

## ON A PARADOX IN DESIGN STUDIO TEACHING OR THE CENTRALITY OF THE PERIPHERY

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*The centrality of the design studio in architectural education has rarely been challenged. Yet, it is precisely this forum of learning that causes concern with regard to the extent to which architecture is viewed as a knowledge based discipline. The design studio appears habitually viewed as the forum where knowledge of form is acquired, rather than a forum where a particular form of knowledge or understanding is pursued. At the same time, architectural curricula include so-called taught courses which are typically perceived as knowledge imparting; and students are expected to use this knowledge in the design studio. Taught courses are meant to support the activities in the design studio, but lie at the periphery of architectural education.*

*This paper will suggest that, although the relevance of environmental design and architectural technology studies is actively acknowledged in the design studio, this is not the case with regard to contextual studies and methodologies. Even within the design studio, tasks related to contextual study - site and brief analysis, and the study of precedents - are generally marginalised and typically reduced to mere recording of the physical characteristics of the site, diagrams of accommodation requirements, and a group of pictures from which the student claims to have drawn inspiration; the historical location of the design project is hardly even mentioned, and there is often a requirement for the student to state a "theoretical position" but not to analyse the theoretical location of the design brief, let alone to engage in an informed, critical dialogue with its socio-cultural context.*

*Form making is seen as the primary task of design, which appears reduced to a series of technical tasks, problems which require solutions. Design is often identified with problem-solving; yet, the problematisation of the design process is hardly ever an active part of it. Studio teaching has been branded integrative; yet, studio teaching practice tends to be reductionist. Paradoxically, on the one hand, "the understanding of the design process" is perceived as "fundamental to the creation of good design" (RIBA Outline Syllabus) and, on the other, the central forum of design teaching appears to disregard the open-ended questions of architecture, and the teaching of the methods which may be employed for a critical understanding of the design process to be achieved. This paper will suggest that the understanding of the design process depends on an understanding of design as a creative interpretation process, and that the object of this interpretation is, exactly, the historical and theoretical context of design, which needs to be re-located and consciously addressed at the central forum of architectural education, the design studio. A recognition of the interpretative nature of the design process will also help acknowledge design as a method of inquiry into the historical and theoretical context of architecture, which conditions and is conditioned by design. It will, hopefully, lead to a bridging of the gap between the centre and the periphery of architectural education.*

### **The Design Studio as a Site of Division**

"Architecture is always concrete matter", emphasises Peter Zumthor (Zumthor 1996); and he insists: "[t]he reality of architecture is the concrete body in which forms, volumes, and spaces come into being. There are no ideas except in things", he concludes (Zumthor 1991). It goes without saying that architectural education holds out the promise of leading to an understanding of its subject matter: architecture. Learning architecture, however, means more than understanding the concrete things to which Zumthor refers and the ideas in them. It also means being directly engaged in the process of making things with ideas in them. The latter is what the RIBA Outline Syllabus describes as "the creation of good design" to which the former – "the understanding of the design process" - is seen as "fundamental". Zumthor's choice of words - his 'things' and 'ideas' - is also reminiscent of a much earlier definition of architecture. In the opening passage of Book I, Vitruvius discusses the training of architects and uses the terms "fabrica" and "ratiocinatione" (Vitruvius 1983). The architect's learning, that is, depends on a training in making in matter and in reasoning, or rather in reasoning through making in matter, which is, I would argue, the activity pursued in the central forum of architectural education, the design studio. This proposition may sound commonplace; but a closer look at the conventional design studio indicates not only that the two components of the design process are often not equally valued, but also that the critical understanding of the design process is not normally viewed as a central pursuit of the design studio.

In other words, on one hand architecture students are expected to produce "good design", in the design studio, while on the other they are not clearly expected, in this forum, to enquire into, or eventually to demonstrate an understanding of, the process through which such a product may be created. This kind of understanding is generally seen as the learning outcome of other fora of architectural education, typically based on the traditional classroom model, and lying at the periphery of architectural education. Although students are expected to apply to their design projects the knowledge they gain outside the studio, the latter is perceived as a 'practical' site where knowledge gained through so-called 'taught' or 'support' courses is 'applied'. The studio is habitually viewed as a site of problem-solving rather than a site of problem shaping; a site of producing answers rather than a site of thinking questions. The dichotomy which this approach introduces to the curriculum has a number of implications which are not trivial. It suggests: first, that design is not accepted as a valid method of critical inquiry into the design process; second, that learning in the design studio does not lead to an understanding of the subject matter of architectural education; and, third, that this understanding does not lie at the centre of the architect's activity which work in the studio approximates.

