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A review of the implications of an internationalised science for the socio-spatial, and project-oriented, kind of research that characterises the field of architecture and planning.

Lost in translation

Silke Kapp

Architecture first emerged as a profession by codifying construction into drawing and writing. It achieved some status by creating analogies between built forms and political power, philosophical theories, or scientific discoveries. Architectural design has been understood as converting society's needs into works of art, or at least into bearable spaces. Architects like to call themselves generalists connecting specialists, and mediators between disciplines, as well as between lay and professional languages. We were able to imagine shapes suitable for the black-and-white photography of early journals, and to find a colourful repertoire for later ones. Drawing, typifying, diagramming, parametricising – they are translation performances. Code-switching is our special talent.

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However, in the 1990s, the field itself had to translate architectural education and practice into an academic code derived partly from hard science, and partly from business management. Mechanisms similar to the British Research Assessment Exercise reorganised university structures everywhere, quantifying outputs by dubious scales, filtering people, and concentrating resources on already successful departments. Of course this was not the first threat to architecture by foreign norms. But former heteronomy coming from politics or 'commercialism' – as critics used to say in the nineteenth century – could be kept out of the field's core: products of too much submission were simply no longer ranked as architecture. In contrast, the new academic standard was an attack on the power of self-definition and reproduction that sustains any field. Early issues of **arq** testify to the drama:

> *Schools of Architecture in the UK and elsewhere are facing the fact that their financial well-being and* possibly even their existence *depends on demonstrating that they are doing a considerable volume of high-grade research – whether or not such an activity has characterised their culture in the past.*[1]

This time, architecture was on the weaker side of a translation that it could not evade. Advocates of the field tried to convert its traditions into the new currency, presenting architecture as 'a knowledge-based profession', in contrast to a practice based on a 'hazard and personal basis'.[2] Above all, they argued for the recognition of design as (scientific) research, and its outcomes as a measure of (scientific) productivity:

> *If the design process is defined as the research process, the design product (the building or images of it) might logically be taken, by itself, as a sufficient product of that research.*[3]

We should thus distinguish 'free' translation, based on open-ended reciprocity, from compulsory translation, which is a device of control. The former broadens understanding and communication; the latter restricts them by nullifying whatever does not fit into the imposed code. Even if the dominated part of such an asymmetrical translation affects the dominant part in one way or another, above all, the process changes its own internal logic. Distinctive features that used to be self-evident become topics of endless battles for legitimation; energies that could develop these features are expended in justifying their mere existence. The debate over design as research illustrates how it works. Design actually differs from a conventional understanding of scientific research as it 'searches' or mobilises knowledge *for a particular* case, instead of aiming at universal knowledge, that is, knowledge applicable to any case in a given universe of phenomena. This used to mark the difference between science and art, theory and praxis, expressed in the old dictum '*de singularibus non est scientia*' – there is no science of particulars. Once subsumed under a scientific paradigm, design has had the burden of finding universal relevance in each and every single case, as it were a sample of something else, not an entity in its own right.

1 Favela 'Aglomerado da Serra' in the city of Belo Horizonte, taken with a drone in March 2011.

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Architectural research, for that matter including planning research, is now undergoing a process of internationalisation closely related to but not identical with the academic assessment fever. The distinction between free and compulsory translations may help to discuss this process, and even to shape its outcomes, especially if we develop a critical understanding of architectural and planning research as socio-spatial and propositional. Socio-spatial should mean that it addresses social and spatial relations *together*, or the dialectics of space and society. Propositional or project-oriented research can mean two things: investigations aiming at concrete solutions, or, less neutrally, investigations deformed by the bias that their validity stands or falls with such solutions, so that any critical effort must be 'constructive', and theoretical insight must produce practical results; any contradiction must be managed. Unlike areas such as mathematics or engineering, architectural and planning research cannot disregard social relations, even when it deals with technical problems. Unlike other social sciences, it cannot disregard spatial relations, even when it goes deeply into economic, political, or anthropological issues. And unlike areas such as geography, human ecology or urban sociology, architectural and planning research is haunted by the requirement of an immediate applicability in the form of public policies, plans, and designs, no matter how complex a subject of research may be. In the following, I propose some pointers to discuss the internationalisation of this kind of research, having in mind that it should not end in just another set of compulsory translations, but clarify the distinctive features of its disparate contexts.

