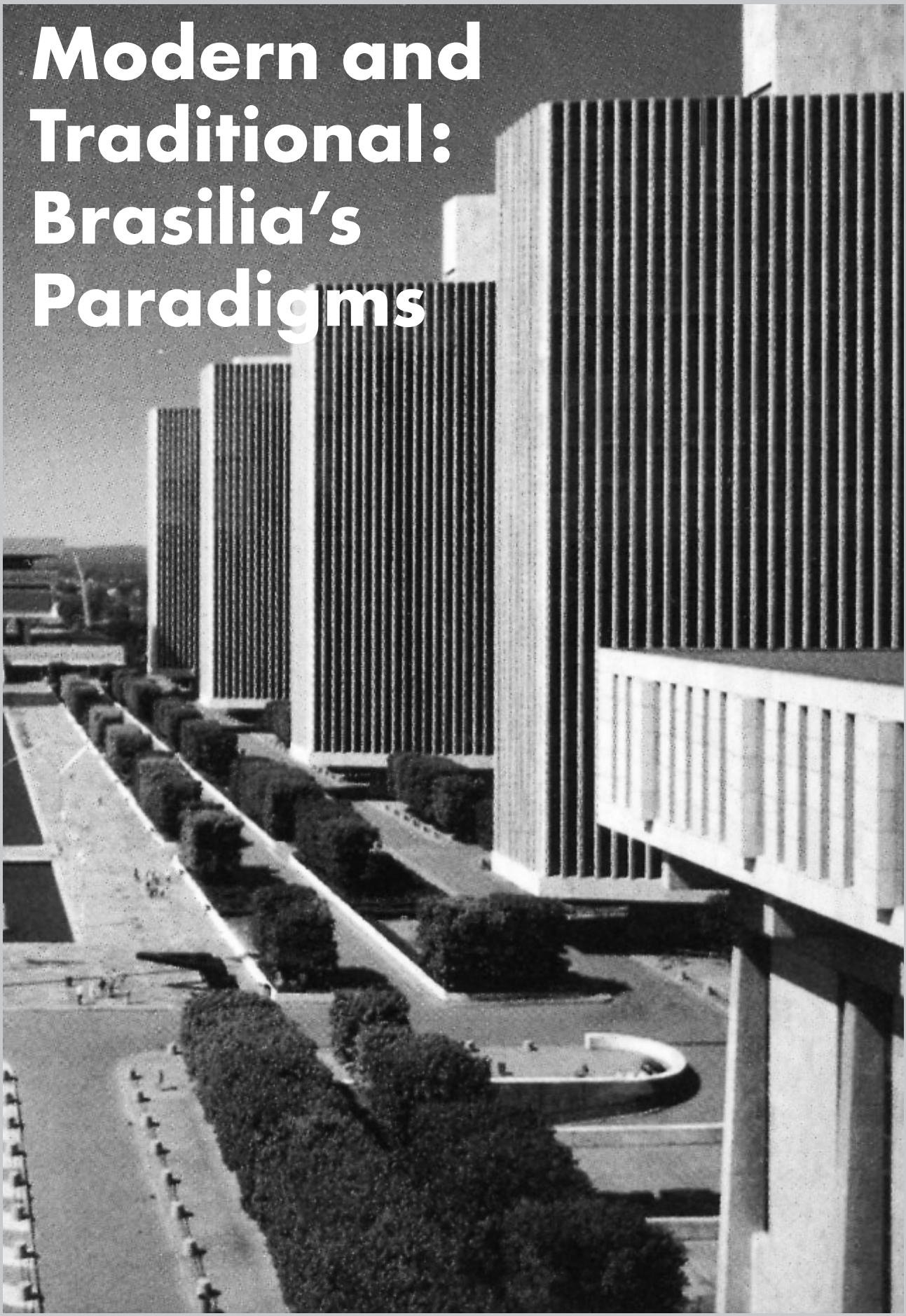
Modern and Traditional: Brasilia's Paradigms



By the 1950s, a shared culture spreading internationally through teaching and specialized literature became common currency in professional circles and gave rise to a repertoire of urban theories and practices. An examination of Lucio Costa's winning entry for the pilot plan of Brasilia attest to the existence of these paradigmatic formulae. Further more, not only was Brasilia a product of this culture, it grew to become itself archetypal. Yet, this high tide would be short-lived. In late 50s and early 60s, this veritable urban designer's toolbox began to lose its legitimacy to become target of critical scrutiny.

