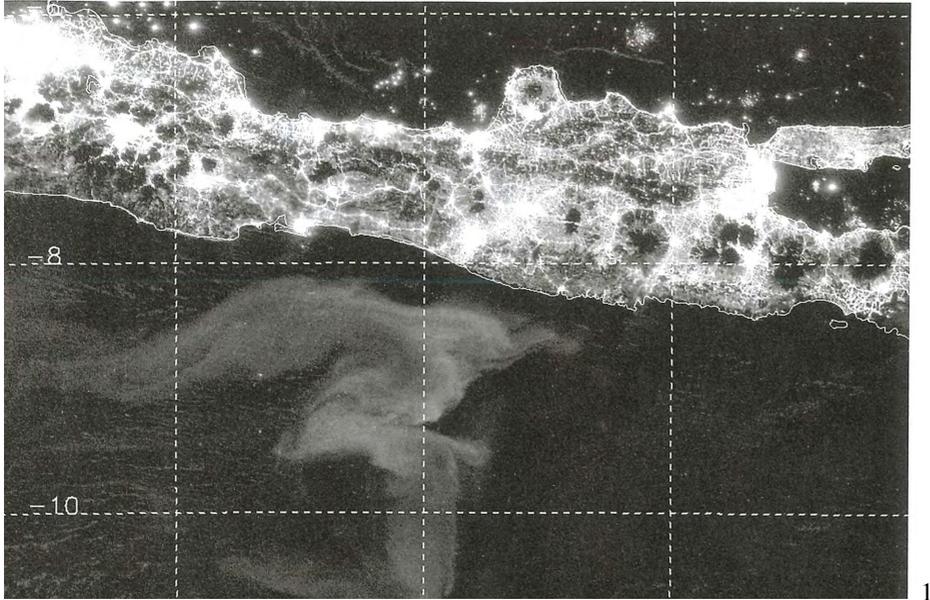


Representing the Complexity of Nature from Micro to Macro Scale

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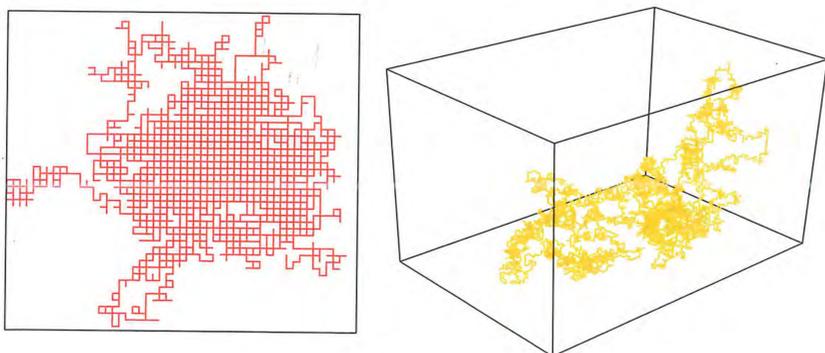


Galaxies in the coffee and on the concept of scale



Since the time of Leonardo da Vinci, representation has been a way to investigate and understand the phenomena of Nature. Today, however, the relationships woven between man and Nature have taken on new forms: they have become decidedly complex and seem destined for continuous evolution. Thus, taking into account new needs felt on a planetary and interdisciplinary level, we feel called to reflect on the role of representation in conceiving new relationships with natural phenomena (Fig. 1). In various disciplines, new ways of investigating and understanding our way of relating to space and the environment are emerged. Physics, for example, is looking for a theory to unify general relativity and quantum mechanics, coming to conceive the existence of strings and other dimensions, curved or rolled upon themselves.

More briefly, philosophy and science have discussed their interest in scale in many forms. We remember the visionary intuitions of Giordano Bruno that for some researchers lead to a multi-scalar approach to the study of the Earth, and in recent years fascinating studies like Albert Einstein's research on Brownian motion showing the macroscopic effect produced on pollen grains by the microscopic motion of water molecules (Fig. 2), as well as the one of Aazani and Petters that have discovered a universal principle that unites the curious interplay of light and shadow on the surface of our morning coffee with the way gravity magnifies and distorts light from distant galaxies.



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A multi-scalar approach in teaching methodology



Does a multi-scalar approach has particular importance also in teaching methodology applied to Landscape Architecture? As the discipline is generally taught as a unidirectional process, in which the designer goes from the big to the little scale, nowadays is particularly necessary for a trans-scale view to understand the environmental issues and their results on the tiny scale of the project. For example, the beautiful drawings of Christine Enrègle about a *Ficus macrophylla* in the Lisbon Botanical Garden show that fluxes and floods can reflect both the micro and the macro scale, confirming representation as the necessary dynamic to understand this complexity through the design process (Fig. 3).

It is possible to say that in the era of the Anthropocene, to cope with climatic and environmental changes, landscape design must tend towards a vision that considers phenomena as a whole, rather than focusing on specific aspects. This approach, which we can call holistic, has quite a few implications for the project. One, for example, is the need to understand and manage very complex phenomena, from small to large scales. But, as many researchers write, if we look at the images of many design competitions, it is clear that today hyperrealism is the predominant mode of representation. Instead of indulging in what Richard Weller effectively calls the "digital sublime", we probably need to focus precisely on the processes of the Earth system, to represent real connections between complex phenomena and everyday life as well as to understand and manage the changes of the planet.

Lowering your eyes, you see the university of winds, clouds, mists and storms, proceeding from the life and breath of this great animal and nume, which we call Earth.

Giordano Bruno