'Considering interactions among researchers from different nations, modern science has been international from the beginning.'

Considering interactions among researchers from different nations, modern science has been international from the beginning. In institutional terms, it became international in the nineteenth century. The *Communist Manifesto* of 1848 already states that the bourgeoisie, 'to the great chagrin of reactionists', had created 'intercourse in every direction, universal interdependence of nations, [...] as in material, so also in intellectual production'.[4] At the Paris World Exposition of 1900, alongside popular and commercial attractions, associations of researchers organised over a hundred international congresses to bring together *all* recent scientific achievements. French physiologist and later Nobel laureate Charles Richet used the occasion to take a stand against the recurrent complaint that science was pushing the educated youth towards internationalism instead of patriotism:

> *One would have to be terribly blind not to understand that the world walks by science towards unity, that we are closely interdependent on each other, and that progress is immediately felt everywhere, no matter the language in which it was described, or the flag under which it was conquered.*[5]

Richet encourages even the often-despised coffee break sociability as an opportunity to learn scientific 'tricks' and to cultivate transnational friendships. In the same *Revue Scientifique,* the sociologist Jacques Novicow – based in France, but born in Constantinople of a Russian father and a Greek mother – writes that, 'a vast symbiosis, comprising all men and all living beings accessible to the action of man, is the last result towards which the evolution of life on the surface of our globe tends'.[6] Alternatives to this ideal of science as universal human knowledge, upholding pacifism, solidarity and collaboration, were pseudo-theories, soon fomented by totalitarian regimes, discriminating between 'bourgeoise' and 'Soviet' science, or 'German' and 'Jewish' physics.

Science has fortunately insisted on reconciliation and internationalisation – not racism and nationalism – defining itself as a trans- or a-national enterprise pursued by a 'scientific community'. The expression connotes a social group of direct interactions, watching over its integrity and common interests, and respecting a shared set of rules.[7] In 1942, in the middle of Nazi-fascist attacks on modern science, the sociologist Robert Merton explained this 'moral consensus of scientists':[8] universalism, communism, disinterest, and organised scepticism. This means, roughly speaking, that scientific validity is impersonal, anonymous, independent of the scientists' nationality, status or attributes; that scientific discoveries belong to all human beings; that science is not done to favour particular groups or institutions; and that every proposition is subject to critical examination, provided that criticism follows the rules of science.

Merton is not naive. He knows that opportunities are related to social and spatial positions, just as he knows that, 'the communism of the scientific ethos is incompatible with the definition of technology as "private property" in a capitalist economy'.[9] And, generally speaking, he acknowledges that scientific development has some preconditions, including what Max Weber called 'faith in the value of scientific truths'[10] by the public, not only by scientists. However, Merton sees these social conditions as the structure that supports institutional spaces where the 'scientific fraternity'[11] can act free of economic coercion, utilitarianism, or ideological interdiction.[12] He does not consider that scientific truths, interests, and findings are in themselves socially embedded, before any intrusion or outside demand. If Merton's scientific ethos were a factual description, there would be absolutely nothing to question about internationalisation. Science would be anti-nationalist, just as it would be anti-capitalist. But it is not. There is a political economy of internationalised science that defines central and peripheral positions, and the kind of knowledge we produce, how we do it and what for.