I should note here that the 'taught courses' I have been referring to are those in the so-called 'humanities' or 'cultural context' or 'general studies' area of the curriculum.

Although I have neither the time nor the space to discuss this in this paper, I believe that architectural technology studies are relatively successfully integrated in the design studio, perhaps partly because their methodologies are perceived as more appropriate for problem-solving exercises than methods of investigation of open-ended questions like those concerning, for example, the changing role and responsibilities of architecture in contemporary society. The fact that assessment in this area is also relatively easier or, at least, is seen as possibly 'objective', may be another reason for the more frequent requirement for technological awareness rather than for, say, intellectual rigour in the student design project. Nevertheless, a requirement for demonstration of a critical understanding and use of technologies is equally rarely encountered in the design studio. Again, the emphasis here too is on application of knowledge rather than on pursuit of an understanding.

As a result, the craft of making rarely functions as a vehicle for thinking ideas in concrete matter. Learning architectural design depends on opportunities to practise the cardinal design skill of initiating and investigating ideas, as well as "the transformation or interpretative skill [which] is needed to translate ideas into the appropriate and relevant context" (Bryan Lawson 1997) which requires also a critical selection and application of appropriate and relevant technologies. But the fact that the architectural student is not expected to engage in this critical process reflects current architecture practice. As Tschumi notes, "[t]he architect is not meant to question structure" (Tschumi 1993). In this way, the separation of "fabrica" and "ratiocinatione", in the design studio, tends to undermine not only the conception of design as a critical inquiry but also that as a problem-solving activity. And the absence of a critical approach to the "fabrica" element of architecture, Tschumi implies, is accompanied by a refusal to question "the entire edifice of [architectural] thought" (ibid.).

This reluctance to doubt and test technological solutions, in the best manner of science, is perhaps the result of a general discrediting of reasoning processes in architecture. Discussing the pedagogical mandate of architecture, and alluding to the crisis of pedagogy in architectural design, Micha Bandini points out that "design is no longer perceived as an organized and organizable set of notions which can be taught within recognizable patterns and hierarchies of complexity. [...] It is becoming [...] an elitist *non-easily-communicable* and *not-built-on-rational-premises* individual activity" (Bandini 1997). This is related to another way in which 'ideas' are currently expected to feature in the design studio project. Students are frequently encouraged to have what is termed a 'theoretical position'; yet, the methods to develop such a position on the basis of rational premises do not appear high on the studio's priority list of concerns. It also seems to me that the concept of a theoretical position is counterproductive as far as the development of the students' skills of critical enquiry is concerned. For at best it

suggests that what is desirable is to stand firmly by a theory or a viewpoint which, in this way, legitimates a design proposal or assumes the place of a definite answer, rather than developing a critical attitude and using a theory for the purpose of interrogating the object of study, questioning, investigating, analysing or, to use Deleuze's inimitable analogy, to deal with a theory as "a box of tools" (quoted in de Solà-Morales 2000).

Before I present some examples of attempts to stimulate students to use such boxes of tools, in the design studio, I should add that the situation in the design studio, as described above, may be seen to reflect what Ignasi de Solà-Morales has termed "the schizophrenic theory-practice relationship in architecture" itself (ibid.), and "[t]he proliferation of declarations of intent [...] accompanied by a dearth of well-founded reasoning" (de Solà-Morales 1997). His outline of the current condition of both historical and theoretical thought (de Solà-Morales 2000) helps to perceive ways of bridging the gap between theory and practice in architecture as well as in architectural education. For, at least, uncertainty and relativism of values means, also, the collapse of solid ideological frameworks and static canons of form, the end of theoretical dogmatism and mistrust of fixed definitions, the demise of privileged views of history and dissolution of monistic conceptions of reality. It means that the theoretician and the historian do not have exclusive rights to the interpretation of architectural practices, and that architects need to take seriously their legitimate responsibility to decode historical facts and construct their own historical narratives, and to engage in the action of theory. It is the responsibility of schools of architecture to equip architects to fulfil their new tasks. Although history and theory courses need to change too, it is my contention that the design studio is the site *par excellence* where the new relationship between theory and practice can be built and practised, and where it can and should be acknowledged as a creative endeavour.

