

Bathing the Dog: Research-Based Practice at the Experimental Nexus of Art and Design.

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Objectives

Reflecting the authors' academic and industry experiences, this paper will explore the gap between art and design, research and professional practice, and academia and industry, while identifying a seamless nexus that could ultimately neutralise any conflict between these opposing forces. We will further examine the funding implications of this nexus and consider the application of such a design research practice through illustration of a current project.

Approach

There is much academic debate on the idea of design practice as research; Dickey for example, refers to research as "a fact-based activity" and design practice as "a series of subjective commitments". Such comments only serve to polarise opinion, suggesting that research and design practice are somehow mutually exclusive, rather than explore the innovative design outcomes and funding possibilities that exist at the threshold between these activities. The intention of this paper is to examine art and design research as a liminal pursuit.

It may be argued that research without realisation is not practice, and that professional practice without a theoretical base is not research, but what if theory is actually realised in practice and practice is fully illuminated by generative theory; can both not add to the source of knowledge and culture? What of the exegesis? Must design practice be translated into written form if it is to be accepted as research? If design is perceived as a language then, is the innovative realisation of theory in the public realm not the sensual equivalent of a request for peer review? What if there is a catalysed reaction; published comment, and a firing of the public imagination, is this not the research equivalent of editorial acceptance?

This paper argues that innovative, experimental practice can be considered as research under almost all criteria used to define the term; it is, and always has been, an essential part of the design research paradigm. As university research is currently evaluated on the basis of refereed quantum, how can practice hope to attract financial support from institutional funding bodies? The obvious answer is that it cannot – unless, of course, we are practicing at the Nexus.

Academic research promotes the sharing of knowledge by competing for publication, which in turn attracts funding; industry practice conversely requires secrecy in order to protect intellectual property and therefore, the competitive advantage. Our proposed model is a team based practice that has evolved from a current design project; a seamless environment of architectural, graphic, industrial and multi media design. This model draws on the specific skills of individual members of an art and design faculty to produce a design outcome that will realise and disseminate the theoretical, while attracting funding from both public and private sources. Precedent is established through reference to the history of art and design practice as a form of research, and further reference is made to current developments in medical science, where research is moving rapidly towards production.

Practice inspires theory and theory in turn is fulfilled in an iterative cycle of sustainable research activity.

FUTUREGROUND PAPER

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Abstract

There is much academic debate on the idea of design practice as research; Dickey (2002), for example, refers to research as “a fact-based activity” and design practice as “a series of subjective commitments”. Langer (1942) suggests that although objects may express ideas, those ideas are not presented as a legitimate form of language, thus cannot be compared with the discursive properties of the written word. For over fifty years, such comments have polarized academic opinion, suggesting that research and design practice are somehow mutually exclusive. The intention of this paper is to examine design research as a liminal pursuit where innovative design research outcomes and funding possibilities exist at the threshold between oppositional activities.

What part does ‘making’ have to play in the generation of new knowledge? What of the exegesis? Is the written form the only way that knowledge can be disseminated? Research without ‘making’ may not be practice, and ‘making’ without a theoretical base may not be research, but what if theory is actually realised in practice and practice is fully illuminated by generative theory; can both not add to the source of knowledge and culture? This paper is not concerned with the polar positions of these activities; where theory is never intended for application or the making desires no theoretical base; it is concerned *with the role of making as a knowledge-generating activity, in the design research process, at the nexus between theory and application.*

Precedent is established through reference to the work of the architect Daniel Libeskind, and the recent developments in the design of education environments. The authors are also developing a university based practice model in response to a recent design commission: a seamless environment of architecture, industrial design and multi media. The project draws participants from an art and design faculty to produce a built environment that will test the theoretical basis for its existence. Making inspires theory and theory is further tested in an iterative cycle of sustainable research activity.

We *do* as we have always done!

BATHING THE DOG

“academic, a. and n.

