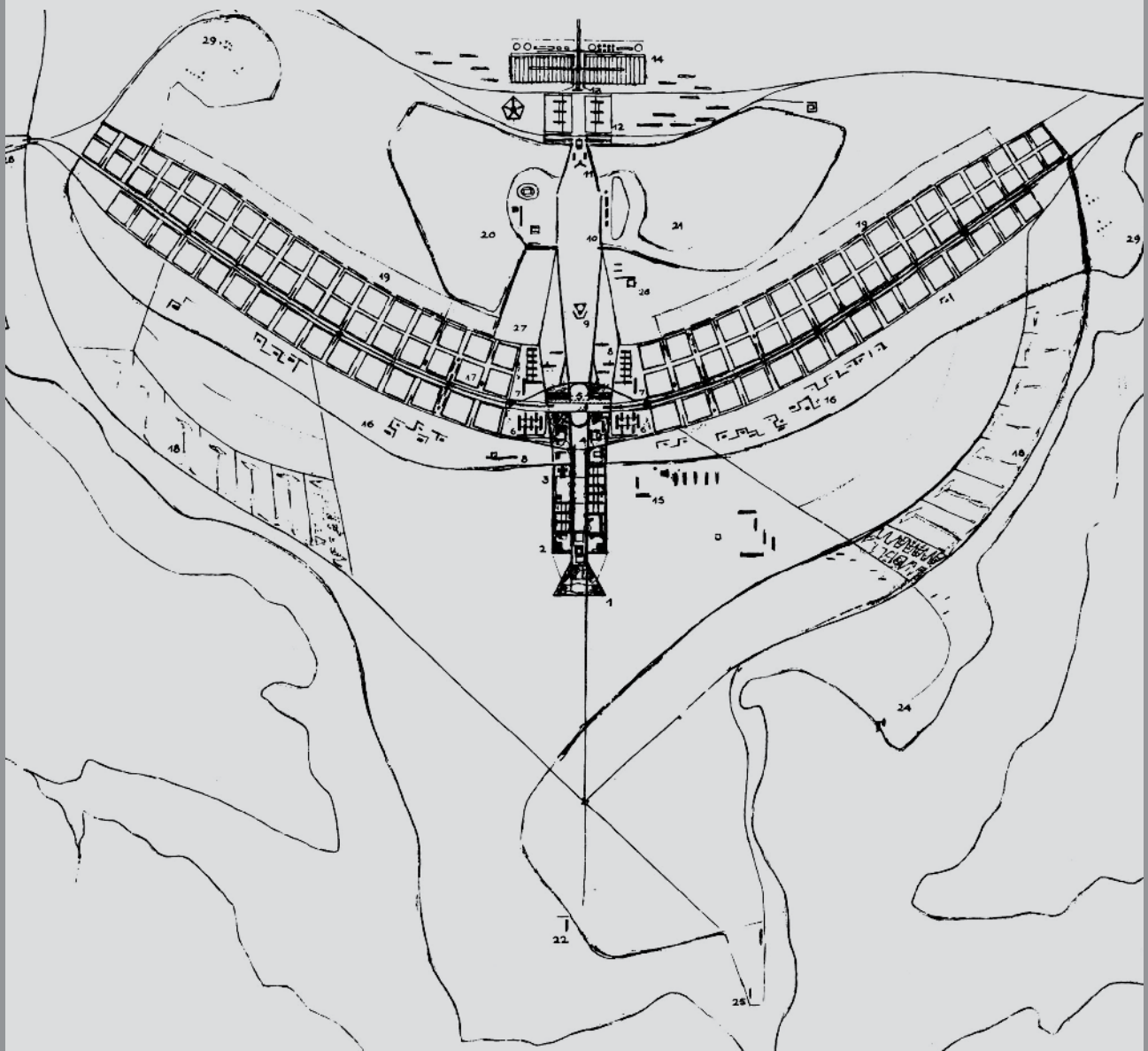


The Competition for Brasilia's Pilot Plan: Territory and Infrastructure



The Competition for Brasilia's Pilot Plan, 1957, brought together 26 projects for the Federal Capital. These projects, expressing the planning culture of the first half of the twentieth century, contribute to a diverse knowledge of planning solutions. But what element unites these projects? The common factor to them is the urban structure based on two urban axes. The reason for this is the flat territory and the introduction of such infrastructure. A model of planning cities based on their minimum elements that not only organize, but also qualify the place.

