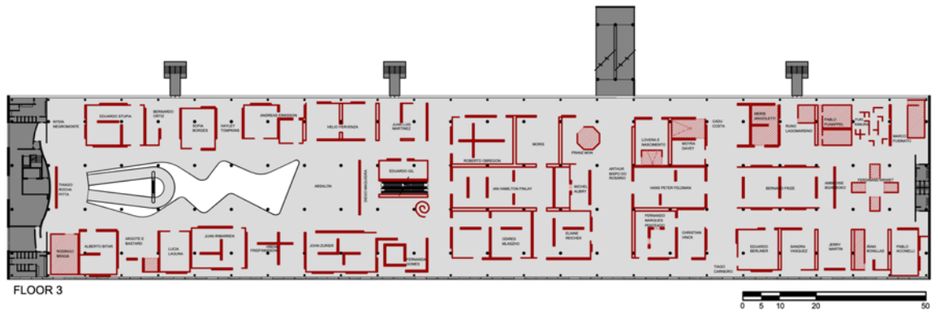


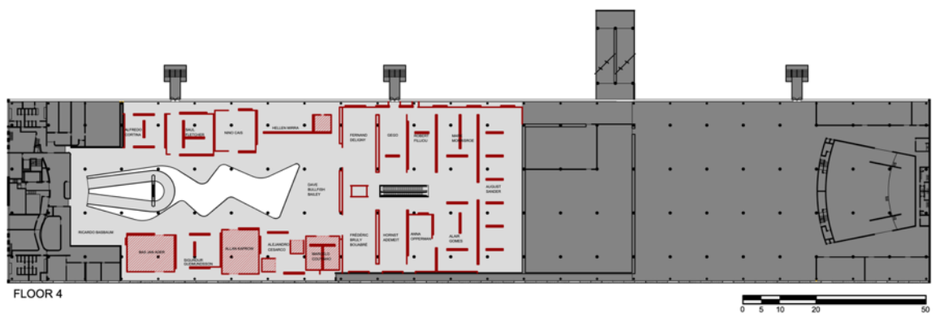
Terrain
Non-exhibition area
Exhibition area

