

Is doing architecture doing research?

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Abstract:

This lecture will take as its starting point the essential tenet that architecture is a form of knowledge that can and should be developed through research. To hold to this tenet, it is first necessary to address three positions that have evolved around architectural research, and which may have held back the development of research in our field. The first is that architecture is such a particular form of knowledge that it needs particular forms of research to investigate it or, at worst, cannot be subjected to the standard expectations of academia. The second position is almost the opposite, namely that architecture needs to be subjected to the methods of other disciplines if it is to be taken seriously as a form of rigorous knowledge. The third position is that doing architecture through the act of design is a form of research in its own right, and therefore architectural research should move from the academy and be located most firmly in practice.

The lecture will question each of these positions as a basis on which to develop architectural research. One has to understand that architecture has its own particular knowledge base and procedures, but this particularity does not mean that one should avoid the normal expectations of research. In fact it demands us to define clearly the context, scope and modes of research *appropriate* to architecture, whilst at the same time employing the defining features of research, namely originality, significance and rigour. To achieve this, the lecture will argue that architectural research has to shift from addressing discrete aspects of architectural knowledge (i.e. historical or technical or aesthetic or social) and instead move to understanding the relationship between the various aspects (i.e. historical and technical and aesthetic and social). There is some urgency in this, because as long as architecture fiddles around at the margins of the research debate, it will be confined to the margins of the development of knowledge. The present state of architecture is perhaps indicative that the state of marginality has been reached. The establishment of the discipline founded on research-led knowledge in the manner outlined may be one small way of claiming a bit more of the centre ground.

There is still, as this conference shows, a multitude of opinions as to what constitutes research in architecture. In the UK at least there should not be much confusion about the issue. The RIBA sets the ground very clearly in its founding charter, which states that the role of the Institute is:

"The advancement of architecture and the promotion of the acquirement of the knowledge of the various arts and sciences connected therewith."

Significantly, the charter thus implies that the advancement of architecture is inextricably linked to the acquirement of knowledge. When one places this against the definition of research given for the UK Research Assessment Exercise (RAE), "research is to be understood as original investigation undertaken in order to gain knowledge and understanding", one could argue that research should be at the core of RIBA's activities.

This paper therefore takes as a starting point the essential tenet that architecture is a form of knowledge that can and should be developed through research, and that good research can be identified by applying the triple test of originality, significance and rigour. To hold to this tenet, it is first necessary to address three positions that have evolved around architectural research, and which may have held back the development of research in our field.

Position One: Architecture is just architecture:

The first position is that architecture is so different as a discipline and form of knowledge, that normal research definitions or processes cannot be applied to it! "We are so unlike you," the argument goes, "that you cannot understand how we work." This myth has for too long been used as an excuse for the avoidance of research and the concomitant reliance on unspecified but supposedly powerful forces of creativity and professional authority. On the one hand this myth looks to the muse of genius for succour, with the impulsive gestures of the individual architect seen to exceed the dry channels of research as the catalyst for architectural production. The problem is that these impulses are, almost by definition, beyond explanation and so the production of architecture is left mythologised rather than subjected to clear analysis. Architecture is limited to a

form of semi-spiritual activity, with the architect, as heroic genius, acting as the lightning rod for the storm of forces that goes into the making of buildings. On the other hand, architecture is treated as an autonomous discipline, beyond the reaches or control of outside influences, including those of normative research methodologies. This leads to the separation of architecture from other disciplines and their criteria for rigour. Self-referential arguments, be they theories of type, aesthetics or technique, are allowed to evolve beyond the remit or influence of accepted standards, and research into these arguments is conducted on architecture's own terms.

The position that architecture is just architecture, founded on the twin notions of genius and autonomy, leads eventually to the marginalisation of architecture. A knowledge base is developed only fitfully and so architecture becomes increasingly irrelevant and, ultimately, irresponsible.

Position Two: Architecture is not architecture:

The second position works in opposition to the first and argues that in order to establish itself as a credible and 'strong' epistemology, architecture must turn to other disciplines for authority. Architecture is stretched along a line from the arts to the sciences and then sliced into discrete chunks, each of which is subjected to the methods and values of another intellectual area. For example, the 1960s Oxford Conference on architectural education looked to scientific research as the means of establishing architecture within the academy and more recently architectural theory has immersed itself in the further reaches of post-structuralism in an effort to legitimise itself on the back of other discourses. In both these cases, and others that rely on other intellectual paradigms, architecture's particularity is placed within a methodological straightjacket. In turning to others, architecture forgets what it might be in itself. The second position - that architecture is not architecture - in editing the complexity of architecture thus describes it as something that it may not be. It is a myth fuelled by the funding mechanisms for research, with the various research councils defining acceptable areas through particular research paradigms, which simply do not fit the breadth of architecture.

Interestingly Myth One and Myth Two can and do operate in parallel, often within the same institution. Thus it is common to find the design core of the a School of

Architecture physically and intellectually separate from the 'research' core, with mutual antipathy between the two.