By Sylvia Ficher and Pedro Paulo Palazzo

IN the 1950s, a shared culture spreading internationally through teaching and specialized literature became common currency in professional circles and gave rise to a repertoire of urban theories and practices, a veritable urban designer's toolbox. In Thomas Kuhn's terms, this was the prevailing urban paradigm, a set of "universally recognized scientific achievements that for a time provided model problems and solutions to a community of practitioners."[1]

A case in point: in 1956 a competition was held to select a master plan for Brazil's new Capital, to be built in the country's hinterland.[2] An overview of all submitted designs known today shows their basic affiliation to a functionalist urbanism as presented in the Athens Charter. A further examination of the implements in that paradigmatic toolbox—as evidenced in Lúcio Costa's winning entry for Brasilia's pilot plan —might help us to better understand its genesis and *modus operandi*. Still, it should be noted that the categories expounded bellow are analytical in nature, as dissimilar implements can be mixed together in a single project, thus emphasizing the organic, imbricate logic of their possible articulations. Moreover, the discussion has as reference solely the plan for Brasilia and not the town actually built.

Urban Form

From the late 19th century up until the mid 20th, in the context of unprecedented urban population growth in Europe, most proposals and actions dealing with its consequences fall into three recurring patterns: interventions within the fabric of consolidated towns, schemes to address needs of expansion, and the creation of wholly novel urban types.

Urbanistica and town. Considering Brasilia's civic dimension as a Capital city, the issue of monumentality comes to the fore. As old as urbanization itself, the treatment given to representational spaces has been the preferential theme of urbanism as a discipline. And its paradigmatic solution has been monumental composition, by means of regulating axes, symmetry, geometric ordering, separation of parts, artworks or imposing buildings to close perspectives, all these ingredients deployed according to solid–void correlations that set these spaces apart from ordinary urban fabric. As in the Porta del Popolo, where Manetti rectified the confluence of three streets (1538), and Fontana complemented the arrangement by the positioning of an obelisk in their focal point (1589).

Monumentality from the 17th to the 20th century. The convergence of 3 streets onto a plaza, with singular perspective effects, results in the figure of a trident or *patte d'oie*. From the 17th century onwards, this configuration would become almost mandatory for representational spaces, at times extended into the whole urban fabric by means of diagonal avenues. An influential example among countless others is the plan for Versailles (1671). In L'Enfant's plan for Washington (1791), the whole supply of monumental gestures—up until then a feature of absolutist states—was exploited to give shape to a democratic nation's Capital. As the 1900s march on, monumentality remains on the agenda, as in Lutyens's New Delhi (1911) or Griffin's Canberra (1912), up to Speer's plan for Berlin (1939)[figure 1].

Modernist monumentality. Amidst ruptures with tradition and the renewing of formal repertoires, monumentality would continue to be expressed in Beaux–Arts terms, losing nothing of its preeminence. Symmetry, regularity and separation of parts are staples of modernist schemes, such as van Eesteren and Doesburg scheme for Unter den Linden, in Berlin (1925). The really remarkable break with tradition is that, instead of being an exclusive trait of exceptional spaces, the modernist brand came to be employed by and large throughout the entire urban fabric by means of freestanding buildings, giving a monumental character to even the most trivial places and buildings [figure 2].

Urban renewal. From the 1830s on, insertion of railroads in consolidated towns would lead to works ripping the urban fabric on an unparalleled scale, as in Hauss-

mann's Paris (1854 onwards). Going further, the razing and reconstruction of significant stretches of towns, under the misleading label of *urban renewal*, would become a routine kind of intervention in the mid-20th century. Although employed in postwar Europe to rebuild devastated cities, its use generally aims at increasing real estate values in run-down neighborhoods and reorganizing circulation systems.[3] This practice would indirectly influence the planning of new towns by spurring the recourse to expressways.

Specialization of roads. Road network, always a privileged subject in urban thinking, gained credence in the notion that separation of pedestrian and vehicular paths would mitigate congestions and reduce accidents. Prefigured in the 15th century by da Vinci's plan for Milan and paradigmatically employed by Olmsted and Vaux at New York's Central Park (1853), this alternative played a leading part in several prospective studies such as Hénard's *rue future* (1910). Not surprisingly, it was obsessively promoted by Le Corbusier in all his urbanistic musings, as the influential essay *La règle des 7 V* (1953) [figure 3].