By Jeferson Tavares

I enjoyed it! exclaimed William Holford on announcing the victory of Lúcio Costa's project in the competition for selecting Brasilia's Pilot Plan. In expressing his opinion as one of the members of the review panel, the renowned English urban planner not only praised one city idea, but also sanctioned a new model for conceiving all cities.

Thus, on 16th March 1957, a controversial debate that simultaneously bequeathed to Brazil the project for its Capital and represented a synthesis of western urban thought of the first half of the 20th century was drawn to a close. Now, after five decades, it has become possible to place in a national and international context all of the proposals then presented, and to identify their predominant values.

The Competition

When he was elected President of the Republic in 1956, Juscelino Kubitschek promised to carry out the Federal Capital transfer to a location on the Central Plateau allowing it to be equidistant from the country regional capitals, as established in the Brazilian Constitution. The first step was the creation of the development company, *Companhia Urbanizadora da Nova Capital, Novacap*, which would be the main tool in fulfilling this ambitious undertaking.

His initial intention was to assign the design of the entire city to Oscar Niemeyer. The latter suggested, however, that a competition should be held to select the urban plan, whereas he would be in charge of designing the city's main buildings. *Novacap* thus became responsible for organising the National Competition for the Pilot Plan for the New Capital of Brazil. The competition rules, approved on 24th September 1956, required a minimum of elements with regard to the city's structure:

- a A basic layout of the city, indicating the arrangement of the main items of the urban structure, the location and interconnection of the various sectors, centres, installations and services, the distribution of open spaces and lines of communication, to the scale of 1:25,000
- b A supporting report.

A maximum population of 500,000 and the creation of a lake later named Paranoá, amongst other details, were afterwards defined as complements.

The requirement of so few elements not only encouraged the subscription of a large number of teams—62 in total—but also allowed for flexibility in the projects conception. This can be observed in the distinct approaches to presentation and detailing. While some competitors developed lengthy and detailed regional plans based on economic studies and statistics, others limited themselves to a descriptive text accompanied by some maps of the future city.

The review process was polemical. At first, the Brazilian Institute of Architects (Instituto de Arquitectos do Brasil, IAB) proposed a commission with Walter Gropius, Richard Neutra, Percy Johnson-Marshall, Max Lock, Alvar Aalto, Clarence Stein, Le Corbusier or Mario Pane as international names. The actual review panel, established by *Novacap*, consisted of the engineer Israel Pinheiro, *Novacap* president, who did not have the right to vote; two *Novacap* representatives: Oscar Niemeyer and Stamo Papadaki; Luiz Hidelbrando Horta Barbosa from the Society of Engineers; Paulo Antunes Ribeiro from the IAB; and, at last, two international urban planners: the Englishman, William Holford, responsible for the Plan for the City of London and working in Canberra at the time, and the Frenchman, André Sive, an adviser to the French Ministry of Reconstruction and Housing¹.

After five days of analysis, the review panel shortlisted seven projects, declaring Lúcio Costa the winner. The minutes were signed by all members except for Paulo Antunes who, disagreeing with the selection process, expressed his opinion separately, recommending that the definitive plan should be elaborated by a team made of

