ESSAY 5

Don’t Drop the Baton: Reclaiming a Knowledge of Construction.

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ABSTRACT

This paper presents a discussion about the common mode of architectural practice that sees the knowledge of architects spread wide but thin across many areas. It proposes, by example, a different mode of practice that sees the architect limiting the scope or breadth of practice, but deepening the knowledge of, and influence upon, a project. When the architect is also the builder, an internalised form of collaboration and a range of new possibilities occurs. There is the potential for on-site detailing which can lead to a different mode of practice and a different tectonically influenced style of architecture. The role of contract documents changes. Knowledge from two fields is blended and a more sophisticated knowledge base, by virtue of it broader field of input, is made possible.

PREAMBLE

This essay addresses an already well-established set of propositions regarding the architect’s capacity to fully engage with the tectonics of building. The dissociation between the generation of design ideas and the realisation of these ideas through the mechanics of construction is a rich and recurrent architectural theme with a record of discourse spanning the decades. This essay deals with a very small and quite particular component of this discussion by examining how Drew Heath, fulfilling the role of both architect and builder, removes the divide that has grown up between these two parties involved in the construction process. Such a blending of roles is clearly less problematic at the domestic scale of production undertaken by Heath than it would be with a large, complex project where roles, responsibilities and risk management are of a great scale.
These complexities are not addressed within this essay, but offer a worthy avenue for future research. Whether this mixed mode of practice as undertaken by Heath leads to better, more clearly articulated, tectonically proficient outcomes is similarly left for assessment at a later time.

The outer limits of the definition of collaboration are tested by this essay. Perhaps what is reported here is not, in fact, collaboration. The discussion is nevertheless included, as it highlights the notion that in broadening the architect’s role—in taking on areas of expertise from which the architect has become estranged—the field of architectural knowledge has the potential to be expanded in much the same way that collaboration can be shown to extend the field. It should also be noted that Drew Heath is hardly unique in being both an architect/builder. This mixed mode of practice is not altogether unusual. His work was chosen to be featured in this collection as it offers a certain thematic continuity, given that he is a graduate of the University of Tasmania architecture course which is discussed in the preceding essay.

INTRODUCTION

There is no doubt that there has been a narrowing down of an individual architect’s knowledge over the past century or so. This is not to say that architects now know less than they used to, but rather that with the constantly increasing quantity of knowledge in the building industry, architects are unable to maintain full grasp of the expanding field, and must instead specialise further. Through this expansion of knowledge, and the inability of one professional group to manage it all or to take on responsibility as an expert across all fields, much knowledge that was once in the domain of the architect has been ‘given over’ to related or cognate professionals such as engineers, economists, surveyors, builders, project managers and the like. The dominant contemporary experience of the building industry has become one of divisional activities. It might even be appropriate to describe these as divided activities. Through this division, and the narrowing down of architectural knowledge, the architect’s control over a project has also been arguably reduced, with the architect now operating as a member of a team of experts.

While this in itself is not necessarily an undesirable mode of practice, there are other possible modes worth exploring. One possibility is to extend the depth of influence and responsibility of the architect on a project, but in so doing perhaps limit the breadth of expertise. That is to say that an architect might become an expert about one type of
building only, and develop deep knowledge in that area; to some extent then reversing the trend to know less and less about more and more.

THE BACKGROUND

The development of the profession of the architect and its associated collaborating professions has been well documented, from pre-history, through the establishment of the Royal Institute of British Architects, RIBA, in 1865, and the Royal Australian Institute of Architects, RAIA, in 1930, up to the present professional situation. The development of the division of responsibilities is well explained\(^1\). Indeed the development of the modern built environment and the urban form of contemporary cities can be seen to be in no small part a result of the division of labour and the specialisation of both the professions and the physical work force\(^2\). Within this context of specialisation, Duffy and Hutton\(^3\) propose that architects are, “cut … off from a proper understanding of the management of the building process”. Further they say that this dislocation of knowledge is the fault of the architects themselves and “architects have become imprisoned by the professional structure we erected for ourselves 150 years ago”, and that architects separated themselves from the “commercial contamination” of the building trades.

There has been considerable recent debate on the value of an understanding of the knowledge of construction to the practice of architecture. Writers such as Frampton\(^4\), Frascari\(^5\), Gregotti\(^6\), and Hartoonian\(^7\), have argued in the affirmative for an architecture led by a better understanding of, and engagement with, the knowledge of construction: a tectonic architecture.

\(^7\) Hartoonian, G. 1997, Ontology of Construction, Cambridge University Press, USA.
To compound this separation of the architect from much of the traditional (pre-twentieth century) architectural knowledge, what little relationship the architect does still have with these cognate fields is often through a set of clumsy devices— the physical tools and artefacts that are used to structure the design process. Each of these artefacts might be thought of as a baton to be passed from one runner to the next in a relay race; one person picking up the task where the previous one left off. The client passes a brief to the architect, the government passes legislation to the architect, and the architect passes documents to the engineer, who in turn passes them back, the architect passes contract documents to the builder, and so on.

Playing this relay analogy further, we know that a relay race is efficient and fast, but there is always the dreadful opportunity for the baton to be dropped. In particular the passing on of knowledge and responsibility from architect to builder, that transition from one field of knowledge to another through the medium of the contract documents, offers a great opportunity for mishap. Indeed this particular baton has all too often become a point of contention between the two parties when it fails to be successfully passed on. What happens to this artefact of collaboration when the architect takes on the role of one of the other stakeholders? In particular, what if the architect is also the builder? Does the artefact, that is the contract documentation, lose its meaning, its significance, its power,
its worth? What happens to the knowledge domains that it separates and how does this change or enhance the traditional knowledge of the architect? Contract documents serve to represent and communicate design intent from one party to another, a role that is somewhat redundant when they are the same person. Yet the documents also serve to test design intent, which is a task that is equally significant in the architect and builder and the architect as builder scenarios. How can this testing be assured in a mode of internalised collaboration when the architect and builder are one?