The science historian George Basalla took

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'There is a political economy of internationalised science that defines central and peripheral positions, and the kind of knowledge we produce, how we do it and what for.'

such geographical inequalities into account: 'In emphasising the international nature of scientific inquiry we have forgotten that science exists in a local social setting.'[13] In 1967, he formulated 'a three-stage model' to describe 'the introduction of modern science to any non-European nation'.[14] At first, 'the nonscientific society or nation provides a source for European science',[15] which explores the new territory, observing, collecting, classifying, and comparing. The second stage is a 'colonial' science, whose agents belong to the 'nonscientific' society, but depend on European culture and institutions.[16] The colonial scientist (presumably a man) is educated in Europe, reads European literature, 'longs for the affiliation and honours of European scientific societies and publishes his research in European scientific journals'.[17] However, to use Pierre Bourdieu's language, the scientific *habitus* of the colonial scientist is acquired, not naturalised; he makes a huge effort to get to where his fellow Europeans are comfortably settled from the start. Talented individuals can reach prominence in this context, but, according to Basalla, colonial science in general remains timid and always in delay. The third stage, 'completes the process of transplantation with a struggle to achieve an independent scientific tradition'.[18] Colonial scientists would found local simulacra of European institutions, trying to 'eradicate' resistances, and to make scientific work socially respected. They would resort to the state to establish structures of employment, recognition, funding, and education for the 'foot soldiers of the scientific army'.[19] Launching local journals presents a particular challenge, because 'the colonial scientist, who is accustomed to writing for established European scientific journals, may not wish to jeopardise his international reputation by reporting his work in an unknown native periodical'.[20] Even the language a journal is published in implies prioritising national or international communication. In essence, the non-scientific society has to become scientific before science can reach the exponential growths that Basalla's model promises.

A critical counterpoint to this version of developmentalism has been provided by the Argentinian sociologist of science Pablo Kreimer, who conceives today's geography of science on the background of its 'industrialisation' in the decades after Basalla's proposition. Industrialisation means a change of scale and management in scientific research. The former *bricoleur* scientist, working in a small team with more or less improvised means, has turned into a professional researcher leading or taking part in networks of hundreds of people and huge capital investment. Kreimer's point is that even relatively developed countries of the global South, such as Argentina and Brazil, have been unable to keep up with this change. At the same time, their most prestigious and locally influential scientists are those actively integrated in international research. This leads to what Kreimer calls 'subordinate integration', not referring to personal relationships, but to structural features of this internationalised big science:

> *The resulting type of integration is called subordinate, insofar as the choice of lines of research, the overall view of conceptual problems and also their actual or potential uses are strongly dependent on the dictates of the centres of reference, located in the most developed countries.*[21]

The centre sets the agenda, including theoretical framework, methods, and tools, while the periphery carries out the Sisyphean work, ultimately just helping to solve imported problems.

The logic of big science does not yet apply to architecture and planning to the same degree as to physics, biology, or medicine. Although the direction seems pretty clear, we still have the chance of creating an international collaboration based on reciprocity. But this presupposes taking into account that each node of our research networks has a different research object. People working together on astrophysics, chemistry, or even philosophy may come from many parts of the world and think differently, but their findings concern one and the same 'thing' (star, virus, text, whatever). In contrast, the geographical regions in which socio-spatial investigations literally *take place* not only influence the researchers' minds or uses of language, but constitute their very objects. When they discuss topics like urban sprawl, ornaments, or participation, they may be talking about or thinking of entirely different empirical phenomena. This is not to say that buildings, cities, or landscapes have nothing in common, that they cannot be compared, or are not part of global issues. The problem lies in how conceptual tools are coined, and what they make us see or ignore. Imagine a doctoral student working in a not very prominent city of a non-central country. If she wants to take part in international teams, meetings, journals, she must tune her research project to general interests, complying with a framework of concepts and theories probably derived from a very different socio-spatial environment. Even if this framework claims global validity, the people

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who define it have their own experiences in mind. As Brazilian geographer Marcelo Lopes de Souza remarks, 'Even brilliant left-wing authors can sometimes overestimate the [cultural/geographical] centrality of their own point of view',[22] and easily talk about cities across the globe meaning Europe and North-America, while 'the majority of the world is unintentionally reduced at the end of the day to a kind of "academic footnote"'.[23] So, since our student has to find in her own city something relevant for that framework, she goes out and looks for 'slum gentrification',[24] 'shrinking cities in Latin America',[25] and the like. No doubt, she will find something, and maybe she will even be able to explain her case as a variation of the general theory, reinforcing the idea that gentrification or urban shrinkage are powerful concepts to elucidate the world. However, the aspects she finds and explains are likely to be of minor importance for that 'case' itself, that is, the city and the people who live there. If concepts are the instruments of thinking, then translating socio-spatial concepts into alien contexts is an undertaking full of traps, cognitive biases, and blind spots. They may be misplaced, just as orthopaedic instruments in neurological surgery (or vice versa).