Position Three: Building a building is research

The third position is that designing a building is a form of research in its own right. It is a position that allows architects and architectural academics to eschew the norms of research (and also to complain when those norms are used to critique buildings as research proposals). The argument to support this myth goes something like this:

1. Architectural knowledge ultimately resides in the built object
2. Every building is by definition unique and thus original
3. The production of buildings can thus be defined as the production of original knowledge
4. This is a definition of research

It is compelling enough an argument to allow generations of architects (as well as designers and artists) to feel confident in saying that the very act of making is sufficient in terms of research, and then to argue that the evidence is in front of all our eyes if we would just choose to look. However it is also an argument that leads to denial of the real benefits of research, and so it is worth unpicking.

1. Architectural knowledge may lie to some extent in the building, but it also lies elsewhere: in the processes that lead to the building, in the representation of the building, in its use, in the theories beyond the building, in the multiple interpretations of the building and so on. Architecture exceeds the building as object, just as art exceeds the painting as object. Architectural research must therefore address this expanded field.
2. A 'good' building is not necessarily good research, and good research may lead to 'bad' buildings. Architecture is often described as 'good' because it fits into known and tested canons of taste, type or tectonics. But this 'goodness' does not necessarily constitute good research, in so much as it is not particularly original or significant. A 'good' building, far from pushing towards new forms of knowledge, merely establishes or incrementally shifts the status quo. Equally buildings that are normatively described as 'bad' may be

the outcomes of good research; for example the technologies and construction procedures of food distribution centres are pioneering in many ways and based on systematic research into the various options, but the resulting buildings clearly do not fit normative descriptions of what constitutes good aesthetics or tectonics. Of course 'good' buildings dominate architectural culture, which means that the research lessons from the 'bad' buildings are hardly ever transferred across.

3. If we take Bruce Archer's definition of research (that it is "systematic inquiry whose goal is communicable knowledge"), then the building as *building* fails the test. Architects clearly have to be thorough, but they are not necessarily systematic. Choices and decisions are made but not normally through systematic evaluation. More crucially, whilst architects may believe that knowledge is there in the building to be appropriated by critics, users or other architects, they very rarely explicitly communicate the knowledge. It thus lies tacit, thereby failing Archer's second test of communicability.

Designing a building is thus *not necessarily* research. The building as building reduces architecture to mute objects. These in themselves are not sufficient as the stuff of research inquiry. In order to move things on, to add to the store of knowledge, we need to understand the processes that led to the object and to interrogate the life of the object after its completion.

Making Architecture Speak

Against these three positions, one has to understand that architecture has its own particular knowledge base and procedures. This particularity does not mean that one should avoid the normal expectations of research, but in fact demands us to define clearly the context, scope and modes of research *appropriate* to architecture, whilst at the same time employing the generic definitions of originality, significance and rigour.

The normal stretching of the field of architecture along the arts to science line (with the social sciences somewhere in the middle) results in each place along the line being researched according to a particular paradigm and methodology from the research spectrum. This ignores design, which is clearly an essential feature of architectural production; design cannot be so easily categorized as a qualitative or quantitative

activity, but should be seen as one that synthesizes a range of intellectual approaches. Architectural research is better described by Christopher Frayling's oft-cited triad of research 'into', 'for' and 'through'.ⁱⁱ Frayling developed this approach for design research in order to address the specific relationship between design and research. In this model, research 'into' takes architecture as its subject matter, for instance in historical research, or explanatory studies of building performance. Research 'for' refers to specifically aimed at future applications, including the development of new materials, typologies and technologies; it is often driven by the perceived needs of the sector. Research 'through' uses architectural design and production as a part of the research methodology itself.

Architectural research may be seen to have two main contexts for its production, the academy and practice. Research 'in' is traditionally the domain of the academy and research 'through' that of practice, with research 'for' somewhere in the middle. Research 'in' has the most clearly defined methodologies and research outcomes, but at the same time is probably the most hermetic. Research 'through' is probably the least defined and often the most tacit but at the time a key defining aspect of architectural research. It is this area that needs developing most of all.

It is vital that neither academic or practice-based is privileged over the other as a superior form of research, and equally vital that neither is dismissed by the other for being irrelevant. ("You are all out of touch with reality", says the practitioner. "You are muddied by the market and philistinism", says the academic). There is an unnecessary antipathy of one camp to the other, which means that in the end the worth of research in developing a sustainable knowledge base is devalued, and with it the RIBA charter fails.