Bienal de São Paulo 30 | 2012

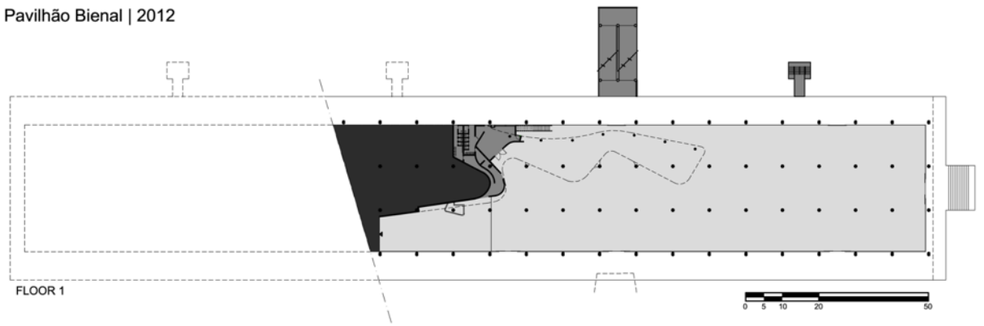


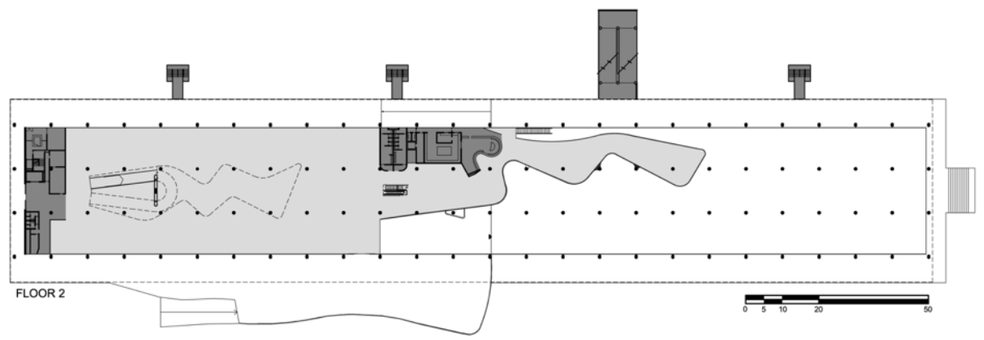


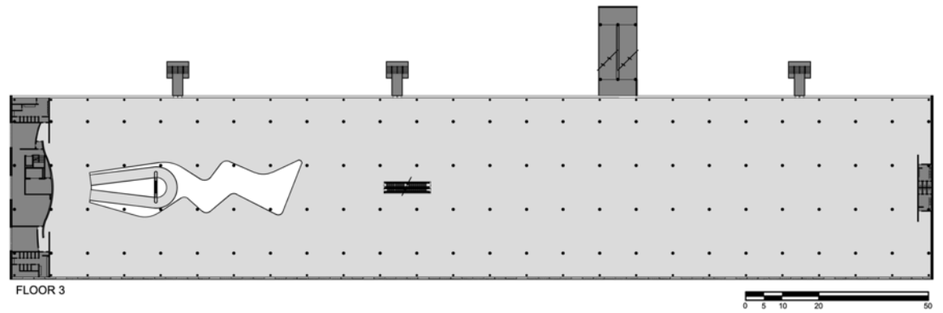


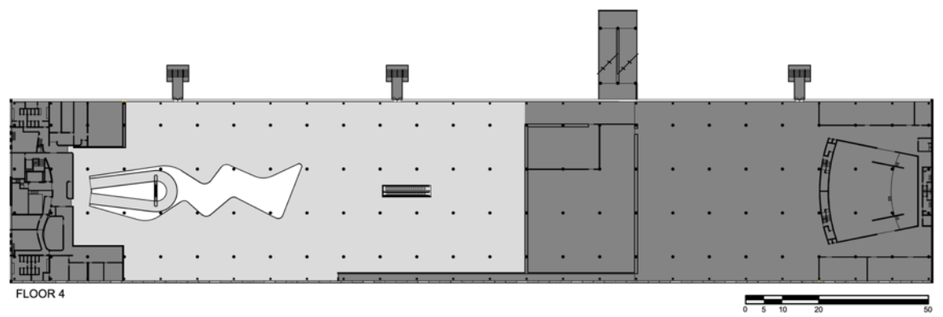


Pavilhão Bienal | 2012

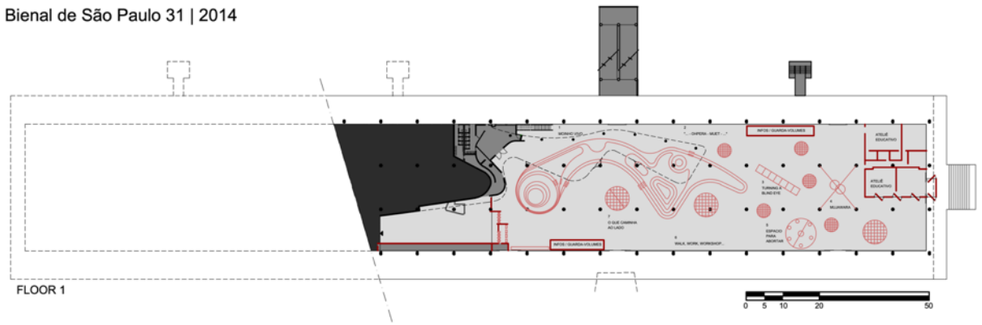


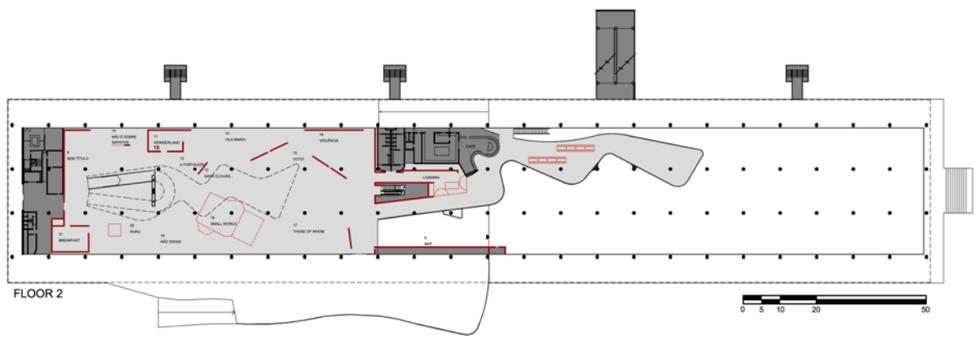


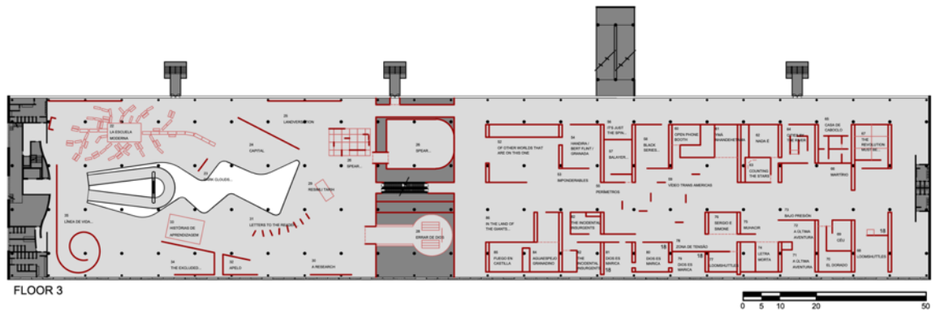


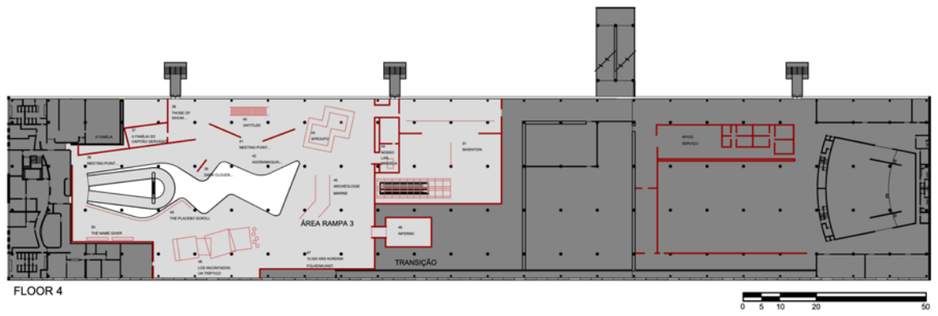


Bienal de São Paulo 31 | 2014