< Lúcio Costa – Winner
Pilot Plan in Brasilia, *Cidade que Inventei*, 1991

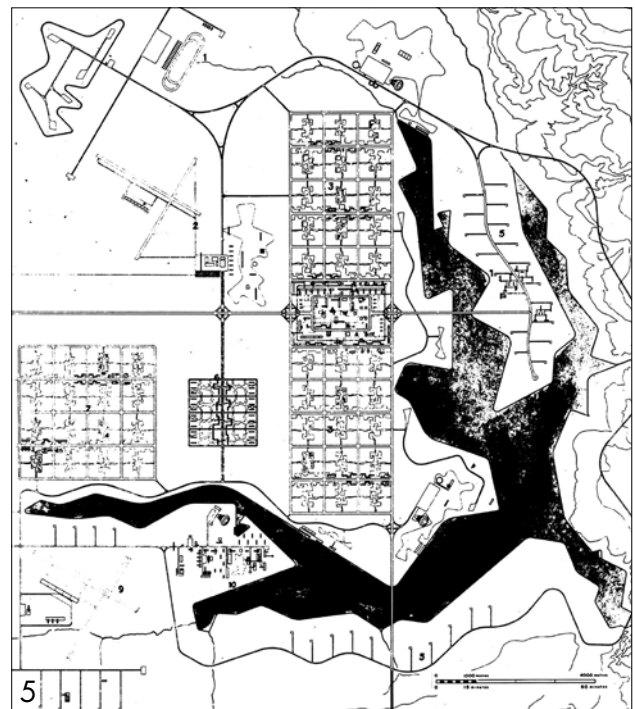
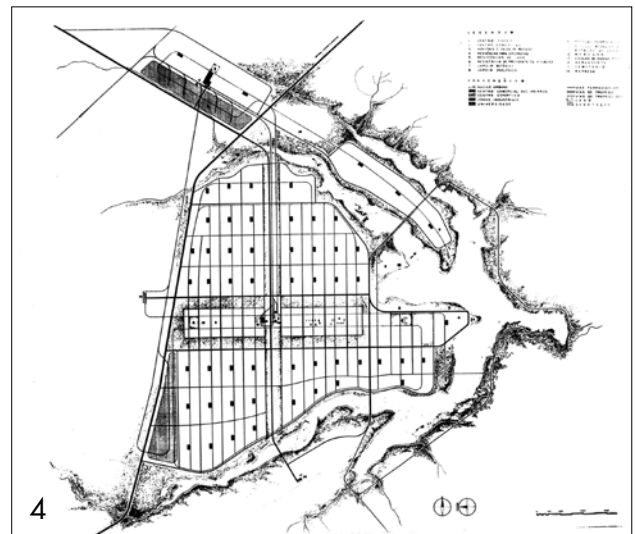
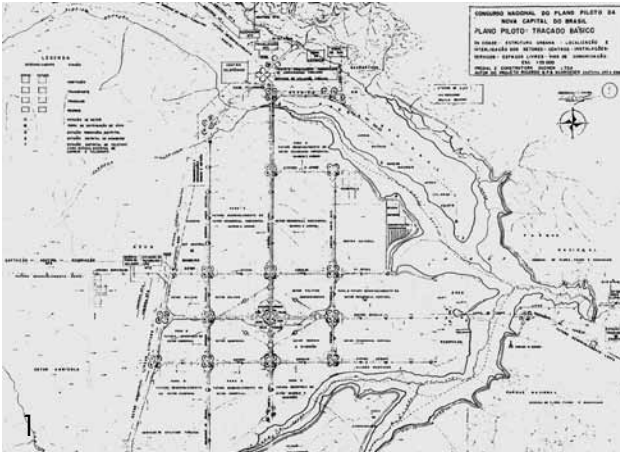
the seven finalists and three other competitors whom he put forward. With Antunes outvoted the original selection prevailed.

It is worthwhile to mention Le Corbusier's only direct contribution to the competition. In 1955 in his correspondence to the Brazilian government, the Swiss urban planner expressed his willingness to prepare a Pilot Plan for the city. That is, the definition of the main urban guidelines, whose development would then become the responsibility of Brazilian experts. Even though this offer was not ac-

cepted, the competition brief adopted the term *Pilot Plan* to denominate the document that presents the conception of the city. Its residents still use it today to indicate the part of the city designed by Costa, which, since 1987, has been on the UNESCO Cultural Heritage list.

Urban Axes

Of the 26 submitted entries, 19 are known today. As a whole, they represent a selection of the main planning trends of the first half of the 20th century. They refer—either directly or indirectly—to Brazilian baroque cities, to academic and avant-garde plans, to rational and picturesque repertoires, to new capitals—such as Washington, DC—to the Regional Planning Association of America, to the CIAM, to the Charter of Athens, to Neighbourhood