The educational design studio can provide material for the articulation of an understanding of the design process, as well as a context for this understanding to operate on concrete matter, to function as the foundation of "good design". That is, the design studio can ensure the continuous and parallel development of skills of reasoning with the hand and with the intellect, protecting the student from the traps of abstract mental acts and the boredom of manual labour. Let us now think the studio as a site of active learning which may effect a reconciliation of "fabrica" and "ratiocination".

### **Thinking the Design Studio as a Site of Learning**

Already in 1851, it was observed that "We are no longer living in the time of the unconscious, natural [*naturnothwendig*] creation [...] but in the epoch of thinking, of research, of self-conscious reflection" (Ákos Moravánszky 1997). But following disillusionment with the Modernist project, the postmodern identification of a crisis of

meaning in the discipline has made it necessary to re-affirm the value of a critical attitude and reflective practice in architecture as well as in schools of architecture.

Based on the two premises of Gallagher's exploration of the connection between education and interpretation, that "understanding is always interpretational" and that "learning always involves interpretation" (Gallagher 1992), I propose a conception of the design studio as the site of active interpretation, and the site where a synthesis of a multiplicity of interpretations bearing on architecture takes place. A hermeneutical approach to the learning activity in the design studio is, necessarily, based on a conception of the architectural design process itself as an interpretation process. In an age when there are no more shared principles or manifestoes to guide form making or spatial articulation, architectural facts convincingly reflect Nietzsche's "infinity of interpretations". Teaching in the design studio, in my view, means empowering students to interpret; it means introducing to them tools to explore, and multiple angles from which to transform, "given circumstances", rather than merely "create within [them] more or less masterful buildings", *pace* Koolhaas who sees this as "the only thing that architects do" (Koolhaas 1991).

Postulating that "Teaching does not guarantee learning", Gallagher suggests that "in the classroom situation [...] learning takes place in the situation, in the interchange, or between the student and another person" (Gallagher 1992). In the design studio, this interchange focuses on a specific design project which provides both the setting and the medium of learning. The brief of the project is usually prepared by the tutor/s in advance, and sets out detailed problems and requirements for the presentation of solutions. In the proposed working model of the studio experience as a hermeneutical experience, the physical and historical context of each design project is offered as a text which calls for a creative reading or critical interpretation. And architectural design is the mode of reading particular to the architect or architectural student. The interpretative activity of the designer is conditioned by the given text – its age, history, physical characteristics, uses etc. – as well as by earlier interventions in this text – through design, inhabitation or social, political and cultural spatial practices. It, in turn, creates a new text conditioning future interpretations. This approach to the design context helps students perceive understanding as a design event, and critical site and brief analyses as processes of invention and transformation rather than processes of mere data transcription. It also helps them realise that understanding involves transformation of its object; in this way, the conception of the design activity as an interpretative activity leads to the perception of the hermeneutical experience itself as a design experience.

Critical engagement with the context of the design project involves interpretation which extends beyond mere recording and explanation of elements of the site and its history. It may involve, for example, an attempt to understand the principles at the basis of the

activities which determined the characteristics of a particular site, initiating a critique of the processes which resulted in its present configuration. The emphasis on the critical character of the interpretation process helps turn the multiple contexts of the design project, which include the given programme as well as methods of architectural representation, into "objects with which to think", to use Tzonis's and Lefaivre's formulation (Tzonis and Lefaivre 1996), and re-locate them at the centre of the design process. Furthermore, the thinking of these objects, which is usually seen as concerned with the past or at best with the present, becomes futural. The history of a city, a site or a building type conditions the new design intervention but the latter modifies these, in its turn. This leads to a recognition of the relationship between the historical context of design and the design activity - which is itself a product and initiator of history - as reflexive.