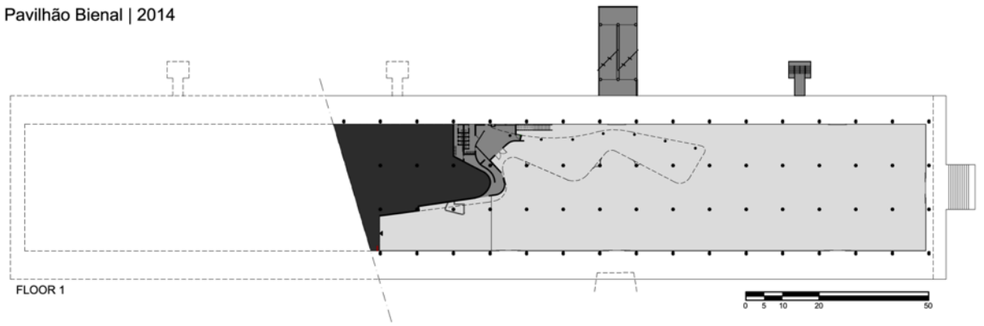


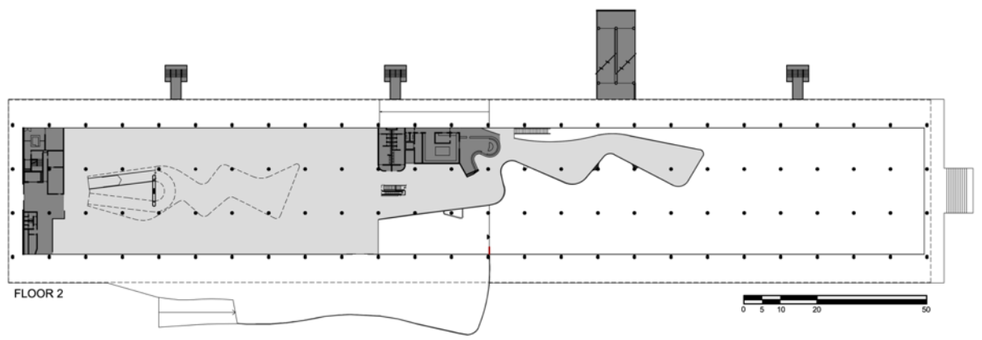


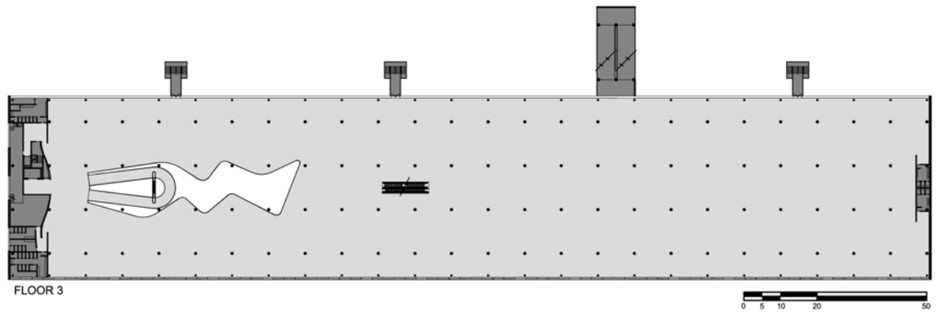


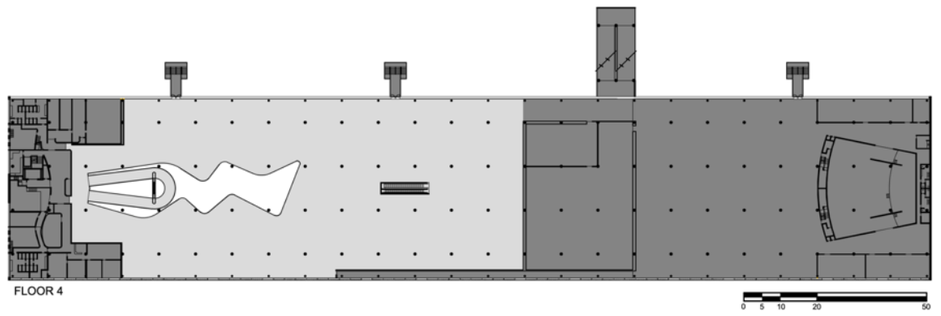
Artwork Exhibition layout

Pavilhão Bienal | 2014



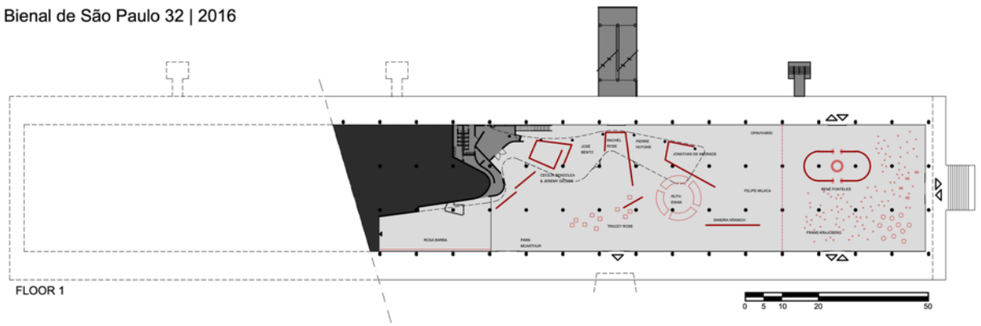


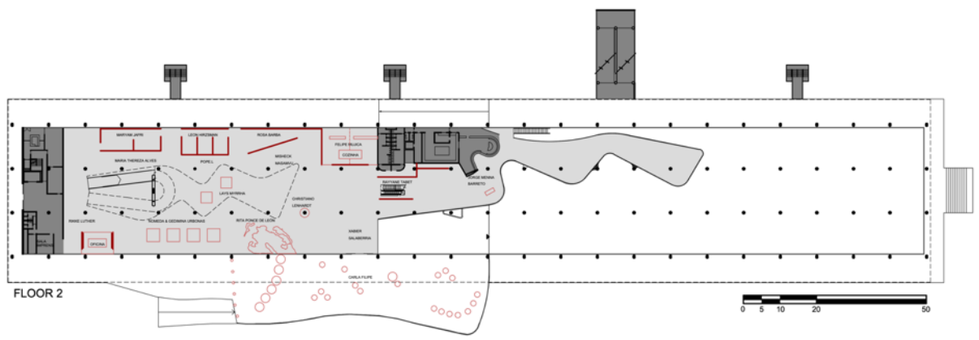


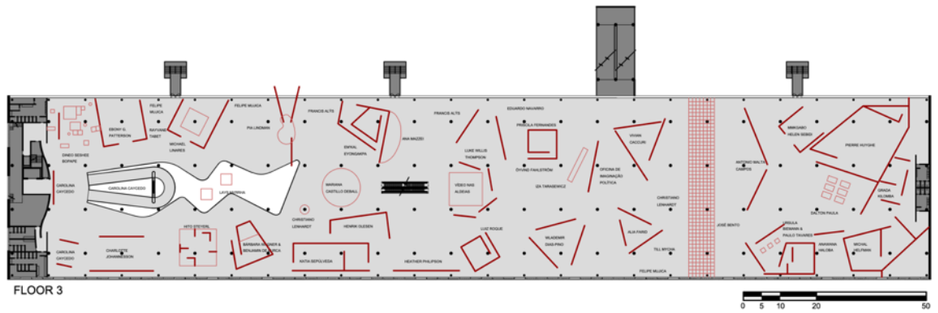


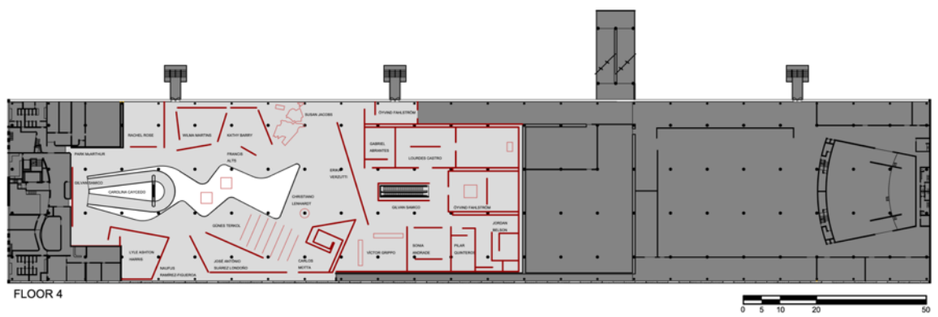
Terrain Non-exhibition area Exhibition area