Rodoviarismo. Further rupturing the urban fabric, a peculiar manner of dealing with vehicular traffic flow would be the recourse to major inner-city expressways, a mode of intervention that could well be dubbed *rodoviarismo* or *highway oriented urbanism:* by which we mean here the application to intra-urban contexts of solutions better suited to intercity freeways. Besides expressways, its paraphernalia comprises viaducts, overpasses and clover junctions, in general employed as part and parcel of renewal programs. An outlandish treatise on its tenets can be found in Spencer Sanders and Arthur Rabuck's *New City Patterns* (1946). Paradoxically, considering it's proclaimed sanitary rationale, this kind of intervention blights wide stretches of towns and increases traffic accidents, as for its effectiveness, it is summed up in the witty definition of expressway: "the quickest way to the next traffic jam" [figure 4].

Enlargement of cities: the *ensanches*. The extension of a city may be attained by stitching new urban fabric to the existing one, as in Cerdà's Barcelona (1859) or Berlage's Amsterdam South (1913–34). Even though it is notably difficult to make use of this alternative in the case of Brasilia's pilot plan—conceived as a self-enclosed figure which ought not, ideally, be altered—it became a sort of laboratory for the manipulation of urban form and, therefore, an indisputable element of the paradigm here under review.

Zoning. In contrast to eminently physical interventions, zoning is an effort to control urban activities by means of establishing permitted uses in buildings. It eventually leads to a functional division of the urban fabric; in extreme cases, it gives way to sectorization—the strict and exclusive definition of single-use districts, solution excessively adopted in Brasilia.

The city and the airplane. That prevalent paradigm also entailed taste preferences. As new means of transportation became readily available in the first quarter of the 20th century, they would influence not only urban thinking but also urban aesthetics, as illustrated by the requisite presence of airplanes and airports in the imagery of the futuristic city. Likewise, it is no wonder that Brasilia's pilot plan would take on quite literally the outline of an airplane [figure 5].

New urban forms. A Renaissance paradigm retrieved in the late 19th century is the creation of one-of-a-kind models for new cities, neighborhoods, or even urban renewal projects.

Linear city. First formulated for an extension of Madrid, Soria y Mata's concept of a ciudad lineal (1882) soon became a generic formula as in Tony Garnier's *cité industrielle* (1901–04). Transposed in the postwar megastructure craze into an architectural solution, it yield housing complexes as Affonso Reidy's Pedregulho (1948) in Rio, or Luigi Daneri's Forti di Quezzi (1960) in Genoa. A curious instance is Niemeyer's Central Institute of Sciences at

Figure 1. **Walter Burley Griffin,** Canberra, 1912
John W. Reps, *Urban Planning, 1794-1918: An International Anthology of Articles, Conference Papers, and Reports.* www.library.cornell.edu/Reps/DOCS/griffin.htm

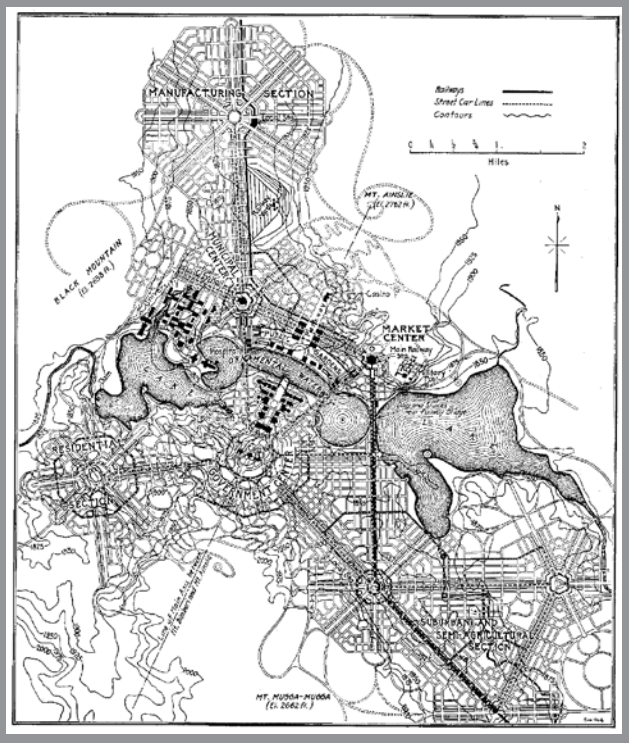
Figure 2. **Le Corbusier,** *Ville Contemporaine pour 3 millions d'habitants,* 1922. *Le Corbusier, Œuvre complete v.1: 1910-1929.* Zurich, Editions d'Architecture, 1937, p. 36

