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On Architecture, Life, and Urban Culture

Landscape as Urbanism in the Americas

Potentials for landscape as a medium for urban intervention in cultural, economic, and ecological contexts of Latin America

Foreword by Charles Waldheim

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Over the past quarter century landscape has been claimed as model and medium for the contemporary city. During this time a range of alternative architectural and urban practices have emerged across Latin America. Many of these practices explore the ecological and territorial implications for the urban project.

—Charles Waldheim

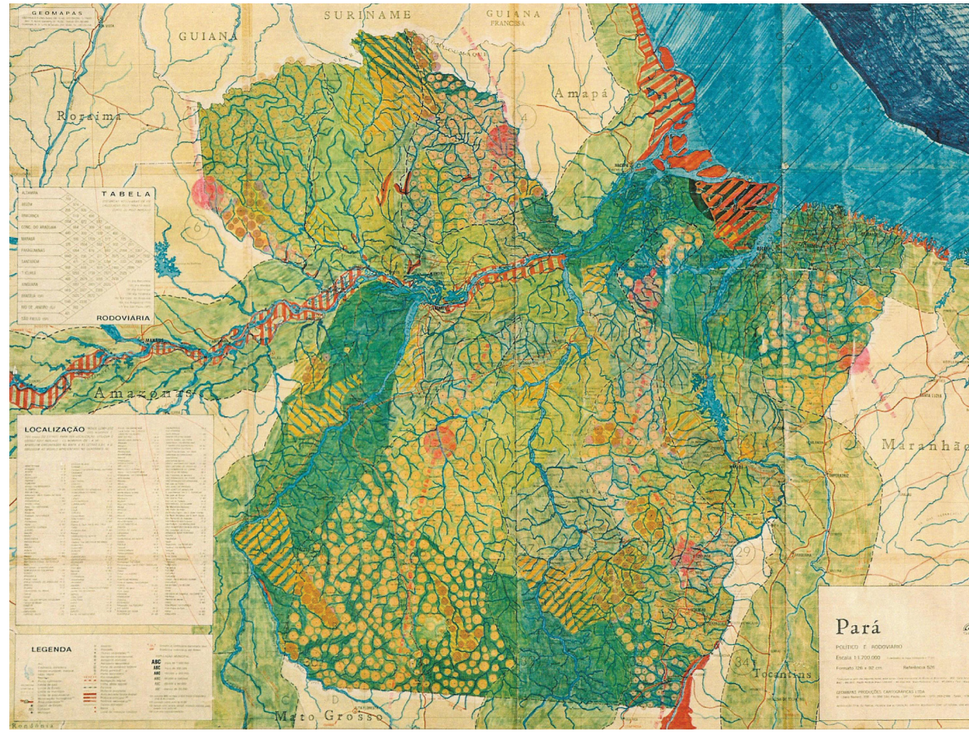
Landscape as Urbanism in the Americas focuses on the potentials for landscape as a medium of urban intervention in the cultural, economic, and ecological contexts of Latin America.

As an infrastructural operation is repeated in different territories, what emerges is a systematic drawing, a pattern of a totality that incorporates both local and universal. Difference is incorporated in a protocol that responds to social, political, economic, and territorial problems through the extension of the aqueducts.

Brazilian Archipelago – All of Brazil Connected by Aqueducts

BRAZIL

Sérgio Bernardes



The aqueducts and waterways proposed by Sérgio Bernardes provide a potential means of development and lay out a possible strategy for Brazil to combat regional disparities in wealth and infrastructure and achieve environmental balance. Based on a detailed study of Brazil's hydrographic system, he proposes a nationwide effort to construct sixteen geometrically organized rings that are connected by 30,000 km of aqueducts. These were planned to be built on existing river beds, in accordance with routes of production, trade, transport, and other uses of water. They would contain power stations and facilities for the treatment of effluents. Aqueducts would unify the nation, integrating its various regions and promoting economic, social, and environmental parity among them. (1)

Pathways of the First Tropical Civilization
All of Brazil Connected by Aqueducts

Throughout human history, rivers have always served as natural pathways for the spread of civilization. In a certain way, they were compasses for mankind's progress, pointing out directions, indicating routes for the exploration of the Earth. By way of rivers, man blazed his way into the interior of the continents, built settlements, and made the cities grow. For this reason, and for the wealth that they offer, rivers are one of our most bountiful universal heritages. But in his interventions, man has acted more in a predatory way than with the aim of protecting and preserving rivers' potential. Provoked by these and other ecological attacks, nature has also altered the rivers, changing the course of many of them, generating the dramatic contradictions of droughts and floods, pummeling entire populations, leaving many homeless.

It is now necessary to change the character of man's intervention with rivers. He must tame them while also ensuring that they do not become sources of hunger, misery, or death, but rather of life, abundance, and rebirth. A country's national defense depends in part on the proper care of this universal heritage. It must unite everything in its surroundings with the connection between nature with man, for the benefit of social well-being. In short, the moment to recover the historical role of the river—the pathways of civilization—is now.

In a continental nation such as Brazil, the power of rivers is staggering. We cannot apply models conceived for other contexts to this case; rather we must employ a unique and original alternative designed for Brazilian rivers and with the aim of developing the country as a whole. This means not only developing in privileged areas but throughout the country's territorial vastness; overcoming regional divergences and equitably distributing national wealth; putting an end to the drought in the Northeast and the floods in the South; lowering costs of shipping and travel while also solving the problem of environmental pollution and electrical power generation.