Bienal de São Paulo 32 | 2016

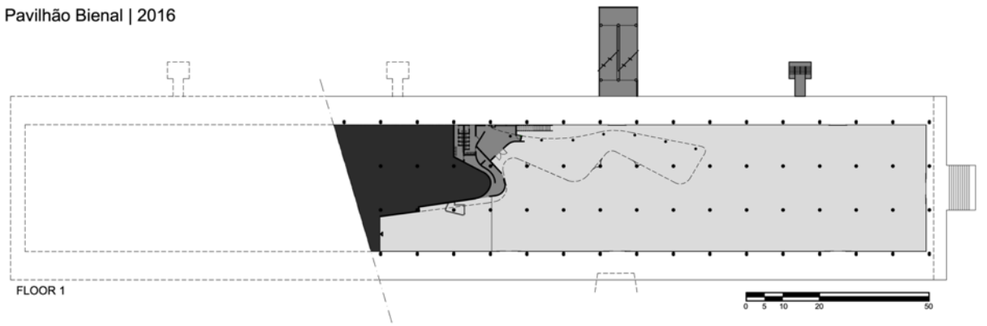


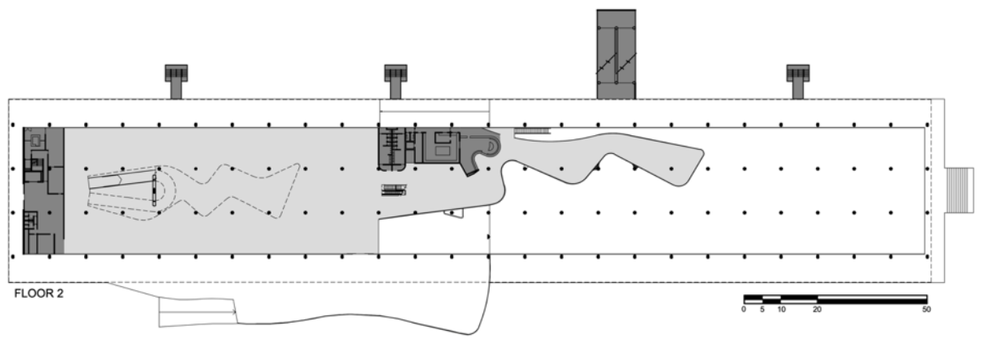


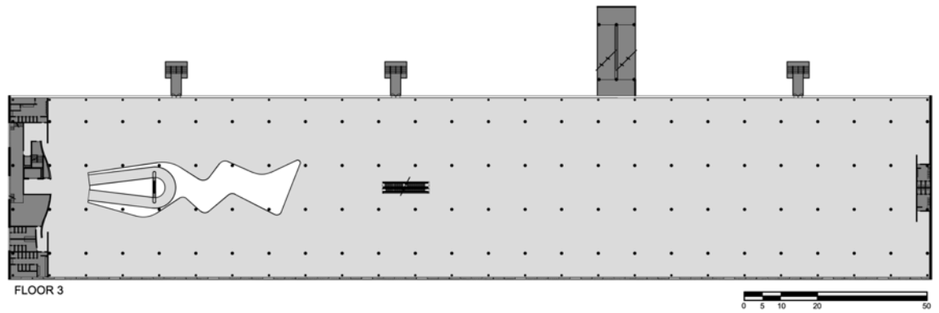


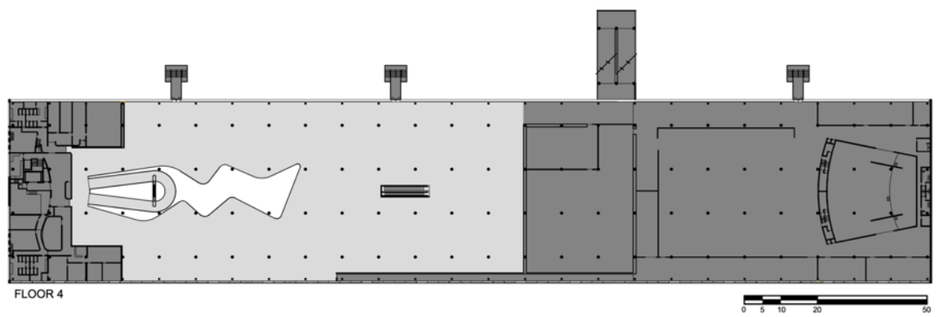


Pavilhão Bienal | 2016

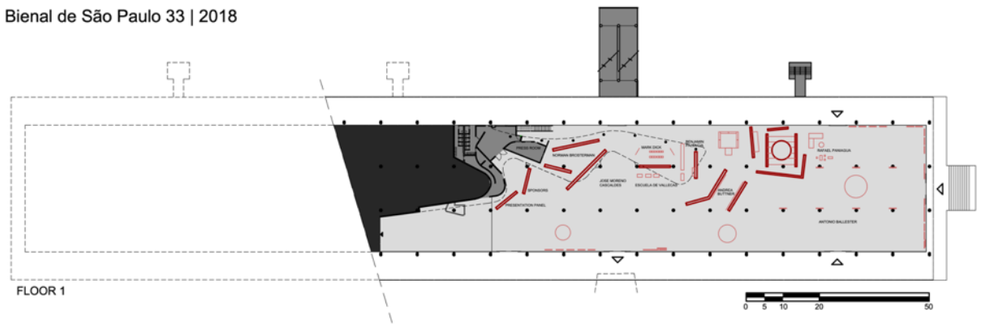