Figure 3. The Future circulation and the cloudscrapers of New York, 1913. Scientific American, New York, July 26, 1913

Figure 4. **Spencer E. Sanders and Arthur J. Rabuck,** Redevelopment plan of Area "A", Baltimore, Maryland. Spencer Edward Sanders & Arthur Jacob Rabuck, "New city patterns". New York, Reinhold, 1946, between p. 154 and 155

Figure 5. **Eugène Hénard,** *Une Ville de l'Avenir: Vue a Vol d'Aeroplane,* 1910. Joan Dethier & Alain Guiheux (eds.), *La ville, art et architecture en Europe, 1870-1993.* Paris, Centre Pompidou, 1994, p. 124

Figure 6. **Oscar Niemeyer,** Instituto Central de Ciências, 1962
Centro de Documentação, Universidade de Brasília



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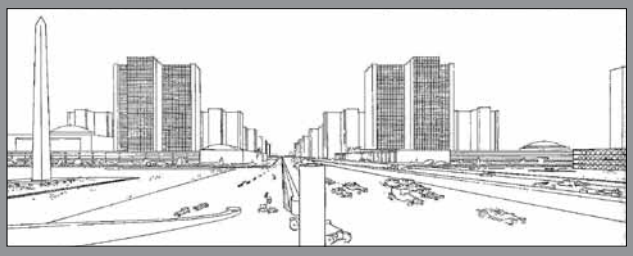

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Fig. 4.—Une Ville de l'Avenir; Vue a Vol d'Aeroplane.


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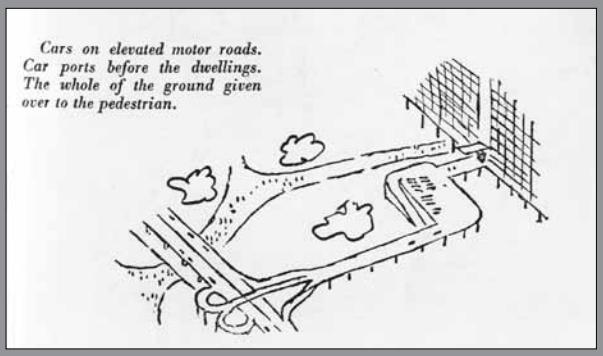
Cars on elevated motor roads.
Car ports before the dwellings.
The whole of the ground given
over to the pedestrian.

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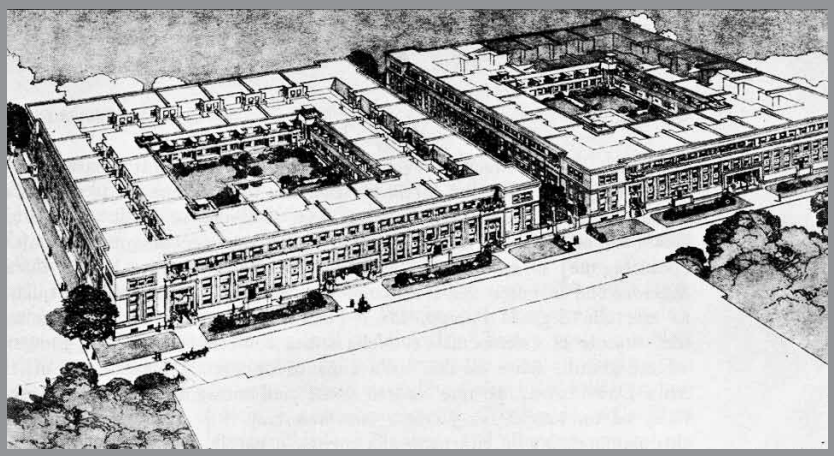