Such wide-ranging and decisive results for the country's future arise from a simple idea, inspired by an age-old practice: aqueducts or *aquavias*. Brazil could interlink all of its rivers through a system of sixteen aqueducts built in the form of a ring, connected in a way that allows their waters to go where they are needed. This would immediately allow for a redistribution of the country's hydric potential.

The largest aqueduct would be more than five hundred kilometers in radius and about three thousand kilometers in perimeter, circling approximately 850 thousand square kilometers in Central Brazil. The smallest one would be the Jequitinhonha Ring, including portions of Bahia and Minas Gerais with a radius of approximately 180 kilometers and an extension of less than 1,200 kilometers. Approximately sixty percent of the Brazilian territory would lie within this set of sixteen rings. In total, there would be thirty thousand kilometers of aqueducts, which would not only transport water, but also serve as routes for shipping merchandise, with space along their edges for implementation of a monorail system for high-velocity passenger trains.

LOCATION: Brazil / DATE: 1970 / SITE AREA: 30,000 linear km / PROJECT: Sérgio Bernardes

The aqueducts would be built along the river courses, cutting through them or taking advantage of the plains, the valleys, the canyons, the depressions, or the lower slopes of the mountains in order to obviate monumental engineering works without systematic direction. The water would be captured by gravity or by suction. It would also flow by gravity or by pressure in a suspended channel measuring twenty meters wide by ten meters deep. Two more channels, one on either side, would run along the edge of this central channel; each measuring twenty-five meters wide by five meters deep. They would simultaneously serve as rain-water collectors and as waterways for the transport of cargo containers.

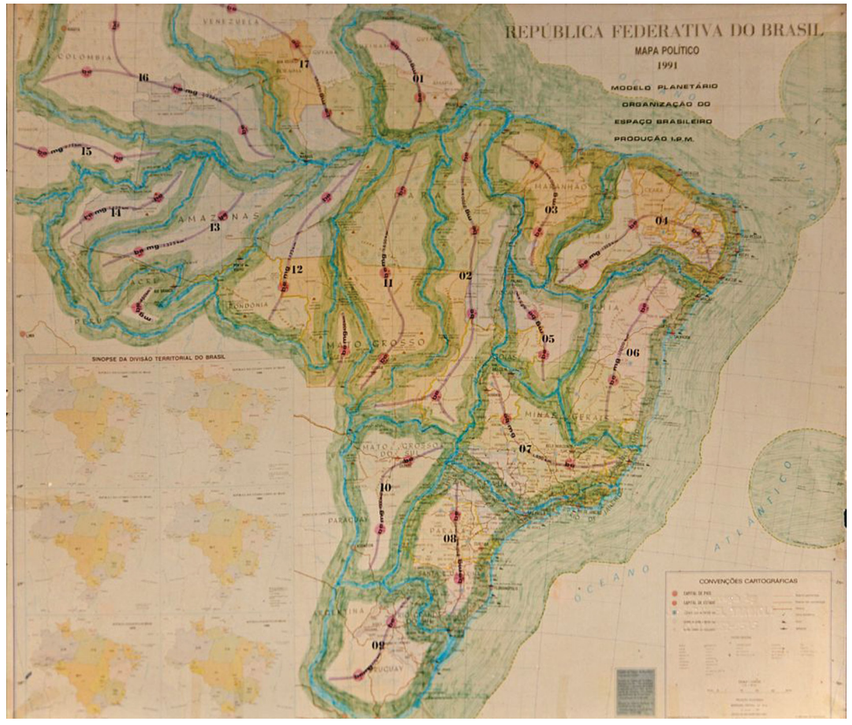
In these three channels, three types of water would flow: potable, crude water for industrial use, and water for irrigation. Under them, there would be pumping and water-treatment stations. The country needs to wake up to its natural evolution, undertaking a nationwide, collective effort for the construction of new transport routes that are fed by the rivers. With this project, hope would be revived in Brazil.

Building aqueducts by way of a nationwide, collective effort would represent the beginning. Its first effect would be to eliminate unemployment in this nation. And, on these new work fronts, workers would not only receive money but also guarantees of social security; they would have the opportunity to appreciate and closely accompany the construction of a new era for Brazil, obtaining first-hand knowledge of each part of the project.

The aqueducts would be much more than a simple water-supply network. They would bring all the regions closer together, integrating them and linking them, while conjoining natural resources and human efforts with the aim of definitively ending the problems of drought, floods, and pollution. The project would simultaneously create more economical alternatives for transport and power generation. By extension, such a construction effort would not only result in the nation's integration and salvation but would also provide a solution for unemployment and the economic crisis.

(1) Text from Projeto Memoria, Sérgio Bernardes Archive.

(2) Bernardes, Sérgio. "Revolution without the R," in the exhibition at Rio de Janeiro's Modern Art Museum (MAM), 1983, with Bernardes, Kykah and Cavalcanti, Lauro (organizer), Rio de Janeiro: Artviva, 2010, p. 299.



AQUEDUCT SYSTEM: 1960 – 1970