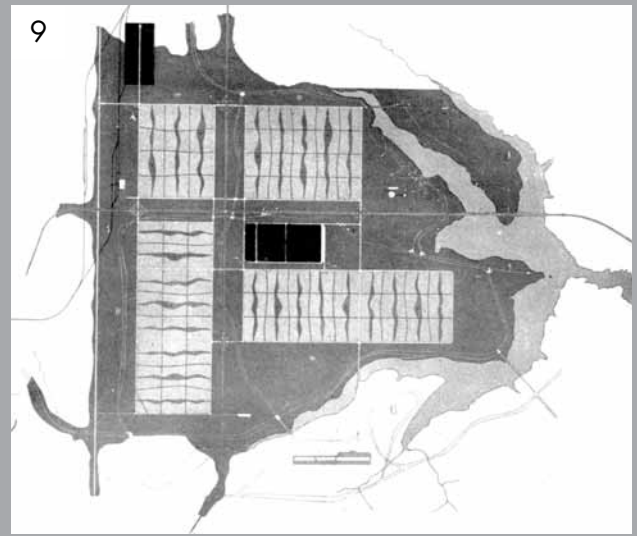
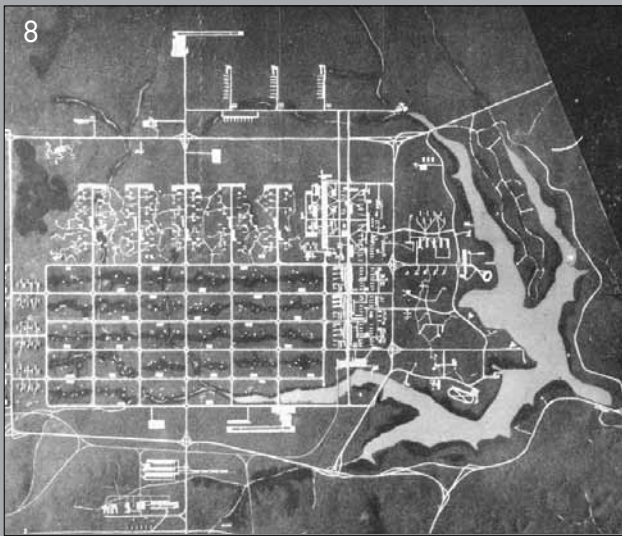
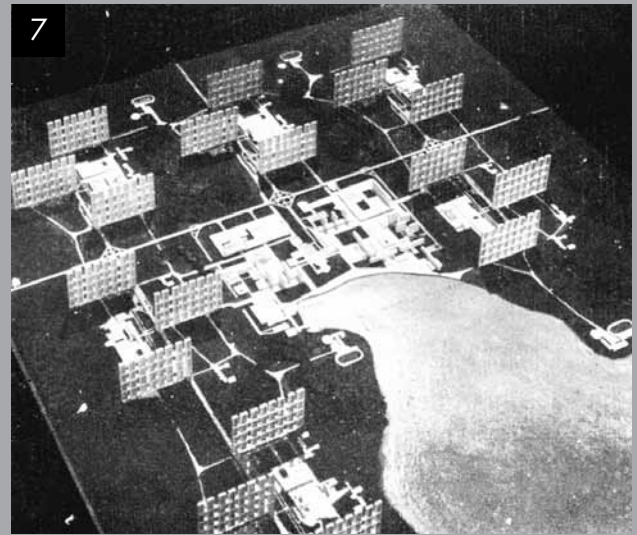
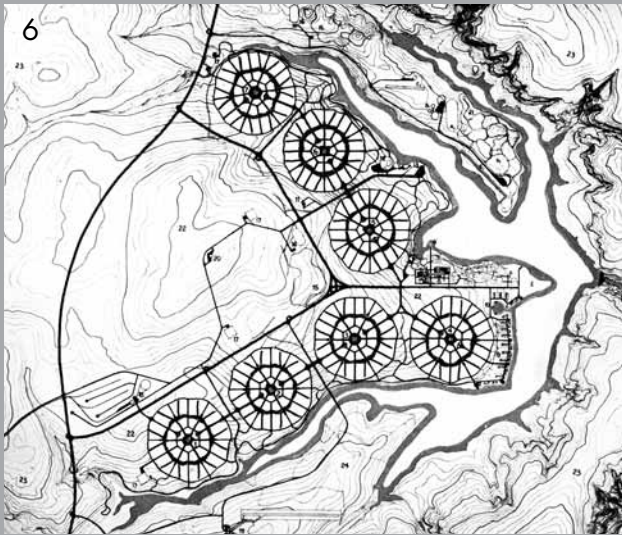


Figure 1. **Construtora Duchen Competitor.**
Image: Pilot Plan, 1957

Figure 2. **Pedro Paulo Saraiva and Julio Neves Competitors.**
Image: Plan Pilot in Engenharia Mackenzie Magazine n. 132, 1957

Figure 3. **Jorge Wilhelm and team Competitors.**
Image: Plan Pilot in Habitat Magazine n. 40, 1957

Figure 4. **Pedro Paulino Guimarães and team Competitors.**
Image: Pilot Plan, 1957

Figure 5. **Arquitetos Associados – Boruch Milmann, João Henrique Rocha and Ney Fontes Gonçalves Runner-Up.**
Image: Pilot Plan, 1957

Figure 6. **MM Roberto Third Place.**
Image: Plan Pilot in Habitat Magazine n. 42, 1957