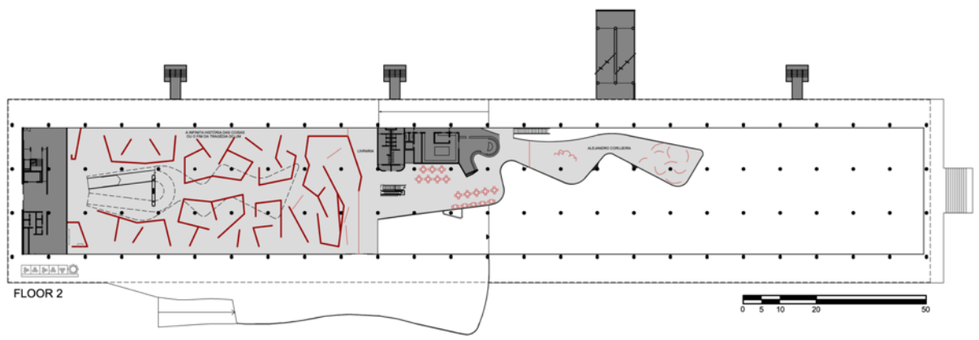


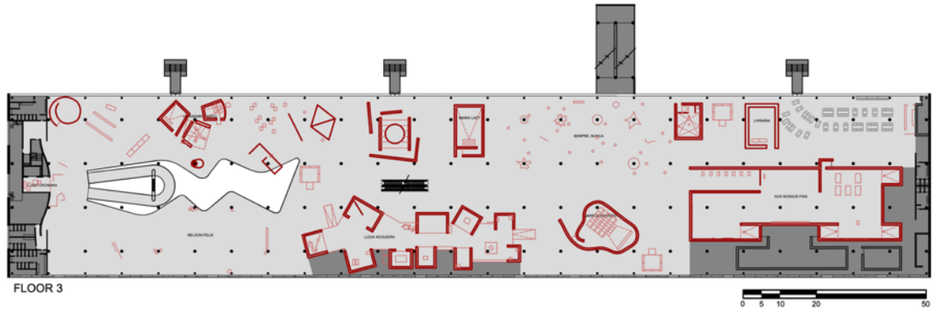


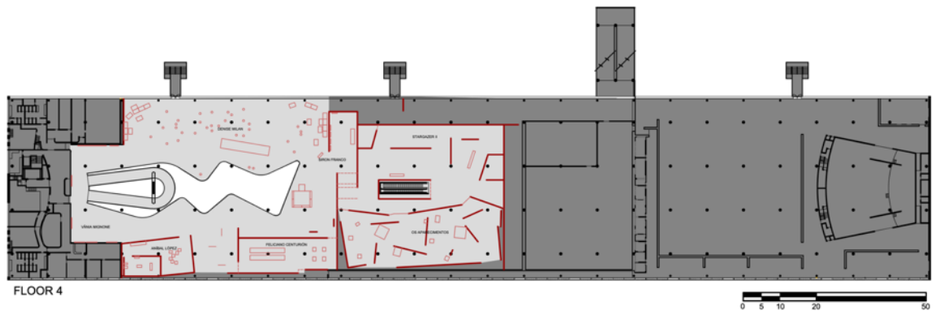


Bienal de São Paulo 33 | 2018

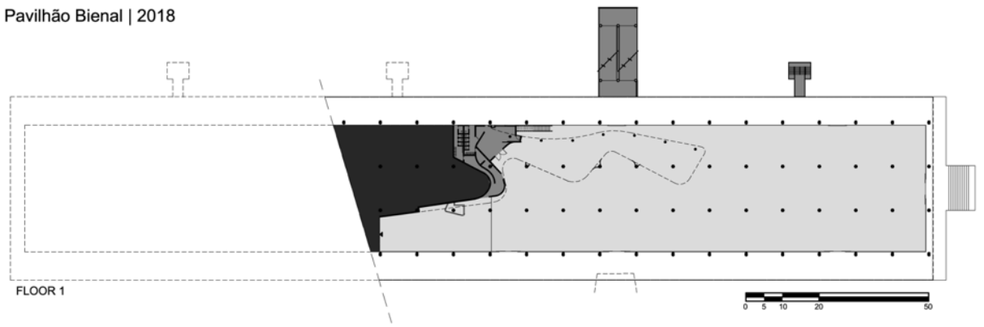


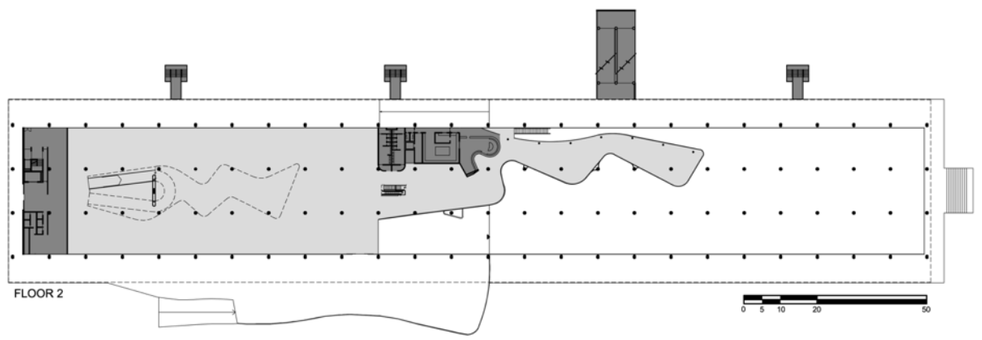