1 Of or belonging to an academy or institution for higher learning; hence, collegiate, scholarly.

2 Not leading to a decision; unpractical; theoretical, formal, or conventional.”
OED

Prologue

For over 70,000 years designers have used the process of ‘making’ to express their ideas. (Henshilwood 2004) For over 50 years, the design research community has sought to carve a niche for itself in the academic world; adopting the methods of communication used by the humanities and the scientific research community to describe their activities and outcomes. (Glanville 1998) Academic funding mechanisms may have been instrumental in shaping this paradigm, but what do we aim to achieve with it? Is there a purpose for design research, beyond the aim to increase our theoretical knowledge base? How do we test our ideas or do we expect that others will test them for us? Is there a place for the idea of ‘making’ within this process, and if so, who will do the making?

With over fourteen years of experience in architectural and interior practice, we are familiar with both sides of the etymological divide that generated the above definition. Clear distinction is required, not just between research and practice - as they may be indistinguishable - but between the development of theory and the act of making. In this discussion, we are not concerned with the polar positions of these activities; where theory is never intended for application or the making desires no theoretical base; we are concerned *with the role of making as a knowledge-generating activity in the design research process, at the nexus between theory and application.*

Further comparison is currently required between theory generated by academia and theory generated by industry. Both may be considered incomplete forms of research where the former is rarely applied and - although the latter may be implemented - it is rarely evaluated. How can we generate robust design theory if we do not test our ideas? The relationship between the written dissertation and the realized form will also be examined within the context of an iterative, action research process where theory is applied, and the application is evaluated in order to further modify the theory. Supporting reference will be made to the work of Daniel Libeskind, and to a multi-disciplinary research project being undertaken by the authors.

THE LANGUAGE OF MAKING – 75,000 years and counting

In Science magazine, Christopher Henshilwood (2004) describes his discovery of some ancient beads in the Blombos Cave in South Africa, indicating that “the find may strengthen the argument that humans were well

on their way to complex, symbolic thinking by 75,000 years ago--long before the "creative explosion" of painting and jewelry began 40,000 years ago in Europe." The beads represent evidence of an emerging human capacity to share and transmit symbolic meaning through inanimate objects made by us but not 'of us'. Henshilwood refers to this phenomenon as "the earliest storage of information outside the human brain", indicating that at some significant point in our evolution we recognized the need for a non-verbal means of communication, and we discovered the symbolic language of design.

In *The Meaning of Things* Csikszentmihaly and Rochberg-Halton (1981) explored this fundamental relationship between the person and the object as a transaction between two parties, suggesting that 'self' is not a state of being, but a dynamic process of accretion; where we invest meaning in the object, and in turn, the object helps define our sense of self (p.3). The psychoanalyst D W Winnicott (1991) considers the role of the transitional object at the earliest stages of our development suggesting that, to survive there must be a prelogical fusion of subject and object; we must learn to relate to objects by allowing certain alterations in the self to take place. Paradoxically, we create the object that was already there waiting to be created. To finally use the object we must accept its independent existence, its property of having been there all the time. (p88) Winnicott also suggests however that "*no human being is free from the strain of relating inner and outer reality, and the relief from this strain is provided by an intermediate area of experience which is not challenged (arts, religion, etc.)*." (p.13). Our self-defining relationship with objects provides them with an inherent meaning, a symbolic language of their own. We use objects to cultivate our intentions and without these intentions, we would have no meaningful interaction with our environment. We would not learn.

Susanne Langer (1942) writes that although visual forms are just as capable of complex articulation as words, she believes they are not discursive: "*They do not present their constituents successively, but simultaneously, so the relations determining a visual structure are grasped in one act of vision. Their complexity consequently is not limited, as the complexity of discourse is limited, by what the mind can retain from the beginning of an apperceptive act to the end of it*". Langer's statement suggests that although objects may express ideas, those ideas are not revealed to us over time, and therefore cannot be presented as a legitimate form of language. Throughout the history of design research, this kind of thinking has influenced the often energetic academic debate about the pre-eminence of writing versus the primacy of the 'made'. One might even come to believe that, in academic circles, writing and making are somehow mutually exclusive forms of communication.