Figure 7. **Rino Levi, Roberto Cerqueira Cesar and Luis Roberto Carvalho Franco Third Place.**
Image: Plan Pilot in Modulo Magazine n. 08, 1957

Figure 8. **Carlos Cascaldi, João Vilanova Artigas, Mário Wagner Vieira da Cunha, Paulo de Camargo e Almeida Fifth Place.**
Image: Pilot Plan, 1957

Figure 9. **Construtécnica S/A – Milton C. Ghiraldini Fifth Place.**
Image: Pilot Plan, 1957

Units and to New Towns. Names of international town planners appear, such as Camillo Sitte, Ebenezer Howard, Soria y Mata, Le Corbusier, Lewis Mumford and Patrick Abercrombie. Brazilian town planners are also quoted, including Saturnino de Britto, Anhaia Mello, Leberet and the Sagmacs, and the Centre for Urban Research and Studies at the University of São Paulo (CEPEU/USP, established in 1955), among others.

Despite differences both in their theoretical approaches and aesthetic conceptions, all competitors opted for a city whose form adheres to the site geometry, structured upon two large orthogonal road axes and organised according to the idea of functions separation. In some cases such a solution is disguised by long explanations of regional planning, by meandering routes or by formal exaggerations. Yet, the resemblance between all of them in using the infrastructure as the main element to space arrangement is undeniable.

What underlies in such a degree of consistency among such diverse solutions? Firstly, the territory must be considered. The place designated for the construction of Brasília is predominantly flat, bordered by a central elevation (altitude: 1170 m) to the west and the Paranoá Lake (altitude: 1000 m) to the east, which are approximately 10 km apart, creating a gentle slope.

Secondly, when establishing a new agglomeration in an area never before urbanised, the introduction of such an infrastructure is fundamental to the subsequent characterisation of the urban structure. Circulation lines, sanitation networks, energy distribution, communication systems, housing and urban facilities are the basic and structural city components.

Combining these two aspects within the context of urban thought, the layout of regulating orthogonal axes and the functional definition of urban spaces become an almost automatic response. In the particular case of Brasília, two axes arise from the features of its territory: a north-south axis, accommodated on a levelled site, which enables a straightforward distribution of urban functions, and an east-west axis, running along the terrain sharper slope, which enables a hierarchical functions organisation. This is the predominant framework, the issue shared by the majority of the competing entries.

The Competitors

Let us begin with examples from the non-shortlisted entries. The projects by Eurípedes Santos and by the *Construtora Duchon* are organised on the basis of such infrastructural elements as water reservoirs, bus stations, energy and communication facilities. Despite the differences, both projects present a city design led by orthogonal lines.

Edgar Rocha Souza and Raul da Silva Vieitas create an underground road system, which, on emerging above ground, forms an elliptical design, also organised by perpendicular axes. Pedro Paulo Saraiva and Julio Neves establish a vast public park over the perpendicular lines, giving the city a monumental and, at the same time, bucolic character. Pedro Paulino Guimarães also relies on an orthogonal grid created by the two axes intersection.

The *Equipe STAM*, led by Joaquim Guedes, takes the route of the underground lines as a starting point, which is a pioneering solution not included in other projects. The team led by Jorge Wilhelm uses the infrastructure to integrate the different administrative sectors. José Geraldo da Cunha Camargo makes use of the sanitation network to arrange the functional cells; these, in turn, in spite of their irregular distribution on the site, maintain the rigid design of the perpendicular axes.

Hence, the circulation, sanitation, transportation and energy distribution networks, even if invisible, led to the creation of rational designs that dialogued with the territory.

The Finalists

The selection of the finalists represented diverse qualities. In spite of the clear polarisation between William Holford and Paulo Antunes Ribeiro, who held antagonistic positions, the *avant-garde* discourses predominated. Nevertheless, the solutions themselves go beyond the modernist label to which they were subjected. It is possible to observe, as well, that the proposals prioritised the implementation of infrastructure while appreciating the area natural characteristics.

Lúcio Costa, Winner. With the poetic justification of comparing the plan to the colonial cross, Lúcio Costa also started from the definition of perpendicular road axes. In relation to other entries, his plan is a simple answer to the competition brief, based on the idea that a Capital city should be a *civitas*. The result is original in its design, although it does not conceal the affiliations of many of the adopted solutions.