For architectural and planning research, it is particularly awkward that so-called international excellence counts more than anything else in university assessment systems. Yet our relatively peripheral position in the major scientific field, and our long tradition of code-switching hold the possibility of international collaboration on other terms, not following the usual geographical division of scientific labour, but paying attention to differences rather than similarities, and thoroughly debating concepts, methods, and theories.

Notes

1. Peter Carolin, 'Leader: Research Assessed', **arq**: *Architectural Research Quarterly* 2:3 (1997), 4, emphasis added.
2. Peter Carolin, 'Leader: Building on Experience', **arq**: *Architectural Research Quarterly* 1:3 (1996), 4.
3. Philip Tabor, 'Leader: Design is Research – Is It?', **arq**: *Architectural Research Quarterly* 1:2 (1996), 4–5.
4. Karl Marx and Frederick Engels, *Manifesto of the Communist Party*, authorised English translation, edited, and annotated by Frederick Engels (Chicago: Charles H. Kerr & Company, 1910 [orig. pub. 1848]), p. 17.
5. Charles Richet, 'Les Congrès Internationaux de 1900', in *Revue Scientifique*, 24 (June 1900), 738.
6. Jacques Novicow, 'Le facteurs de la fédération humaine', in *Revue Scientifique*, 7 (August 1900), 194.
7. See Pablo Kreimer, *El científico también es un ser humano: la ciencia bajo la lupa* (Buenos Aires: Siglo Veinteuno, 2009), p. 71.
8. Robert K. Merton, 'The Normative Structure of Science', in Robert K. Merton, *The Sociology of Science: Theoretical and Empirical Investigations,* ed. by and with an introduction by Norman W. Storer (Chicago: The University of Chicago Press, 1973 [orig. pub. 1942], pp. 267–78 (p. 269).
9. Ibid., p. 275.
10. Max Weber, 'Die "Objektivität" sozialwissenschaflicher und sozialpolitischer Erkenntnis', in Max Weber, *Gesammelte Aufsätze zur Wissenschaftslehre* (Tübingen: J. C. B. Mohr, 1922 [orig. pub. 1904]), pp. 146–214 (p. 213).
11. Merton, 'The Normative Structure of Science', p. 274.
12. See Robert K. Merton, 'Science and the Social Order', in Merton, *The Sociology of Science: Theoretical and Empirical investigations,* ed. by and with an introduction by Storer, pp. 255–66.
13. George Basalla, 'The Spread of Western Science', in *Science*, Vol. 156 (May 1967), 611–22 (p. 620).
14. Ibid., 611.
15. Ibid.
16. Ibid., 613.
17. Ibid., 614.
18. Ibid., 611.
19. Ibid., 618.
20. Ibid.
21. Kreimer, *El científico también es un ser humano*, p. 135.
22. Marcelo Lopes de Souza, 'Cities for People, Not for Profit – From a Radical-Libertarian and Latin American Perspective', *Cities* 13, No. 4 (December 2009), 484–92 (p. 486).
23. Ibid.
24. This is the title of a chapter of Loretta Lees, Hyun Bang Shin, Ernesto López-Morales, *Planetary Gentrification* (Cambridge: Polity Press, 2016), pp. 140–70.
25. Ivonne Audirac, 'Shrinking Cities in Latin America: An Oxymoron?', in *Shrinking Cities: A Global Perspective*, ed. by Harry W. Richardson and Chang Woon Nam (London and New York: Routledge, 2014), pp. 28–46.

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