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Lisbon’s 11th International Space Syntax Symposium – challenges and prospects for the space syntax field

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Pages: 279-282
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There is a long-standing debate in the philosophy of science, dating back to the proverbial rivalry between Isaac Newton and Gottfried Leibniz, concerning the nature of space. Newton claimed that space is absolute – a universal container independent of everything else, within which physical phenomena take place; Leibniz held that space is relational – something that is only defined through the relationships between the objects it contains, and which therefore is undefined (or even inexist- ent) in the absence of content. Leibniz envisioned a universe in which objects are immersed in a network of spatial relationships, not in an ocean of ineffable space.

These have since been known as the absolutist and relationist metaphysical positions about space. Even though the debate is not completely resolved to this day, history has tended to endorse Leibniz’s position. Many scientific fields, initially rooted on solid Newtonian grounds, have undergone dramatic breakthroughs once inseminated by relationism. Indeed, today the idea of a universe of networked entities pervades modern physics, biology, sociology, economy and computer science, to name but a few fields where the relational paradigm and its corollary, the network, have become paramount (Smolin 2013, p. xxviii – xxx).

Traditional architectural and urban discourses, explicitly or implicitly, have also always treated space in a Newtonian, absolutist way. Even if acknowledging space as the raw-material that architecture shapes, traditional architectural theory sees space as an inert medium devoid of agency, a container within which human life is played out. In the same way, traditional urban theory sees space either as a mere inductor of distance friction, or as little more than a surface over which functions (i.e. social and economic activities) and infrastructures are distributed.

This is why we believe that the foundation of the space syntax research programme in the early 1980s was no less than a paradigm shift – the realisation that the stuff of which architecture is made up, namely space, is relational. Space syntax has made clear that the properties of human spatial systems that are really determinant for their success as shelters of life and society are not material, tectonic or aesthetical. Nor are they to be found in any space in particular. They are immaterial, non-local and non-discursive – they lie within the network of adjacency relationships between all spaces composing each architectural complex; or, in other words, in their spatial configuration.

The reach of this epistemological breakthrough should not be overlooked. For the first time, a convincing analytical methodology for the systematic description, measurement and comparison of architectural spatial systems was put in place. Such methodology, coupled with a strong empirical ethos of observing human spatial behaviour and its functional manifestations, has allowed for the inception of a systematic inquiry into the long-sought relationships between architectural form and function. And this has paved the way for the development of a new relational (or configuration-al) theory of architecture, capable of explaining many morphological and functional aspects of human spatial systems, from the scales of the dwelling unit to that of entire cities.

Since its first steps in the 1980s, the space syntax research programme has come a long way. The empirical and theoretical achievements briefly touched upon above, gained the attention of other fields beyond architecture and urban studies,
such as environmental psychology, sociology, urban history and archaeology, where space syntax has found applications. On the other hand, the capability of providing reliable forecasts of the functional outcomes of architectural and urban projects has also rendered it an important practical tool, used worldwide by a growing number of consultancy and professional practices. Accordingly, the space syntax research community has also grown significantly, now counting several hundred members from across the continents amongst its numbers, with its biannual symposium attracting around two hundred papers (see www.spacesyntax.net).

Notwithstanding these successes, we believe the field today faces a number of challenges along the path towards the realisation of its full scientific potential. The next 11th International Space Syntax Symposium, to be held in Lisbon from July 3rd – 7th 2017 (see www.11ssslisbon.pt), will provide the opportunity to discover and debate the latest space syntax advances, but also to address these challenges. In what follows, we articulate these issues together with our prospects as organisers of the Lisbon Symposium, in the hope that we may convince our readers to attend themselves, bringing with them answers to the questions we raise.

The first major challenge – which we might call the scientificity challenge – concerns the necessity of formulating space syntax’s main findings (such as the foundational relationship between spatial configuration, movement and function) on clear testable (that is, falsifiable) terms, so that robust experiments may be devised and highly convincing empirical evidence may be gathered. As Bill Hillier (2008) puts it, “space syntax does not claim to be science – that is something to be achieved – but it does aspire to the standards of science by seeking to be sufficiently clear and consistent […] for tentative theoretical formulations to be proved wrong” op. cit., p. 229.