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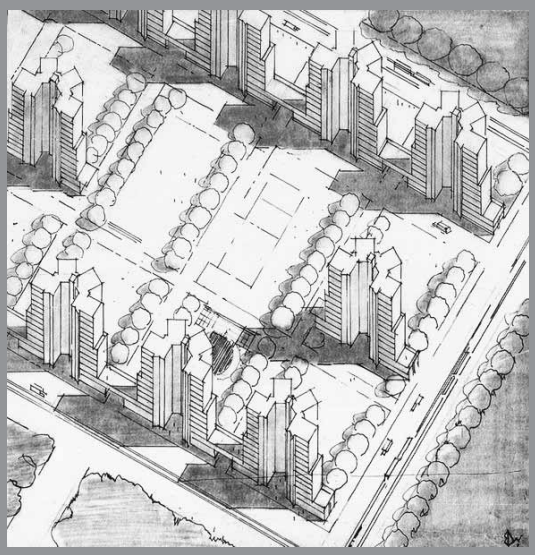

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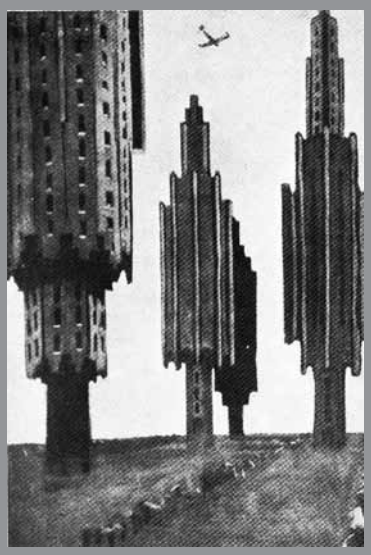

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the University of Brasilia (1962), a kind of scaled image of the city's pilot plan [figure 6].

Suburbs and garden cities. Unlike the foundation of new settlements as embryos of autonomous towns, suburbs are conceived as complete enterprises. In order to achieve the stability and security needed to preserve their status and real estate value, their street network—usually characterized since its early examples, as Llewellyn Park (1853) or Riverside (1865), by winding streets in the naturalistic British landscape tradition—and plot subdivision should not allow for densification or land-use changes. Suburban developments became an urban ideology, and a very popular paradigm, when conflated with the concept of *garden city*, as presented in Ebenezer Howard's *To-morrow: A Peaceful Path to Real Reform* (1898) and first carried out by Parker and Unwin in Letchworth (1904) [figure 7].

Ville radieuse. Starting with the *ville contemporaine* (1922), Corbusier's theoretical studies are distinguished by the emphasis given to expressways, specialization of roads and freestanding buildings. His prescriptions, propagated through his well known texts, still have a strong influence all over the world.[4] Nevertheless, his designs for actual sites are few, the most detailed ones being Saint-Dié (1945)—of particular interest due to its obvious influence on Brasilia's pilot plan—and Chandigarh (1952—64) [figure 8].

Satellite towns, new towns and villes nouvelles. Hilberseimer summed up this concept: "The separation or dissolution of the big city in work zones and residential areas leads as a consequence to the formation of the satellite system. All around the core of the large city, the central city, which in the future will be exclusively a working city, are located, on a circle at sufficient distances, closed residential neighborhoods, satellite towns of limited population... Even though they may have local independence, such residential districts are limbs in a common body, closely tied to the central core, and constitute with it an economic and technical-administrative unit."[5]

Likewise, the *new towns* and *villes nouvelles* built in the 1950s and 60s chiefly in England and France are more like satellite towns than the autonomous towns of yore. Indeed, not only did most entries in Brasilia's competition consider satellite towns as the chief mode of expansion of the future city, such a system of settlements of lesser urban and architectural merit actually arose even before the new Capital inauguration in 1960.

Architectural Form

According to Philippe Panerai, the urban fabric can be understood as being "constituted by the juxtaposition or overlap of three domains: the network of roads, the land subdivision in lots, and the buildings themselves."[6] Adopting his definition and focusing in the articulation of plots and the range of possible buildings that could be built in them, we can leave aside the larger order of the city, its major frame, to examine what happens in its interstices, in its architectural infill.

Occupying the urban block. Dealing with the division of land in lots leads to the various potential modes of occupation of the block, the area unit *par excellence* of the urban fabric. From the 18th century onwards, experiments with these possibilities appear in plans such as Lisbon's reconstruction (1756) or Edinburgh's New Town (1766). Both Cerdá in his *ensanche* for Barcelona (1859) and Agache in his plan for Rio de Janeiro's downtown (1929) gave particular attention to the filling up of the urban block. From Frank Lloyd Wright's Lexington Terraces (1901) to Corbusier's *immeubles-villas* (1922—25) and Stein and Wright's Sunnyside Gardens (1924—28), architectural massing tends to replace the lot as the basic form-giver of the cityscape [figure 9].