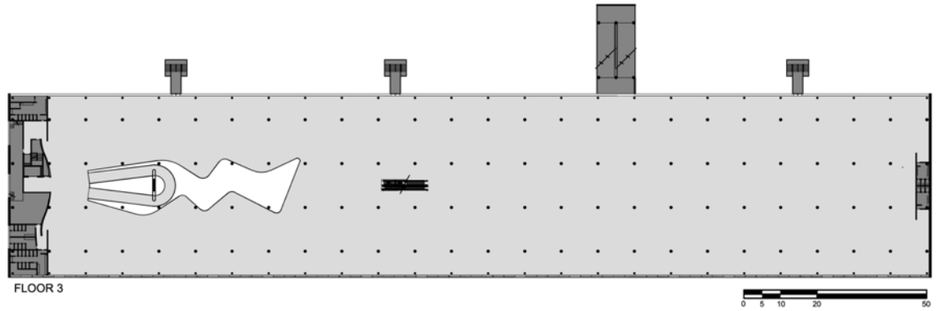


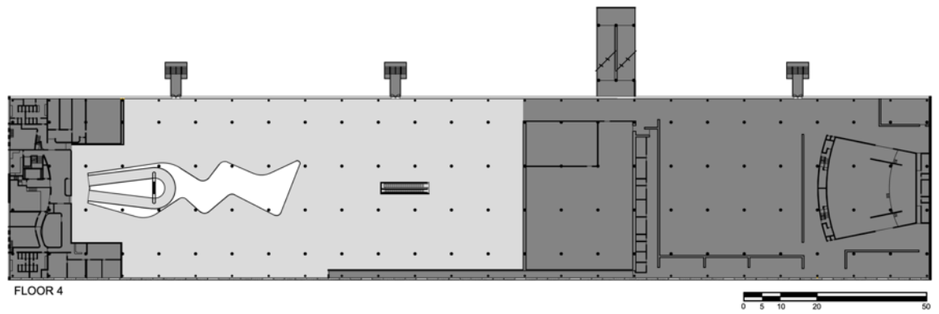


Pavilhão Bienal | 2018



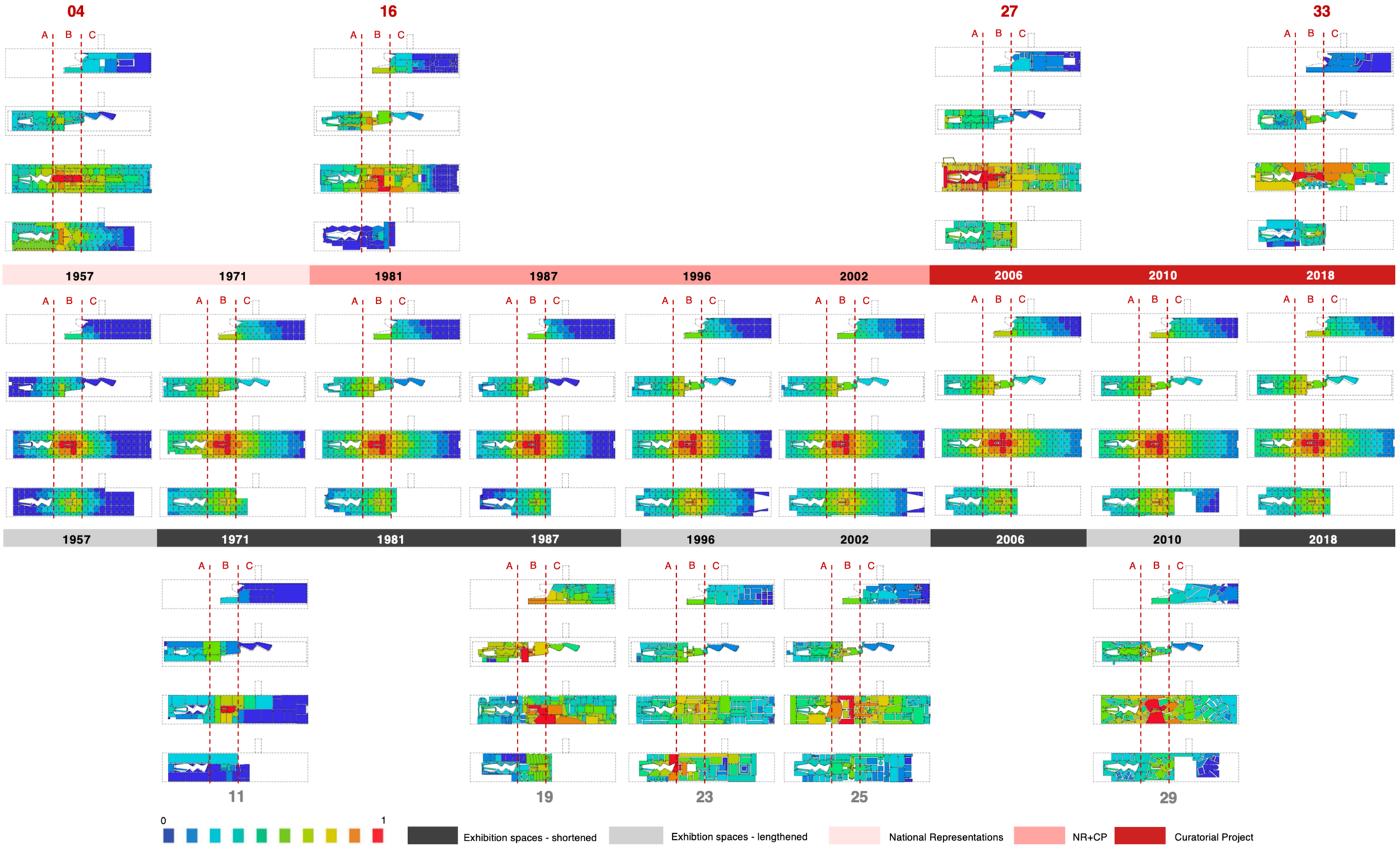




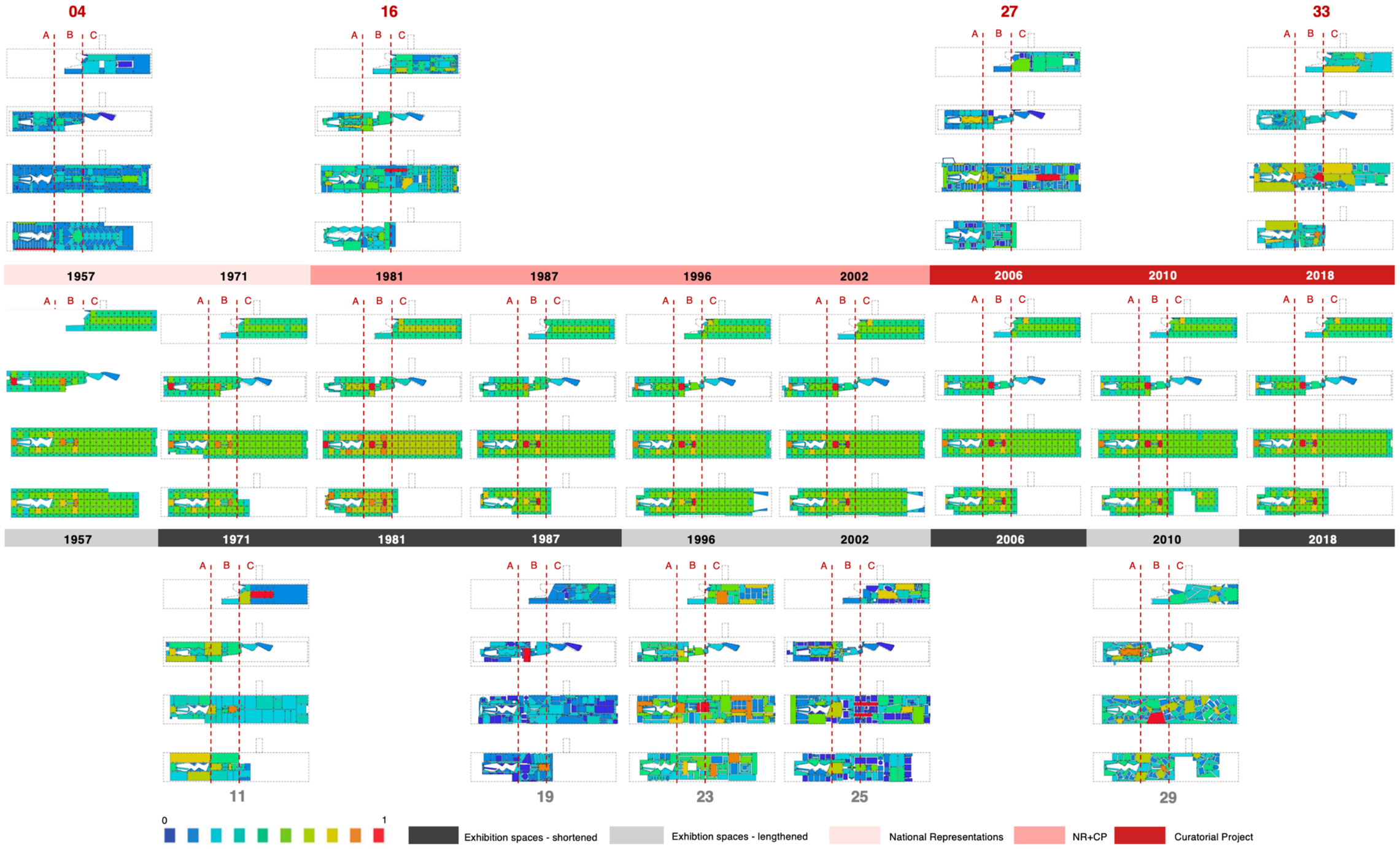


APPENDIX D. OCCUPATION ANALYSIS