"An essential aspect of all educational experience [...] involves venturing into the unknown" (Gallagher 1992). At the same time, however, "A large part of the art of instruction lies in making the difficulty of new problems large enough to challenge thought, and small enough so that, in addition to the confusion naturally attending the novel elements, there shall be luminous spots from which helpful suggestions may spring" (John Dewey quoted in *ibid.*). The difficulty in assessing the students' prior experience to which new experience may be related, and the fact that this prior experience varies significantly from student to student in a large group, impose constraints and risks on the construction of the learning site of the design project. But, as we will see below, these difficulties can also be turned into invaluable allies and add fuel to the engine of the hermeneutical experience, rather than impeding it. Below, I will describe four examples of such sites.

#### **Four Sites Calling for Interpretation**

In order to stimulate students to embark on the design process as an active interpretation process, in the course of the last three years, I have tried to devise studio projects which offer students 'rich texts' for reading as the starting moment of the process of design. At the same time, I have tried to fertilise the re-writing process by pointing at theories or tools which could be used to open up questions about the context of the particular project as well as about the design process itself. My aim has been to give students a choice of tools, perspectives and points of departure as well as to try to expose them "to much more material than [they] will fully absorb, so that selection can take place, and reordering" (Blundell Jones 1996). In this way, the first task becomes a task of re-writing the brief or producing a personal script.

In order to assess the usefulness of design projects, it is necessary to look at the process of running them, illustrate this and their results and evaluate the latter in relation to the objectives of the design studio as a site of active interpretation. Here, I will limit myself to a description of the preparation of four such sites.

*Reflexive Museum in Essen (1999)*

Essen is a city in the Ruhr District, the densely populated industrial conurbation between the rivers Ruhr and Emscher, in North Rhine-Westphalia, Germany. The Ruhr landscape bears the marks of more than a century of intense industrialisation; it is emblematic of the era of coal and steel, the epoch which believed in progress and the future, marked by modern life and the progressive destruction of the physical environment. The Ruhr skyline is defined by structures which, when erected, were viewed as "miracles of rationalization", and their products: abandoned coal mines, spoil tips, slag heaps, factory halls, blast-furnace plants, gas works, arterial roads and railway tracks, electricity pylons, chimneys and cooling towers. But, in recent years, the Ruhr landscape has also provided a context for critical exploration and creative design inquiry. A series of art and architecture projects, which have been recently completed or are still in progress, intend to preserve the memory of the past, to explain the principles at the basis of the activities which determined the characteristics of the Ruhr landscape, to confront environmental and social issues, and to embody a vision of the future of the area. While they value memory and accentuate, rather than erase, its visual embodiments, these projects focus on the celebration and rehabilitation of the Ruhr's industrial heritage, identify challenges to architecture and stimulate change. What projects such as these seem to propose is a re-contextualisation of the structures of modernity, based on a critique of the conditions of their production.

To a great extent it was because of these projects that the particular context was selected as the learning site for an integrated design project, run in 1999 (incidentally, the site was also adjacent to Alvar Aalto's Opera House and opposite the RWE headquarters tower (1996) by Ingenhoven Overdiek Kahlen & Partner). A box of tools was also offered for the interpretation of these projects which fulfilled a task similar to that of the museum the students were invited to design. It was suggested, that, in accordance with theories of reflexive modernization, these projects may be seen to belong to a new stage of modernity, high modernity, or reflexive modernity, which is characterised by a process of creative self-reflexivity and self-confrontation. The museum for Essen was meant to be neither dedicated to the past nor conceived in the image of the past, but to become the symbol of the city's new civic identity and reflexive approach to architecture, the conditions of its production and its responsibilities. The fieldtrip to the Ruhr region was an integral part of the design project, and aimed to familiarise students with the multi-layered and changing context of their project which called for interpretation rather than accurate depiction. Their experience of the Ruhr landscape was intended to set in motion the process of turning the project's context into an 'object with which to think'. For it could not fail to strike them as a monument to the thorough transfiguration of nature through human intervention, to use Giddens's terms (Giddens 1994), and to the transience of concepts of progress. A perfect illustration of modernity's and industrial society's claim to shape all things, the Ruhr landscape

provided a site which was distant and unknown enough to call for understanding, as well as one to which intense industrialisation has given the characteristics of sites many students were familiar with, and thus not a totally meaningless site. In this way, the "dialectical interplay [...] between the familiar and the unfamiliar" (Gallagher 1992) was set in motion.