If our relationship with objects is in fact fundamental to our sense of self, then it is both an apperceptive and discursive one. The ideas embedded in an object may indeed be simultaneously available, but they are mainly revealed to us over time as we move beyond the immediate, visceral, sensory response and begin to cognitively mine subconscious associations. The information embedded in the object becomes critical to the development of a predictive design process. Through analysis of user response, the discursive

qualities of both the object and the environment will generate new knowledge by testing the intentions of our design process.

THE USE OF MAKING

As an academic, Daniel Libeskind (2001) had never realised his architectural theories beyond simulation; he was however dramatically aware of the importance of making in the iterative research process. In 1989, Libeskind won the competition for the design of the Jewish Museum in Berlin, presenting him with an opportunity to test his ideas on the symbolic potential of spatial organization through "*the non-repeatable and optimistic act of construction.*" (Libeskind 2001 p17) He initially struggled to communicate the potentially indescribable impact of the holocaust, not just on the Jewish culture, but on all of humanity. The completed work stands as a testament to Libeskind's perseverance. Through a visual and experiential 'reading' of this work we gain a sense of a recurring and powerful absence within an enclosed void that reasserts itself relentlessly on the experience of museum. The general intent of the architect is legible to the participant as the void is both present and absent, being clearly distinguished in materiality and form from the remainder of the museum. The void stands in stark contrast to the fabric of its surroundings both horizontally and vertically, however the experience differs at each intersection. On some levels, the void is discovered as an interior space; it becomes subjective and the participant is invited into the experience of the victim. On other levels, the participant is excluded from the void, as it has been enclosed in the envelope of its event. It is experienced as a grey, cold space that is alien and yet familiar.

The experience of the Jewish Museum is not created by Libeskind's writings but it is nonetheless legible. His reflective text, generated during and after construction, confirms our experiential response as we come to understand the process that informed the design. In the holocaust void, we learn through the written word that meaning cannot be bound up in the object, as there is nothing to display. History was literally incinerated. Libeskind's response was to present the holocaust as a complete erasure and, to achieve this end it was necessary to create an organisational framework that enabled the participant to experience not only the void itself, but also the presence of the void "*in an architecture in which the unnamed remains in the names which keep still.... This void is something which every participant in the museum will experience as his or her absent presence.... a new type of organization which really is organized around a centre which is not, the void, around what is not visible.*" (Libeskind, 1991, p.87)

From the initial competition entry to the completed building, there is a subtle but significant shift in the design. The former uses the abstract possibilities of the architectural model to represent the conceptual intent; the latter must come to terms with the limitations of gravity, client and cost. The exacting process of construction not only tests Libeskind's theoretical foundation, but modifies and enriches it through an alteration of material expression and the possibility of experiential response. The architect becomes acutely aware that the work will stand alone once it enters the public domain, and this has a

significant impact on design thinking. Knowledge can be generated, tested and disseminated through the physical experience of the completed space. The experience is augmented by the exegesis. Both written and made, Libeskind's work gives us insight into the nature of the void as an experience that can bring profound meaning to our relationship with its object. We come to understand that it is the contained that defines the container and not the other way round.

TESTING AND MAKING AND TESTING

Through current research activities, we have come to realise that our professional competence now requires as much knowledge about the behaviour of people as about that of reinforced concrete. In the digital age, user interface is paramount, and it is therefore no longer acceptable to use ourselves as the normative universal model for anyone and everyone. The success of our predictive efforts will depend on our ability to elicit and record user responses through effective pre-construction simulations and post-occupancy evaluation. The comparison of responses in the real world with those elicited through artificial simulation will facilitate the testing and modification of the theory that informs our design response.