If the traditional mode of practice is a relay, then such an alternative, an internalised collaboration of sorts, might be described analogously as a three-legged race—not very efficient, not very fast, but much more fun, and leading to a different type of finish.

THE COLLABORATION

A recent study by Roberts of the work of Tasmanian architect Drew Heath investigated the issue of the architect as builder and in particular the tectonic consequences of such a mixed mode of practice. Drew Heath is a graduate of the University of Tasmania, the son of an engineer, and has worked for a number of Sydney practices. Heath has worked on several small projects as both the design architect and principle builder. Roberts’s investigations of the architect as builder were conducted through a case study of a family house being designed and built by Heath on North Stradbroke Island just off the coast from Brisbane. The study was conducted during both the design and construction stages of the project and indeed, as Roberts points out, due to the method of working, much of the designing is actually conducted during the construction stage. This blending of the stages of the project sees many architectural decisions being delayed in the construction program till a greater physical appreciation and understanding of the building is available.

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One of the more obvious aspects of this process of practice that is different to a traditional practice is the role of the contract documents. Roberts noted that the documents were much less resolved than a more conventional set. When the architect acts also as the builder, the traditional contract documents significantly lose their role as the artefact for the passing of knowledge from architect to builder. In Heath’s case there is an almost complete lack of construction detail drawings as his preferred method of practice is to resolve such details on site during the construction. Such practice could be quite risky in a traditional contractual relationship with tremendous possibility for misinterpretation, errors, contractual price variations, and the like. On the other hand such flexibility allows unforseen opportunities to be seized. The built consequences of this mixed mode of practice are a set of more tectonically derived details that reflect a greater appreciation of the way in which a building is constructed. That is to say that the details are more a result of a first-hand appreciation for the way that materials and elements are joined together, rather than an architectural expression of the idea of tectonics, or an aesthetic interpretation of construction.

Roberts discovered that there are indeed architectural consequences of the self/internal collaboration of the architect/builder. It should be noted here, that we are not talking about the builder as the coordinating manager, or project manager, or foreman of the job, but rather as the actual physical builder, the swinger of the hammer. It is further worth noting that Roberts also participated in some hammer swinging in order to come to the conclusions to which his research led. He participated in the building process with Drew Heath during three separate periods, of up to two weeks each, during the construction of the case study house. This willingness of Roberts to participate in building was in no small part informed by his own prior participation in the Learning-by-Making program at the University of Tasmania, discussed in the preceding essay.

Roberts’s conclusions about this method of internalised collaboration suggest a way of practice that allows a more responsive approach to tackling design problems and achieving design solutions. This appreciation for what has traditionally been lost through the alienation of the architect from the construction process and the interpretive role of
the contract documents has prompted Roberts to question the wisdom of such modern practice— the traditional passing of the contract documents baton. Roberts’s collaboration with Heath, both as student to architect and student to builder, and in particular his physical involvement with building has offered him much greater insight into, and knowledge of, the breadth of architectural activity. What Roberts has discovered is not so much a better way of doing architecture, but rather a different way. It is a way that most architects might never consider as it is outside of their knowledge base, or at least involves knowledge outside their normal scope. It is simply and clearly beyond their normal scope of involvement, risk, and liability.

Roberts’s investigation/research can be seen as an avenue for reclaiming some lost knowledge of construction and delivering it back into the field of the architect. The interesting thing about this relationship between Roberts and Heath is not that Roberts now knows how to go off and become a builder, but rather that he has developed a more sophisticated understanding of architectural design by virtue of a broader field of input. In essence an increased understanding of construction has not simply been added to the architectural knowledge, but rather a synthesis of these two types of knowledge has taken place to create additional knowledge. The whole is indeed greater than the sum of the parts.

THE KNOWLEDGE

Duffy and Hutton\textsuperscript{11} argue for a more ‘vertically’ structured form for our profession; a professional structure that “would have integrated many skills—design, engineering, user studies, economics, project management—to solve problems on a series of narrow fronts”. The education of such a professional would indeed require reconfiguration of what is currently considered to be architectural knowledge and much of the knowledge and responsibility that we now share with cognate disciplines within the industry would need to be redistributed. Drew Heath can be seen to be taking on such a ‘vertically’ structured form of practice, integrating several sets of skills in order to solve problems on the narrow front of small-scale domestic buildings. In such integration of

these fields, he changes not only his practice and the outcome, but his own knowledge sets also. Drew Heath’s small-scale intervention into the practice of building illustrates one way of rethinking what an architect might do and what an architect might know, and as Roberts points out such practice not only re-engages with construction, but when combined with architecture, builds new ‘vertical’ understanding.

This essay describes a small, commando style, stealth attack on the knowledge domain of the builder in order to re-engage with some of that knowledge, responsibility, and risk. This is not something that will shake the foundations of the modern architectural knowledge base, nor change the mode of production required for large-scale, complex projects. Rather it is an extremity of practice, testing out some fundamental architectural philosophies on the building site itself. If theory does indeed develop from practice, and is not simply passed down from the ivory towers, then this activity illustrates one form of theory development and expands the architect’s store of architectural knowledge.