*Housing Ideas, Weissenhofsiedlung, Stuttgart (2000)*

At Weissenhof, Bahnam argued, Mies van der Rohe, who drew up the development plan, "made the Modern Movement visibly international" (Bahnam 1972). Already in 1923, Le Corbusier had called for "a revision of the constituent elements of the house" (Le Corbusier 1989), and it was upon this task that the pioneering experiments of the architects of the "The Dwelling" centred. Although the debate which followed concentrated mainly on form, at Weissenhof, the Deutsche Werkbund posed the question of the house in relation to the contemporaneous technological break-up and new concepts of habitation, rationalised structural systems and fabrication, and industrialised materials: the "new methods of and scope for rational construction and habitation" (quoted in Joedicke 1989).

The Weissenhofsiedlung was selected as the site in which I invited a group of students to pose the question concerning the house, today. I saw this site as a 'rich text' for a reading which started before our visit to Stuttgart, with the help of the pertinent literature, and led to the creation of a site in the students' minds, which represented a transformation of the Weissenhofsiedlung, and which was transformed in its turn during their visit. It was recognised, in this way, that the writing of history is itself an interpretation process similar to the design process, and the same applies to the reading of history which effects a further transformation upon the object one reads about. The houses of the Machine Age were also intended to function as 'objects with which to think' the contemporary house in relation to the digital break-up of the information age, and the ensuing reformation of our living and working environments or, to use Eisenman's words, in relation to "the shift from the mechanical paradigm to the electronic one" (Eisenman 1992) and the consequent transformation of our mental, physical and social space.

The house and studio at 10 Bruckmannweg was meant for a young female designer, confined to a wheelchair. Her constraints were to be seen as a further set of tools to help students envisage new possibilities for space, to explore ways in which the spatial components of the house-studio will not merely facilitate movement, but will be discovered through movement. A further tool option was suggested: a consideration of time as the forgotten dimension of architecture, and a centring of the design inquiry upon questions of time, its fabric and texture, its relation to space, and the ways of moving 'through' space and time. It was precisely a student's attempt to create a space for life and work, which is dynamic rather than static that led to an innovative

"question[ing of] static spatiality and constancy of forms in time" (Decq and Cornette 1999). Sustaining and continually testing a challenging design hypothesis, he proposed a house-studio in flux, a space with multiple configuration possibilities or, in other words, a space with infinite interpretation opportunities, stimulating interpretative inhabitation.

*Berlin ArchiTEXchange: Young Architects in a Changing City (2001)*

Not surprisingly, at the last Venice Biennale: 7th International Architecture Exhibition 2000, the exhibition in the German Pavilion focused on Berlin, the new capital city and the ground of 50 years of international experiments in urban development and architecture. The message was clear: the texture of Berlin is in transition. The exhibition catalogue suggested that "[r]eading the texture of a city means understanding the city as a text. Thus planners, urban developers and architects must constantly re-edit their city, checking it for spelling mistakes, adding new chapters to it in some places, cutting something out in others, reading through the text from the point of view of current social and political guidelines without rewriting it completely" (Stimmann 2000). New development is, at once, a creative writing process which meets current social, political and architectural realities, and an editing process which addresses the city as a text, which is based, that is, on a reading of history and its concrete architectural legacy.

In Berlin, new architecture faces the task of looking forward while acknowledging the traces of the past; it aims to project the city and its image into the future, while recognising the forces of history and memory. And recognition of the legacy of the past need not be conservative; critics of selective, conservative approaches to the history of Berlin have pointed out that radical innovation and diversity are prominent in the historic matrix of this city. "Throughout the past century, it has been a commonplace to identify Berlin with continuous change, destruction, renewal and experimentation. [...] For Daniel Libeskind [...] Berlin is 'a fascinating montage of conflicting histories, scales, forms and spaces'" (Ladd 1997). Every new project in Berlin is bound to ignite debate, if not controversy, over the symbols, meanings and shapes associated with the city.