Philip Thiel (1996) suggests that, although each person is unique, *"we are alike in our differences, and we differ in our similarities ... deploying our senses, we individually integrate the sequentially encountered signals, as perceived through the filters of our **past experiences, present circumstances and future expectations.**"* (p31) In other words, we share a common experience of interior space, as a sequence of scenes in a time order that depends on our path through that environment.

Simulation is the means by which we test the response of potential users to our design ideas. Traditional methods have utilised two and three dimensional representations, scale models and even 'mock-ups' to elicit user feedback; the latter being the most costly but also the most effective. With the arrival of digital modeling techniques, iconic simulation methods have become more visually sophisticated, but these artificial environments have their significant limitations. Part of the problem with this form of simulation is that our response to a physical environment is not based on any single sense of perception, like vision, but it derives from our body's total response to the conditions which that environment presents (Marston Fitch, 1972. in Thiel 1996: p93).

Proshansky et al (1977) suggest that the harder we try to convince the participant of the reality of a particular simulation, the more artificial it feels and the more invalid the results become. The predictive design process has therefore much to gain from a process of post occupancy evaluation.

Schon (1995) differentiates between reflection-in-action and reflection-on-action, with the former occurring during the act of designing or making; when thinking and doing are inseparable. Most practitioners plan their work, act on it and observe the outcomes, and as Schon (1995) suggests, 'reflection-in-action is not a rare event' (p275). Reflection-on-action however, can only occur after the event and, unlike simulation, allows the participant to reflect on

their total body response. Information gained through post occupancy evaluation provides the designer with an opportunity to avoid the repetition of design errors, improve simulation methods, modify generative theory and ultimately improve the overall experience from the user's perspective. Outcomes of this process can be disseminated to the project design team and beyond, to the wider design community.

THEORY AND MAKING – THE KNOWLEDGE GAP.

In the field of interior architecture, research generated at an academic level is not often utilized in professional practice. The design of higher education learning spaces is one example of how the gap between academia and industry has hampered the development of learning environments. Academic research in the last twenty years has identified phenomenography and constructivism as being the two most influential forms of learning (Biggs, 1999, p30), whereby learning activities focus on what the student does, not on what the teacher does; hence the pedagogical shift from teacher-centred learning to student-centred learning. Jamieson, Taylor, Fisher, Trevitt and Gilding (2000, p234) confirm that “current developments in the design of space and of pedagogy have yet to reach alignment with each other”. Lecture theatres and tutorial rooms, which form the majority of formal learning spaces in universities, are still being designed as teacher-centred environments. Jamieson et al (2000) asserts that despite the advances in pedagogy research, there has been an ‘absence of concern with the place of teaching and learning’ (p225), from both educationalists and architects. For some reason architects, designers and educationalists have yet to incorporate this emerging research into the design of contemporary learning environments.

One example where alignment does occur exists at the School of Information Management and Systems, at Monash University. Teaching staff developed a studio model for student learning that was seen as a radical departure from the usual pedagogical systems. Battery hen-like computer laboratories and lecture theatres would be wholly unsuitable for the proposed studio based activities. The school recognised the need to design a new learning environment that would align with the new system. Education staff from within the university joined a steering committee to provide briefing information for the architects; their understanding of the proposed studio model led to the development of a physical environment that framed the pedagogical objectives. The resultant space incorporated learning studios as well as an internet café that facilitated social interaction within an informal learning environment. As part of a post-occupancy evaluation the students were asked to respond to strategic questions about the changed course structure, including the physical environment. Carbone et al (2002) and Carbone and Sheard (2003) reported on the significant student endorsement of the new studio model. Their research found that the transition to studio-based learning had not only been of measurable benefit to student learning activities, but this experience was directly related to the improved physical environment. As a result of this research, teaching staff have been able to identify areas of both the course structure and physical environment that may require further modification.

MAKING CURRENT RESEARCH

We are currently adopting an action research model around a recent design commission: a multimedia lounge facility. The practice has drawn participants from the disciplines of interior architecture, graphic design, industrial design, multimedia and design management. Early workshop sessions encouraged team ownership of individual ideas, and sought to develop effective methods for simulating and implementing design conclusions. Through post-occupancy evaluation, it is intended to test our current theoretical research on the role of the transitional environment in the design of social education spaces.