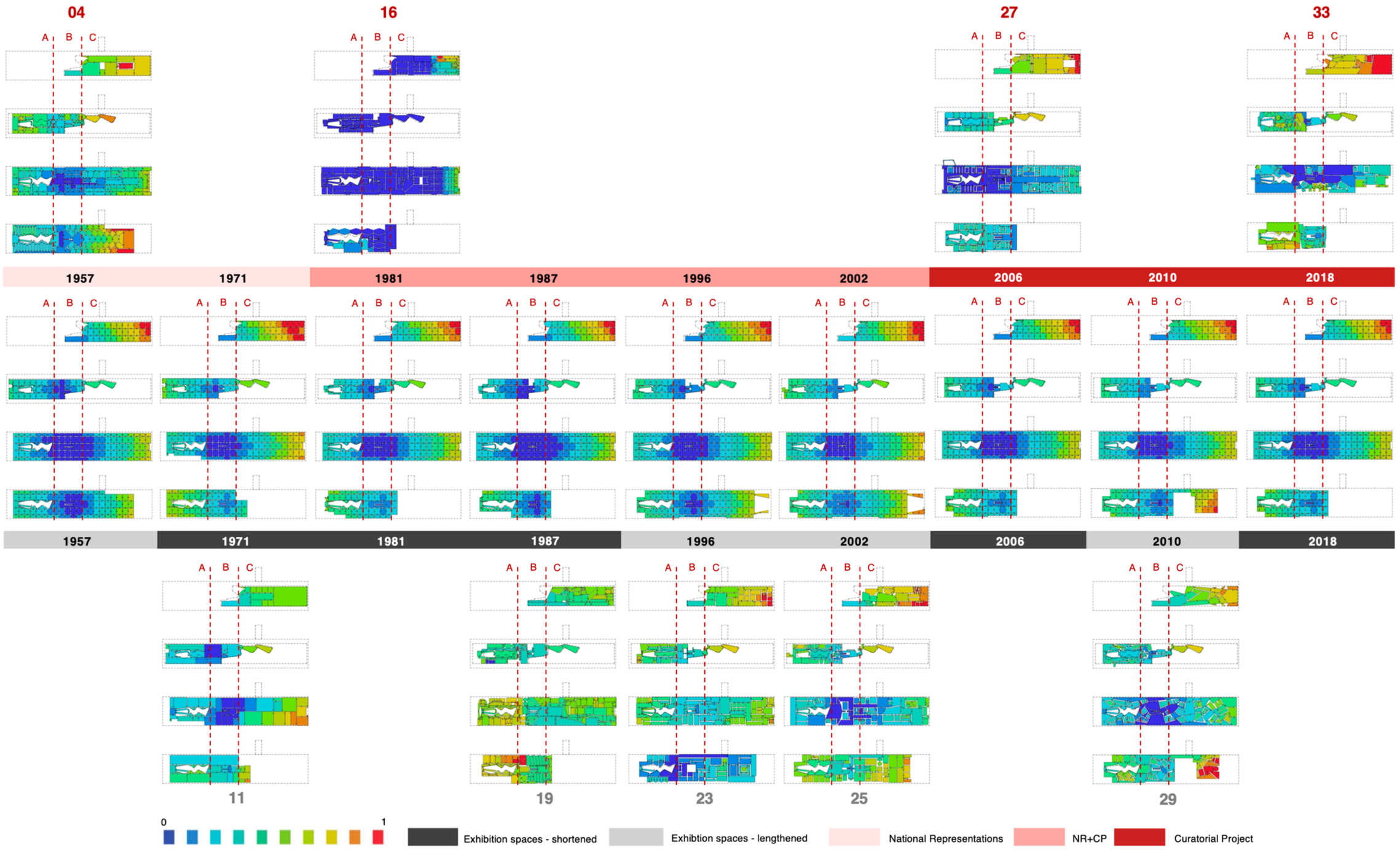
Integration [HH] – Complex and specific systems



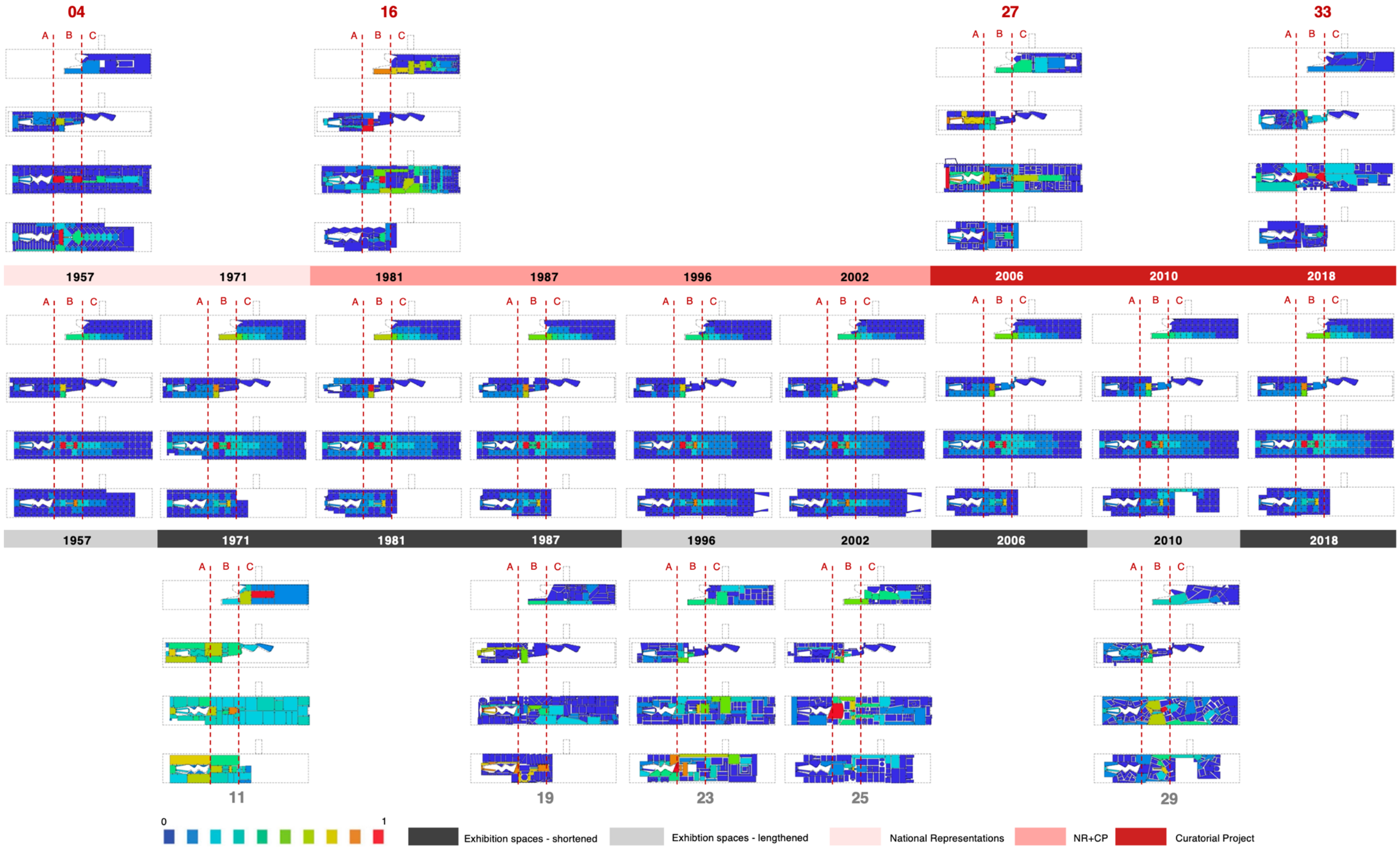
Connectivity – Complex and specific system



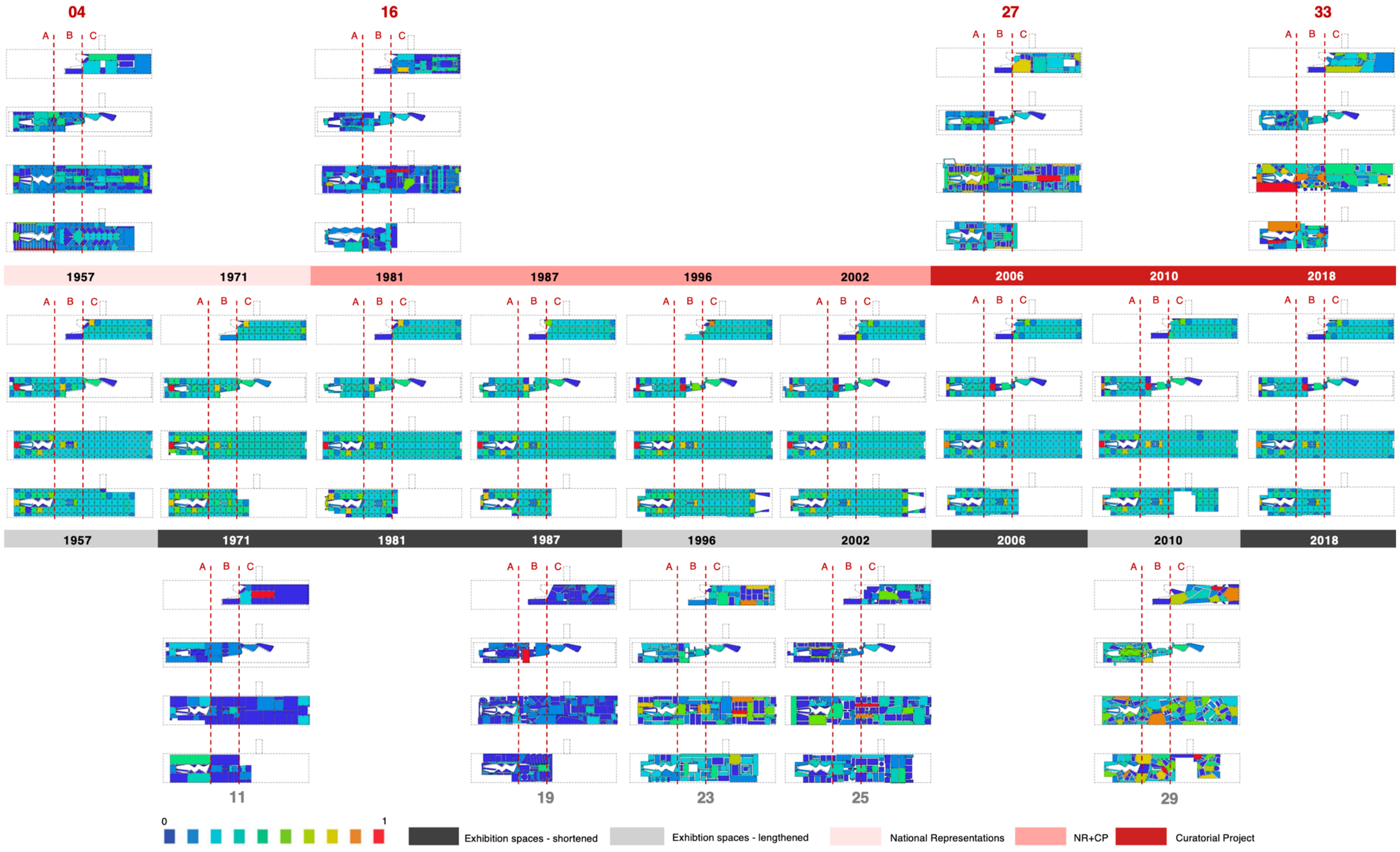
Mean depth – Complex and specific systems



