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Track 4: Environment Impact Awareness In Urban Developments

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*E vós, Tágides minhas, pois criado
Tendes em mim um novo engenho ardente,
Se sempre em verso humilde celebrado
Foi de mim vosso rio alegremente*

Luís Vaz de Camões (c. 1524 - 1580)

Os Lusíadas, canto 1, stanza 4⁶

The submission of papers engaging worldwide design and implementation of urban, architectural and engineering developments, carried-out with particular environmental concerns and/or at sensitive locations, during the late 20th to early 21st Century time-frame, were encouraged and welcome at Track 4 in the “Grand Projects – Urban Legacies of the late 20th Century” Conference. That recent period of time was also the moment under focus of “The Grand Projects - Architectural and Urbanistic Operations after the 1998 Lisbon World Exposition” research project, which backed the Congress.

The Expo ‘98 World Fair, hosted at the same Portuguese capital where the “Grand Projects” Conference took place, was held to great success almost 25 years ago, and became a turning-point in dealing with sustainable urbanization, design and qualification of public space in Portugal. It also generated new urban infrastructure, such as the busiest railway station in the country, and even a new district in the city (a rare event in an aging continent...). The event tackled pressing global issues, such as brownfield reclamation, soil contamination, or handling the country’s major waste landfill, while taking a leap forward in environmental awareness in urban development and public space concerns. This also took part in the wider decontamination of the River Tagus estuary, carried out through: the 1994 interception of sewage waters from municipalities west of Lisbon; the 2011 completion

6 And you, tágides of mine, for created
Have you in me a new burning design,
If always in humble verse celebrated
Was cheerfully by me your river

of the capital's sewage treatment; the river's left bank collection of sewage waters from eight municipalities; or the deindustrialization of the largest industrial park in Portugal, on the same left bank of the Tagus, which was active at Barreiro since 1908.

The 1998 event selected the oceans as its major theme: an unsurprising choice, since Portugal has the World's 20th. maritime exclusive economic zone (a notable figure, since it is only the 109th country by area), and that the Expo '98 spread out along the riverfront of the Tagus, which estuary has been the launching pad for navigation around the world by Portuguese vessels for many centuries. Additional operations, along the guidelines set by Expo '98, were carried out in Lisbon's Metropolitan Region during the ensuing years, but also elsewhere in Portugal, with the implementation of critical urban space programs, green parks, or communal kitchen gardens. The extinguishing of the cracking tower belonging to the oil refinery which previously occupied a large part of the heavy industry grounds where the Expo came to happen, which perpetual flame stood-out as a blatant beacon of industrial pollution against the Lisbon skies, symbolically asserted a time for new policies and practices.

The historical and territorial background for the 1998 Fair - as well as for the research project which issued the 2021 Conference - is a legacy of humanity's recent past, replicated all around the planet. Paradoxically, the concept of Sustainability, as viewed today, emerges at a moment when humankind discards more resources than ever.

Sustainability was a concern, and a need, of the Roman Empire, which restricted the transformation of *silva* into *saltus* and *ager*, in strict proportion to the needs of the local populations, or the number of dwellers expected to move into centuriations and villages built and colonized by the Romans (and the Greeks before them)⁷. Rome also had to deal with sewage and urban waste, for which the city was forced to produce urban infrastructure like the *cloaca maxima* interceptor or the Testaccio landfill - still to be seen today -, consisting of the piling-up of debris of broken *amphorae*, arriving from the Empire's provinces. Interestingly, until relatively recently in the 20th Century, urban waste was kept to a minimum all across the (so-called...) Western World, and its collection some 100 years ago was even sold by the municipality, for a term, to the best bidder, who would, for instance, use organic leftovers to supply pigsties⁸! By the way - the overgrowth of the city of Rome, above the technical capability to deal with those issues, is considered

7 According to Jorge de Alarcão's "Economia Rural no Alentejo" (Universidade de Coimbra, 1976), Polybius established that each soldier consumed 2/3 of an attican medimnus, which would require half a hectare of land to feed him.

8 'Nothing was thrown away: newspapers and empty bottles would be collected until a man or woman showed up, buying them, or swapping them for soap [...] everything would be reused, one way or another' - João B.M.Néu, "Em Volta da Torre de Belém. Evolução da Zona Ocidental de Lisboa". Livros Horizonte, Lisboa, 1994 [translation by J.L.Saldanha].

one of the major reasons for the collapse of the Empire, such as the limitations in supplying the urban dweller with fresh water, which arrived to the capital through the *Aqua Alexandrina*, *Aqua Alsentina*, *Aqua Anio Vetus*, *Aqua Anio Novus*, *Aqua Appia*, *Aqua Marcia*, *Aqua Virgo*, *Aqua Iulia*, *Aqua Claudia*, *Aqua Traiana* or *Aqua Antoniniana* aqueducts.

The papers accommodated at the “Environment Impact Awareness in Urban Developments” Track 04 sessions of the 2021 Conference are contributions from researchers in Asia, South America and Europe, and were generated by concerns with major issues in the fields referred above, such as:

- Urban sustainable development and renewal.
- Climate change adaptation and planning.
- Green architecture.
- Green spaces and well-being.
- Green infrastructures and nature-based solutions.
- Urban landscape and heritage.

All the papers have political implications, most noticeably in Chen Chu’s contribution for placing the Chagos Archipelago on the World map of concerns. It is worth recalling, also, that urban management, infrastructure and public works were politically so important, in Roman Civilization, that being an *aedil* (an official conducting those tasks) was a step in the Roman *cursus honorum*⁹.

Sally Torres presents a particular ecosystem landscape, its environmental importance and the loss of territory it has been suffering. Raquel Coelho and José Lage deal with the impact of the rise of the sea level, on a stretch of the Portuguese coastline. Rodrigo Neres produced a research on an intermodal terminal in São Paulo, and how its connection with the urban fabric surrounding it should be improved. Eduardo Medeiros worked on SUNstainability: the generation and use of solar energy in urban areas, which emphasizes how these concerns provide grounds for research, investment - and even jobs.

The remaining two papers in the session address urban developments on both banks of the Tagus waterfront. Since decontamination shall be one of the major challenges facing humankind, and sanitizing urban grounds and natural environments will make space for sustainable sources of labor and wealth, maybe soon

⁹ In Portugal, the term edil – stemming from the same root as edifice and edification – is sometimes still applied to municipal officials.

the celebrated *portugaises* oysters (*Crassostrea angulata*) from the Tagus, which once served as Europe's largest natural bank for these mollusks, may be harvested again. Perhaps, even the river nymphs - the *tágides* sung by the Renaissance poet Luís de Camões, in his epic poem "Os Lusíadas" (*The Lusiads*) -, shall swim its waters one more time, at the mouth of the Iberian Peninsula's longest river, on the westernmost point of Eurasia - where they once welcomed Ulysses.