Despite the overpowering presence of the Monumental Axis, the key contribution of the plan lies in its network of superblocks. They bring innovation with regard to land use, density and scale, the relation between public and private space, architectural composition, and building heights. It is fair to say that the plan's precedent is Parque Guinle, a residential scheme in Rio de Janeiro, designed by Costa in 1948—which, in turn, is inspired by the North American experiences of neighbourhood units and Le Corbusier's proposals for the *unités d'habitation*. Yet Brasília's superblocks surpass their models.

Arquitetos Associados—Boruch Milmann, João Henrique Rocha and Ney Fontes Gonçalves, Runner-Up. The runner-up scheme, by a team of young architects, may almost seem to be a variation on the winning plan, having similar scale and urban structure. As in Costa's project, there are two perpendicular axes. They would, however, guide the city's expansion, as in the linear city model by Soria y Mata.

MM Roberto, Third Place. Rino Levi, Roberto Cerqueira Cesar, Luis Roberto Carvalho Franco, Third Place. The shared third place highlights unprecedented and challenging proposals. In both entries an urban model formed by the reproduction of a unit is evident—a cell in Roberto brothers' project and a building in the project by Levi's team.

The first presents a detailed demographic study and mobility solutions based on the use of conveyors. The seven cells that form it were, according to the authors, inspired by African nomad tribes, but they also resemble the organisation schemes of Howard's garden city.

The second one is, without doubt, the most unusual of all. No other project showed such a high degree of technological ambition. Proposing 300-metre-high and 400-metre-long buildings, it pushes to the extreme the idea of a vertical city. Each building is a virtual vertical district that would replace the traditional urban fabric. This approach may, perhaps, stem from the experience of Rino Levi's studio as one of those in charge of verticalising São Paulo's city centre from 1940 to 1960.

In both projects the circulation lines play a fundamental role in providing unity to all cells and buildings. These, despite independent grids, are also defined on the basis of two principal structuring axes.

Henrique Mindlin and Giancarlo Palanti, Fifth Place. Carlos Cascaldi, João Vilanova Artigas, Mário Wagner Vieira da Cunha, Paulo de Camargo e Almeida, Fifth Place. Construtécnica S/A — Milton C. Ghiraldini, Fifth Place. Grouped in the fifth place are the projects that provided solutions for some type of regional extension. Even so, all of them take the two central axes as a starting point and develop themselves through the use of orthogonal blocks, only slightly diverging to accommodate to the site topography.

The pragmatic city conceived by Mindlin and Palanti reveals a very similar structure to that of Costa's plan. The proposed civic centre echoed the concepts propagated by the CIAM, with which Palanti was greatly involved. The difference lies in the proposition of legal instruments and urban solutions to control the land use on a regional scale.

Being the only one to emphatically address the ques-

tion of social housing for the city's builders, Cascaldi's team presents an urban plan linked to a rural plan for the development of the Federal District.

Following the principles of the CEPEU/USP-based upon the Garden City concept and the American Neighbourhood model Unit—*Construtécnica* also links the city to its region by means of a green belt and rural areas in its vicinity.

The Legacy of the Competition

In the end, and from the point of view of town planning thought, what is the meaning of Brasília's competition? Historical perspective gives us the privilege of being able, in spite of the variety of repertoires and choices made by the competitors, to catch a glimpse of the planning culture of the 1950s.

Although they remained on paper, the 25 entries reveal how the program for a new Capital was approached from different political, demographic and urban standpoints, and rendered in different forms by means of monumental plans or linear buildings.

Despite the differences, it is possible to state that all proposals relied on a refined technical knowledge of the site and on a close dialogue with the structural solutions of networks. The introduction of the two urban axes (in all projects) reflect a sensitive look at the Centralit. *Plateau* territory.

As representatives of the concepts and values of that period, those projects become perennial as they bear witness to particular ways of conceiving cities.

Notes

1. Holford and Sive replaced Maxwell Fry and Charles Asher.

References

Tavares, Jeferson C. *Projetos para Brasília e a cultura urbanística nacional*. São Carlos: Master Dissertation, Escola de Engenharia de São Carlos, USP, 2004.

Jeferson Tavares

Architect and urbanist (Universidade de São Paulo, São Carlos), Master in Architecture and Urbanism (Universidade de São Paulo, São Carlos, 2004). He is the author of *Projetos para Brasília: 1927-1957* [Projects for Brasília: 1927-1957], in press, and currently works on urban infrastructure projects and is researching the regional planning of the State of São Paulo, Brazil.