The key to overcoming this problem lies in communication. Both the academy and practice often do not meet this central test for research: the academy because of its inward looking processes, practice because of its lack of rigorous dissemination. Whilst academic research is subjected to stringent peer review and assessment procedures, it has been argued that this had led to inward-looking results produced more for the self-sustaining benefit of the academic community and less for the wider public and professional good. On the practice side it may be argued that architecture has an exemplary practice-led research system. Much of the most innovative research in

design and, particularly, technology is founded in practice. However, much of this research remains tacit; it is either, for commercial reasons, not shared with the rest of the community or else in its dissemination through the press is not communicated with the rigour it deserves. For the leading practices intellectual property is what defines them and sustains them, and they understandably are loath to give it away. Research goes on, but silently. The development of architectural knowledge happens but fitfully, and so the long-term sustainability of the profession is threatened. To avoid this, we need to make architecture speak.

This means finding a way to improve the communication of the tacit research carried out in practice, but in a way that does not compromise the value of the individual practice's intellectual property. This can be achieved in two ways. First there is a new role for academia to link up with practice in order to carry out an *archaeology* of the processes of architectural production, in a non-threatening but critical manner, critical here not being a negative term but one of reflection and comparison. By excavating the present one informs the future. Practice has the raw data on which architectural knowledge is founded; academia can release this potential through research. The focus here is not on the products of architecture, buildings, but on the processes, and by shifting the attention from the individual object to a comparative archaeology, one removes the pressure of the precious intellectual property. Secondly, funding for research has to shift from sliced areas of knowledge controlled by various sectors of academia, to a more coherent strategy shared by both academics and practitioners. As a recent report by the now defunct UK Commission for Architecture and the Built Environment (CABE) convincingly argues, much more work needs to be done at a strategic and governmental level to encourage funding across departments and across research councils in order to reflect the real needs for research into the built environment.ⁱⁱⁱ Thirdly, money needs to be made available directly to practices in order to enable and (importantly) communicate primary research. The funding by the UK Department for Education and Science's of the Exemplary Schools research project is one isolated example of money being productively released into practice in order to release the potential of design research.

A New Model for Architectural Research

As we have seen, the stretching of architecture across separate areas of knowledge

does not address the particular need for architectural knowledge and practice to be integrative across epistemological boundaries. Buildings as physical products function in a number of independent but interactive ways – they are structural entities, they act as environmental modifiers, they function socially, culturally and economically. Each of these types of function can be analysed separately but the built form itself unifies and brings them together in such a way that they interact. Research into architecture thus has to be conscious of these interactions across traditionally separate intellectual fields.

In order to give some clarity to the scope of architectural research, these interactions can be divided into three stages:^{iv}

Architectural processes

Architectural products

Architectural performance

The first stage, process, refers to research into processes involved in the design and construction of buildings, and thus might include for example issues of representation, theories of design, modelling of the environment, and so on. The second, product, refers to research into buildings as projected or completed objects and systems and might include for example issues of aesthetics, materials, constructional techniques and so on. The third stage, performance, refers to research into buildings once completed and might for example include issues of social occupation, environmental performance, cultural assimilation, and so on. The advantage of this model is that it avoids the science/art and qualitative/quantitative splits, and allows interdisciplinary research into any of three stages. The model thus breaks the hold of research *method* and allows instead thematic approaches to emerge. It is possible for scientist *and* historian, academic *and* practitioner, to contribute to the research into each of the three stages.

Most importantly the model also describes architecture temporally (as opposed to a set of static fragments), with one stage leading to another and, crucially, creating an iterative loop in which one stage is informed by another. For research to be most effective, and thus for architectural knowledge to develop, it has to feed this loop. For example:

- Research into performance in use informing the processes of design.
- Research into the products of design looking backwards to knowledge about the processes of design
- Research into the performance of buildings being critically informed by knowledge of the processes of architecture

A dynamic system thus emerges from this tripartite model, but it will only operate if academia and practice collaborate in order that the loop is continually fed with both data and analysis. But this will only happen once we have put aside the three positions I started with and accept that architecture can, and should, be a research discipline in its own right, which both accords to the accepted criteria of research, but at the same time applies them in a manner appropriate to the issues at hand. There is some urgency in this, because as long as architecture fiddles around at the margins of the research debate, it will be confined to the margins of the development of knowledge. The present state of architecture, increasingly used to provide a velvet glove of aesthetics for the iron fist of the instrumental production of the capitalist built environment, is perhaps indicative that the state of marginality has been reached. The establishment of the discipline founded on research-led knowledge in the manner outlined above may be one small way of claiming a bit more of the centre ground.

Notes:

ⁱ In an exhaustive research project carried by Edinburgh College of Art in 2004, a significant minority of responders still clung to this belief. See Jenkins, P, L.Forsyth and H. Smith., "Research in UK Architecture Schools – an institutional perspective, *Architectural Research Quarterly*, Vol. 9, Issue 1, March 2005, pp33-43

ⁱⁱ Frayling, C., *Research in art and design*, (London: Royal College of Art: Research Paper, 1993)

ⁱⁱⁱ Warwick, E and Gonzalez, S, *The real budget for research: an analysis of current levels of public funding for built environment research* (London, Commission for Architecture and the Built Environment 2004)

^{iv} These definitions have been developed by Professor Bryan Lawson at the University of Sheffield as a means of research analysis.