Destroying the urban block. A critical leap is made when the block boundaries are broken apart by a more rarefied distribution than that of the standard densely built up block, eliminating the intermediate step of land parceling into lots with unequivocal perimeters. Many are the examples of this manipulation of the urban fabric which became a prominent trait of vast stretches of contemporary towns, replacing cohesion by spaces void of orientation and meaning, compounded with serious

Figure 7. **Alexander Wadsworth,** Mount Auburn Cemetery, Cambridge, Mass., 1831. Boston Public Library 3370528616

Figure 8. **Le Corbusier,** Thoroughfare specialization. Le Corbusier & Pierrefeu, François de. *The home of man*. London, The Architectural Press, 1948, p. 131

Figure 9. **Frank Lloyd Wright,** Lexington Terraces, Chicago, 1901 Giorgio Ciucci et al, *La città americana della guerra civile al New Deal*. Roma, Laterza, 1973, p. 361

Figure 10. **Johannes Duiker with Jan Wiebenga,** Hoogbouw, Amsterdam, 1927-29. Joan Dethier & Alain Guiheux (eds.), *La ville, art et architecture en Europe*, 1870-1993. Paris, Centre Pompidou, 1994, p. 332

Figure 11. **Raymond M. Hood,** apartment buildings, New York, c. 1910. Hilberseimer, Ludwig. *La arquitectura de la gran ciudad*. Barcelona, Gustavo Gili, 1979, p. 68

accessibility problems. A particularly successful example among so many failures is Lúcio Costa's Parque Guinle (1948), in Rio, the chief precedent for Brasilia's superblocks [figure 10].

Object–buildings and *pilotis*. Although buildings set apart in the urban fabric are by no means novelties, in the past their seclusion has almost always been associated with monumental or otherwise exceptional architecture. In more recent times, concern with ventilation, lighting and fire protection, together with zoning regulations, lead systematically to mandatory setbacks for buildings. With the development of steel and reinforced concrete, structures would have among its outcomes, the extensive adoption of the independent structural frame and consequent separation of enclosing elements from supports. Associated these two factors, the next step in this rationale is a lesser occupation of the ground, so as to leave it virtually unimpeded to allow for an increased public space at street level.

The idea was already mature in the early 20th century, as shown in Hood's bizarre apartment building design for New York (1910). Corbusier treaded the same path in his Swiss Student Housing (1930), in Paris, at the same time giving the French word for pillar—*pilotis*—wide currency. In Brazil, the early adoption of concrete structures and the high status of the Modern Movement promoted a prompt use of *pilotis*. Its main showcase is the Ministry of Education (1936—45) in Rio, a milestone design by Lúcio Costa's team of architects, after a sketch by Le Corbusier [figure 11].

Lúcio Costa's Pilot Plan for Brasilia

Costa's design was no exception and can be read as a summing up of the entire paradigmatic toolbox, even though translated largely into a Corbusian mode: a *beaux-arts* version of the linear city—complete with symmetry axes and the ubiquitous *patte d'oie*—, together with expressways, specialized roads, stern sectorization and predominance of freestanding buildings. Yet, cities are cities, and some of Brasilia' spaces preserve the qualities of traditional urban fabric [figures 12a, 12b].

Contemporary Projects

Further attesting the existence of paradigmatic formulae in urban design in the mid-20th century is the extensive number of instances in which they were deployed. Wiener and Sert's proposal for Chimbote (1953), Peru, brings immediately to mind some central areas of Brasilia; the similarity between Alton West housing complex (1956) in London and Brasilia's superblocks is compelling [figure 13].

The Impact of Brasilia

Not only was Brasilia a product of this paradigm, it grew to become itself archetypal. Its authority can be felt in projects as La Défense (1960) near Paris, Gropius's proposal for Boston (1963) or Harrison's Empire State Plaza (1965–78) in Albany. Examples that illustrate the paradigm's dynamic nature, quick to incorporate solutions acclaimed in the professional milieu. Yet, this high tide would be short-lived. In late 50s and early 60s, the urban toolbox considered, here began to lose its legitimacy to become target of critical scrutiny, confronted by some classic books as Giuseppe Samona's *L'urbanistica e l'avvenire delle città negli stati europei* (1959), Kevin Lynch's *The image of the city* (1960), Gordon Cullen's *Townscape* (1961), and Jane Jacobs' *The death and life of the great American cities* (1961) [figures 14, 15].