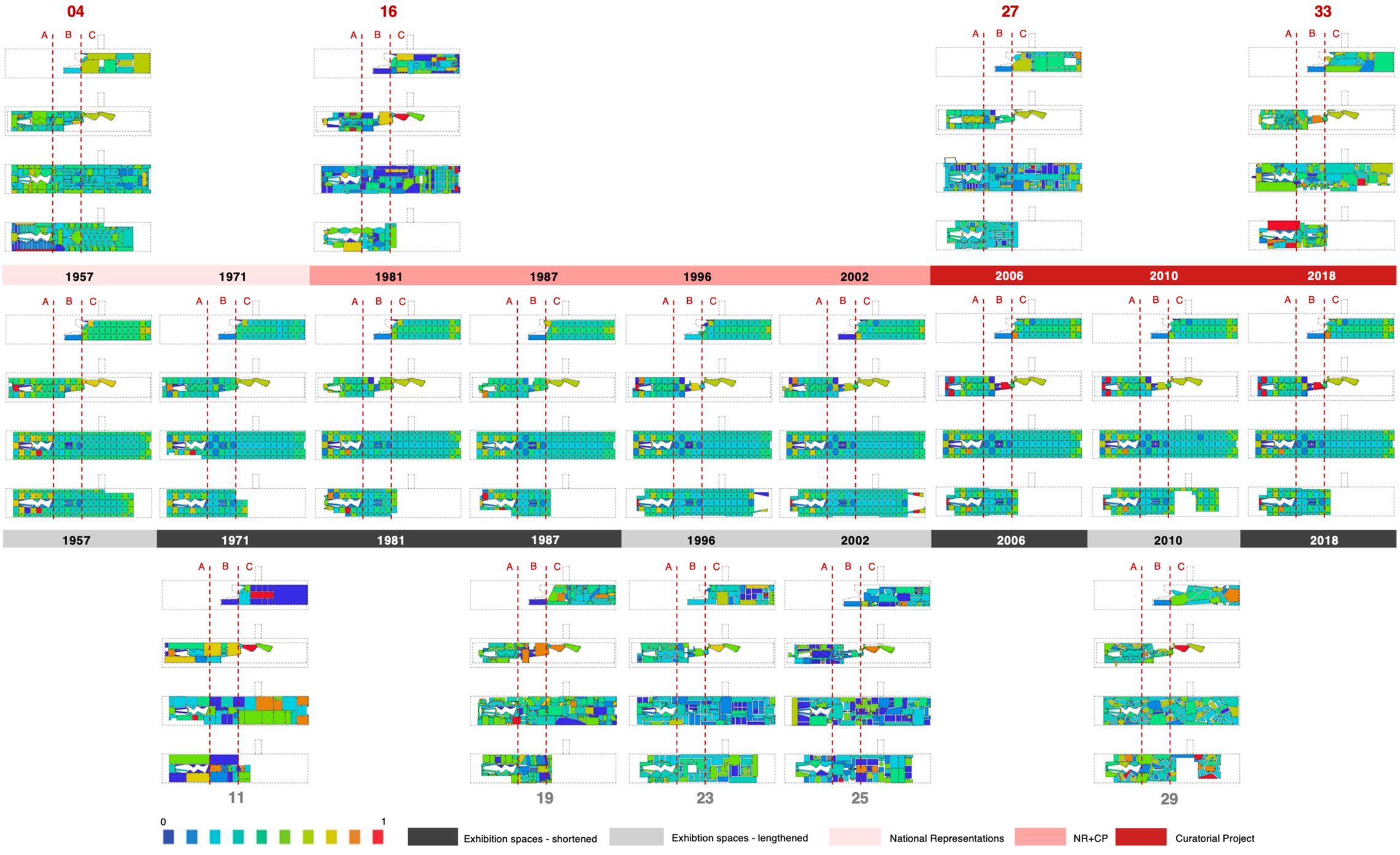
Choice – Complex and specific systems



Control – Complex and specific systems

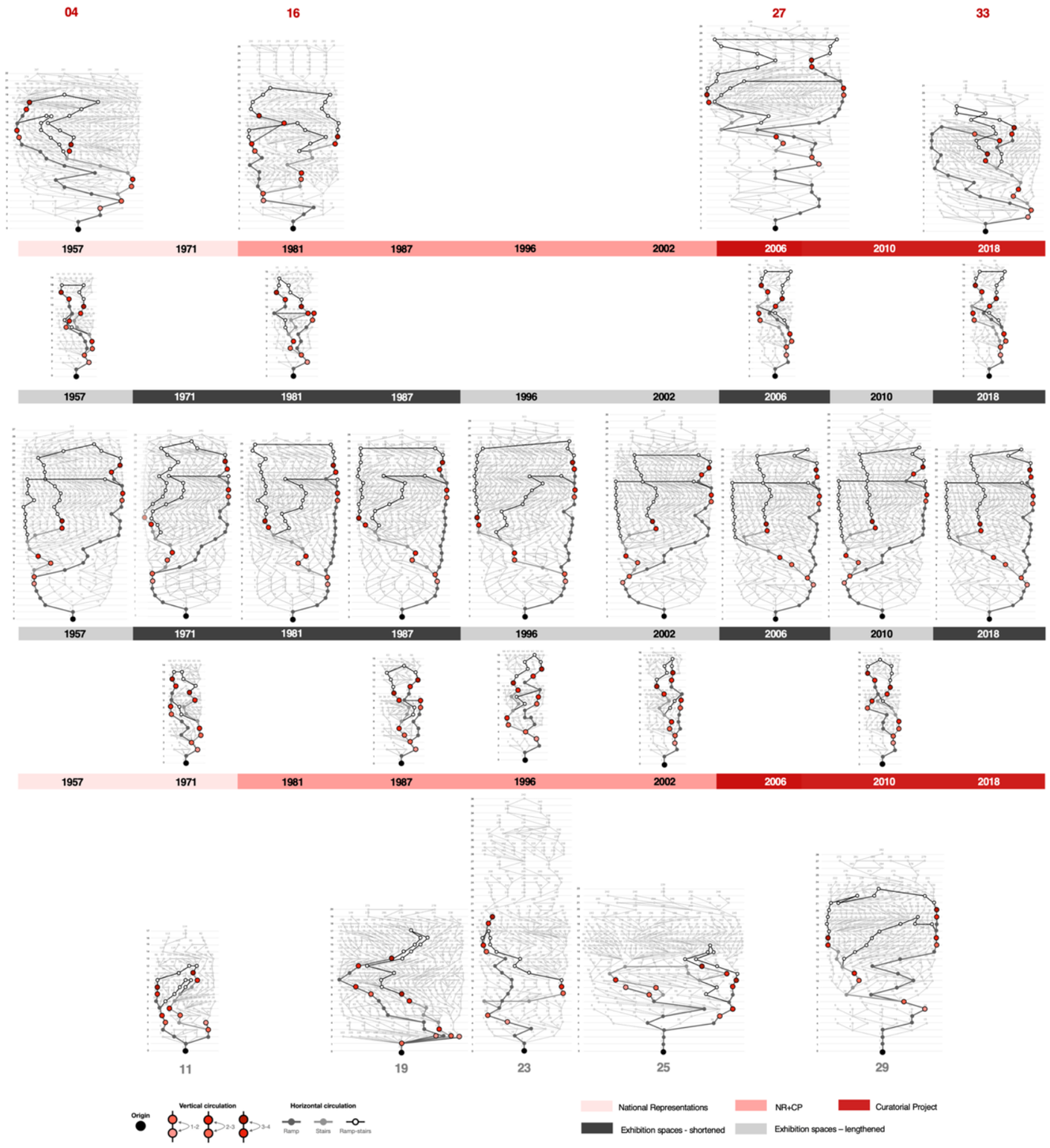


Controllability – Complex and specific systems

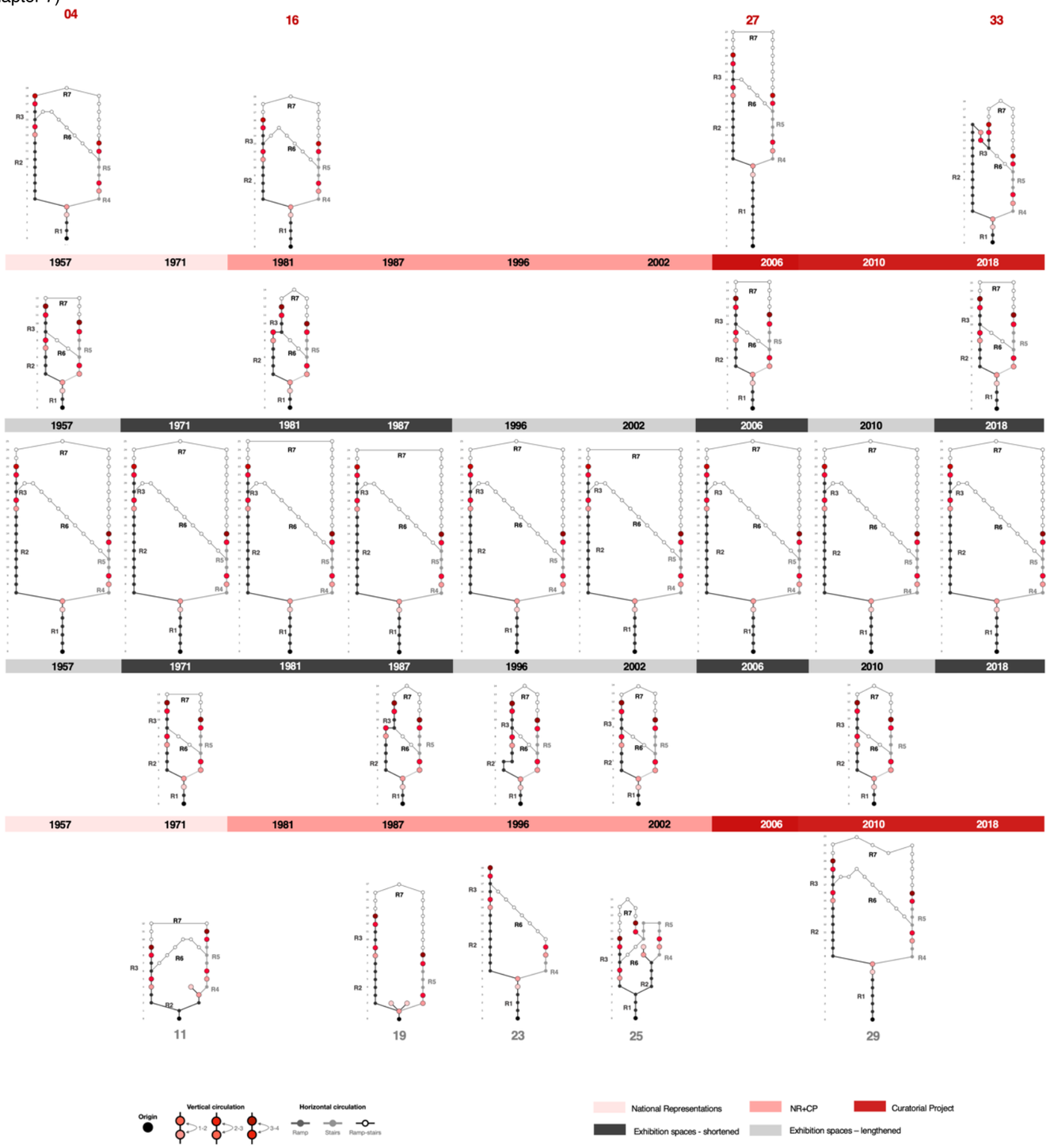


APPENDIX E. MOVEMENT ANALYSIS

System of Multiple Routes (SMR) (Chapter 7)



System of Origins and Destinations (SOD) (Chapter 7)



Spatial mediation I Empirical synthesis I Movement (Chapter 7, section 7.3)

System of multiple routes (SMR, j-graphs)

	TL			TL Norm			CS			CS Norm			Connections			Connections Norm		
	C	G	S	C	G	S	C	G	S	C	G	S	C	G	S	C	G	S
1957|04	27	**14**	22	0,59	0,00	0,36	316	**70**	289	0,96	0,00	0,86	522	109	459	0,99	0,01	0,84
1971|11	26	14	17	0,55	0,00	0,14	278	73	118	0,82	0,01	0,19	349	110	129	0,58	0,01	0,06
1981|16	25	15	26	0,50	0,05	0,55	275	75	262	0,80	0,02	0,75	451	**104**	340	0,82	0,00	0,56
1987|19	26	15	20	0,55	0,05	0,27	269	74	**325**	0,78	0,02	1,00	392	105	384	0,68	0,00	0,66
1996|23	28	15	**36**	0,64	0,05	1,00	319	81	260	0,98	0,04	0,75	**526**	118	339	1,00	0,03	0,56
2002|25	30	16	23	0,73	0,09	0,41	323	79	291	0,99	0,04	0,87	467	112	374	0,86	0,02	0,64
2006|27	25	16	29	0,50	0,09	0,68	273	77	276	0,80	0,03	0,81	445	109	417	0,81	0,01	0,74
2010|29	30	16	28	0,73	0,09	0,64	297	79	295	0,89	0,04	0,88	479	112	362	0,89	0,02	0,61
2018|33	25	16	21	0,50	0,09	0,32	273	77	233	0,80	0,03	0,64	445	109	298	0,81	0,01	0,46

TL=Topological levels; CS=Convex spaces; C=Complex; G=Generic; S=Specific

System of origins and destinations (SOD, MCP j-graphs)

	TL			TL Norm			CS			CS Norm			Connections			Connections Norm		
	C	G	S	C	G	S	C	G	S	C	G	S	C	G	S	C	G	S
1957|04	25	13	19	0,87	0,07	0,47	**54**	**26**	41	1,00	0,00	0,54	**55**	**27**	42	1,00	0,00	0,54
1971|11	25	13	**12**	0,87	0,07	0,00	54	26	31	1,00	0,00	0,18	55	27	32	1,00	0,00	0,18
1981|16	25	14	19	0,87	0,13	0,47	54	28	39	1,00	0,07	0,46	55	29	40	1,00	0,07	0,46
1987|19	24	14	17	0,80	0,13	0,33	52	28	35	0,93	0,07	0,32	53	29	35	0,93	0,07	0,29
1996|23	25	14	19	0,87	0,13	0,47	54	28	31	1,00	0,07	0,18	55	29	31	1,00	0,07	0,14
2002|25	24	14	15	0,80	0,13	0,20	53	27	36	0,96	0,04	0,36	54	29	37	0,96	0,07	0,36
2006|27	24	15	**27**	0,80	0,20	1,00	54	29	49	1,00	0,11	0,82	55	28	50	1,00	0,04	0,82
2010|29	25	14	23	0,87	0,13	0,73	54	27	50	1,00	0,04	0,86	55	30	51	1,00	0,11	0,86
2018|33	24	15	18	0,80	0,20	0,40	54	29	43	1,00	0,11	0,61	55	28	44	1,00	0,04	0,61

TL=Topological levels; CS=Convex spaces; C=Complex; G=Generic; S=Specific