One revelation has been the degree of synchronicity in ideas that emerged from the concept development workshops. Proposals were rejected or retained quickly and with significant agreement among participants. The completed environment will provide a respite from a pre-occupied state of mind, where users can feel sufficiently removed from yet connected to the surrounding milieu. Inflatable structures will accommodate multimedia activity in a non-occupiable space overhead, allowing us to observe user response to liminal activity, a concept that is central to our current research thinking.

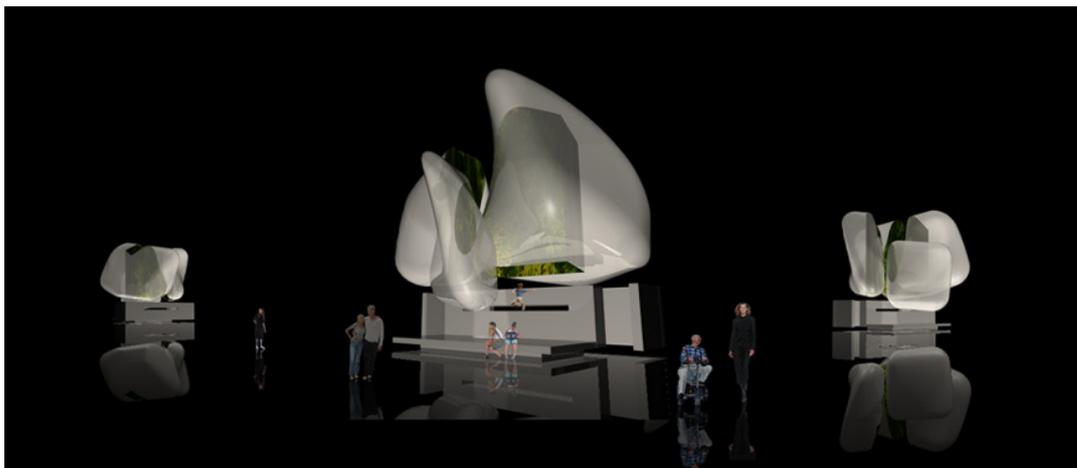


fig. 1 three views of multimedia lounge

At time of writing, the design has been developed to the stage of conceptual representation for further consideration in the workshop environment. It was intended that the three inflatable forms would reveal sections of an absent central form, but while generating 3D simulations we discovered something significant. By altering the transparency of the generative objects we are able to simultaneously reveal both the interior and the exterior layers of our liminal space, and in so doing, further emphasise the concept of the absent form. It remains to be seen if this concept will have the predicted impact on the participant's experience. Drawing from our knowledge of Libeskind's work on the void, it is hypothesized that this space will promote a connection between the user and their absent presence. The outcomes of this connection, for the development of the generative theory, will be determined through natural and indirect observation combined with participant introspection and further

analysis. The challenge is to encourage visitors to respond naturally, not as passive subjects in a simulated environment, but as active participants in the real world.

CONCLUSIONS

The argument that making is not a valid form of research, because visual forms are non-discursive, denies the self defining nature of the transaction that exists between object and person. Design research without making is like scientific research without the experiment; a review of literature that generates a hypothesis and nothing more. This paper does not seek to replace current design research methods; however we have explored a model for research activity at the nexus between theory and application. If we take example from the work of Daniel Libeskind, making becomes a crucial element in the action research process.

We aspire to occupy the gap between theory and practice through the generation of knowledge from both sides of the paradigm. We make in order to test our ideas; through informed reflection and through the feedback we elicit from others. In this way we explore our predictive capabilities and generate robust research that has meaning beyond academia, within the broader community.

For those at the polar positions of design activity, this concept may be disconcerting, but worthwhile ideas will often meet resistance; just try pushing your dog downstairs for a bath.

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