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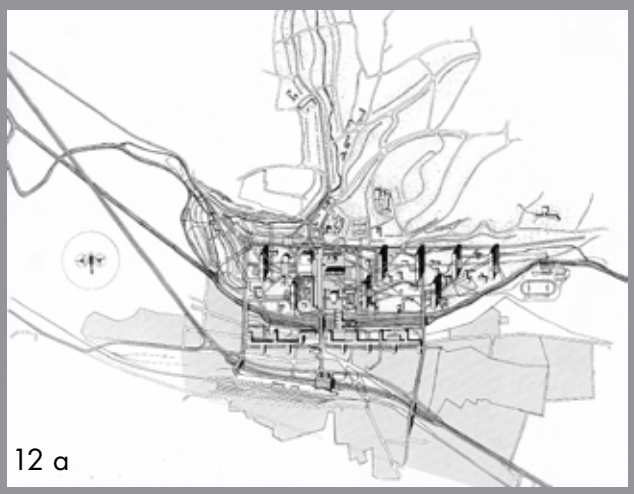
Notes

1. Thomas Kuhn, *The structure of scientific revolutions*, 1962, p. viii. The justification for applying his ideas to fields outside the hard sciences is given by Kuhn himself in "Comment on the Relations of Science and Art" (1969; Thomas Kuhn, *The essential tension*, 1977, pp. 340-51).
2. For a more complete survey of Brasilia's urban history, see Geraldo N. Batista, Sylvia Ficher, Francisco Leitão and Dionísio Alves de França, Brasilia: A Capital in the hinterland. In: David L. A Gordon (ed.), *Planning Twentieth Century Capital cities*, 2006.
3. A good appraisal is to be found in James Q. Wilson, *Urban renewal:* The record and the controversy, 1966; a passionate critique in Robert Goodman, *After the planners*, 1972.
4. Most of them published in Le Corbusier, *Œuvre complète*, 1935-70, 8 v.
5. Ludwig Hilberseimer, *Großstadt Architektur*, 1927.
6. Philippe Panerai et alii, *Analyse urbaine*, 1999, p. 103.

Pedro Paulo Palazzo
Architect, graduated from the University of Maryland, holds a Master's degree and a Ph.D. from the University of Brasilia School of Architecture, where he is Adjunct Professor.



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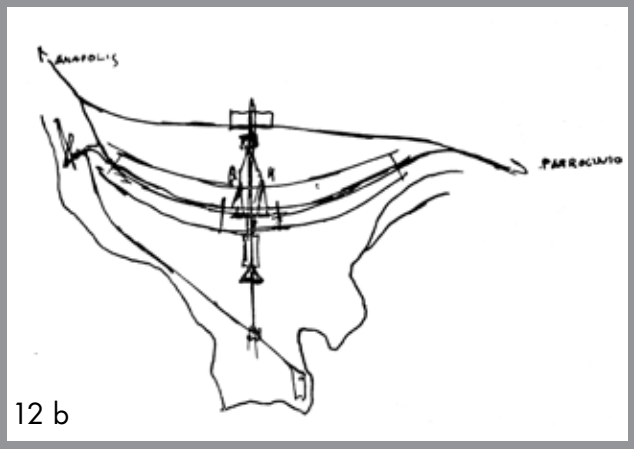

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Figure 12 a. **Le Corbusier.** Urbanization plan for Saint-Dié, 1947 *Le Corbusier. Œuvre complète* v.1: 1938–1946. Zurich, Editions d'Architecture, 1946, p. 137. and 12 b. **Lucio Costa,** Pilot Plan sketch, 1957. Casa de Lucio Costa

Figure 13. **Paul L. Wiener & Josep L. Sert,** Chimbote, Peru, 1953 Ernesto N. Rogers, J.L. Sert & J. Tyrwhitt, *El corazón de la ciudad.* Barcelona, Hoepli, 1955, p. 128

Figures 14, 15. **Wallace Harrison,** Empire State Plaza, Albany, New York, 1965–1978. Postcards

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