This project invited students to participate in the above debates through their reading of the multi-layered text of the city of Berlin. The result of their transformative reading was to be a space for the younger, Berlin-based architects, to accommodate their everyday need to debate concepts and material forms for Berlin; creatively articulate the pasts, presents and futures of their city; exchange ideas; and stimulate a continuous re-thinking of social and political spatial practices. In this way, the learning experience embodied the object of learning. The objective of the interpretation process was to produce a space inducing similar interpretation processes; in a way, the medium and the message coincided.

The site of this project is located in the former East Berlin, within the grounds of the remains of a large industrial complex which was converted into the DAZ (Deutsches Architekten Zentrum: German Architects' Centre), in 1995; in the area near the Wall, characterised by buildings bearing the clear marks of disuse and disrepair; at the edge of the city centre; by the river Spree; in a district currently undergoing regeneration. Along the river, on the opposite side, is the railway line and Holzmarktstraße, a major artery full of heavy and noisy traffic leading into the city centre. The site offered a 'rich text' calling for interpretation, and functioned successfully as such. Its elements led a number of students to interpret it as a Berlin in miniature. One student's creative enquiry resulted in offering the city a new site, rather than merely a new building, a design-site-in-progress or matrix for architectural experimentation. Her transformed city consisted of a dynamic ensemble of spatial experiences and urban elements which extended beyond the given site and intended to stimulate a continuous re-thinking of the city and architecture of Berlin. At another level, the iconographic elements she employed helped materialise the reflexive relationship between the context of design and the design activity, subtly undermining the power of last century's architectural iconography. In this way, the interpretation process successfully extended beyond the site of the specific design project, to address the learning site of all design projects and all activity in the design studio, architecture itself.

#### *Writer's Cabin on Stilts (2000)*

There are writers who find comfort and inspiration to pursue their activity in noisy cafés and smoky wine-bars, in crowded trains and busy airport lounges, in public urban spaces, on ship-decks, in impersonal hotel rooms, in the open countryside or while driving their car. And there are writers who prefer the isolation of a private room, the ascetic conditions of a monastic cell, or the seclusion of a small cabin cut off from the rest of the world. This project invited students to address the needs of a writer of the second kind and accommodate them in a cabin on stilts, in the water near his or her permanent residence.

This was a five week design project with a number of challenging tasks: each student was required to identify a site and a writer, and present them to the rest of the group. These presentations embodied the first steps of the design process in the shape of the first fruits of the site and user interpretations. The initial creative analyses were used to formulate a personal brief and design tools. In all cases, the students identified sets of tools through their interpretative exploration of the work and ideas of their chosen writer. Their turning of their writer into an 'object with which to think' was motivated by the affection they felt for their work. In all cases, the identified sites were located near the places where the students had grown up, and their writer's work was related to these places. New experiences was easily related to each student's prior experience. Although the design process started with familiar objects, these were recognised as

unfamiliar as soon as they were viewed as a site for a building and a private person with an ordinary life. They became thus sufficiently distant and challenging for the interpretation process to start. The pursuit of the unfamiliar led to a better understanding of the familiar which, in this case, was clearly also a self-understanding, in accordance with the principles of hermeneutics (see Gallagher 1992), and a self-transformation. At the end of the project, the students' relation to their chosen site and author had changed.

The principal medium of the design exploration was models, and the final proposals were communicated mainly through an 1:10 model. At every studio session, a new site took shape. This was an extremely successful project, and this success may be attributed to the fact that each student had the opportunity to empower themselves, take initiative and full responsibility of their individual freedom and design framework, identify with their personalised project, and, thus, enjoy their creative inquiry. The variety of the group submission and individuality of each scheme reflected the above. During tutorials, students helped, guided and supported each other continuously. Again, the individuality of each scheme helped them contribute to each other's interpretative work from a critical distance, while at the same time freeing them from the often encountered fear of their ideas being stolen. Finally, this was also a project which did not make students think that their tutor knows the answers to their problems. The design studio was seen as a more democratic site, so to speak, where students and tutor strive together for an understanding. The students' individual projects offered learning sites of the students' own configuration, and their interpretation process was shaped, to a great extent, by questions they were free to formulate themselves, explore them with the tools of their own making, and continually re-shape them and cast them in light in that way. The craft of making functioned as a vehicle for thinking ideas in concrete matter; and the so often peripheral interpretations of site and user assumed the central roles of creative design tools and empowering learning instruments.

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