We witness today the emergence of a new ‘science of cities’, incorporating many fields of research, but with a strong emphasis on mathematical models and on rigorous formulations. Space syntax has an immense contribution to make to such new science, and it would be regrettable if that contribution were to be compromised by the lack of systematic verification and validation of its basic concepts. The current availability of very large datasets describing human geographical phenomena at unprecedented territorial scales, and the ever-increasing size of syntactic models, provide an excellent opportunity for devising studies capable of attaining high scientific credibility. This should also be accompanied by growing heed to research design standards and excellence in statistical procedures.

A second challenge – which we might call the dissemination challenge – concerns taking space syntax theory to wider audiences, in particular architecture students and practitioners. For us, working within the space syntax framework, it may seem odd that acknowledgment of the relational nature of space has not yet fully percolated into architectural education and practice. Yet, perhaps because Newtonian space is such a straightforward notion, it remains deeply embedded in current architecture and urban planning discourses.

However, even if this is so, there seems little excuse for not trying to change such a state of affairs. Space syntax’s relational view of space may not be obvious, but its implications for the way architecture might be taught and designed have the potential to be huge. But for these to become real, a selfless pedagogical stance and a strong effort of systematisation of concepts is necessary. We also need to consider the translation of our own disciplinary discourse, sometimes perhaps too technical or idiosyncratic, into the languages of design practitioners, policy-makers and for lay people. The inherently normative nature of the de-
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Design and planning disciplines demand affordable concepts that may easily be used by, and interchanged among, the various agents of the design and planning processes. Moreover, this dissemination and systematisation effort is needed for gaining awareness of the field’s specific linguistic codes and conventions, in order to move towards their development and improvement.

Finally, we believe that space syntax also faces a third challenge – which we might call the insemination challenge – pertaining to the fact that the field is part of a burgeoning landscape of disciplines to which space is also central. We refer to the developments in GIS, spatial information science and geographical spatial analysis since the 1980s, but also to the emergence of complexity theory in general and of the complex network analysis field in particular. Such disciplines today offer a wealth of knowledge and of spatial analytical tools, which can be extremely useful for the field.

GIS platforms and the spatial analytic tools they include are perfect laboratorial environments for space syntax research. The double graphic/numeric nature of space syntax’s work elements (e.g. spatial models) seem a natural fit for visualisation and manipulation in GIS. And the typical space syntax experimental setup – that is, the systematic comparison of spatial network data with other types of empirical data – can also benefit immensely from the rigour that GIS allows in the manipulation and association of geographic information. On the other hand, in the very close field of complex network analysis, there is a growing interest in the study of spatial networks, and space syntax should be attentive and ready to learn from the methods and results obtained there.

We believe that space syntax should let itself be inseminated by these closely related fields, in a cross-pollination process that may foster further evolution and research achievements.

Addressing these challenges requires discussion across the entire space syntax community and the 11th International Space Syntax Symposium provides the opportunity to do just that. We urge our readers and the entire space syntax community to boldly embrace these challenges and to put forward potential answers and innovative research avenues by which to tackle them. And, to come to Lisbon in July 2017, thus helping to create yet another lively International Space Syntax Symposium.

The main concern of the organising committee has been the realisation of an intellectually stimulating event, through a careful definition of themes and contents. These and the abovementioned challenges are reflected in several organisational options, which we invite for detailed consultation by all on the conference website (www.11ssslisbon.pt). Here, we would like to highlight the following:

- The choice of themes for the plenary sessions, directly aimed at promoting the debate on the previously stated challenges;
- The format of the plenary sessions, with pairs of invited keynote speakers (one from the space syntax field and another from outside), so as to provide multiple perspectives on the themes under discussion and to facilitate the rapprochement between related disciplines;
- The creation of an extension of the plenary sessions, which we have called ‘garden sessions’, where the community will have the opportunity to engage in informal discussions with the keynote speakers;
- And the selection and positive discrimination of papers addressing the issues raised here and the several conference themes, to be presented in special discussion sessions.
References

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