From Mute Genius to Agile Manipulator

Two cultures exist within education for design practice. They are not the two cultures of CP. Snow's famous art and science split, the division is less straightforward. It is rather a split between two approaches, between thinking and doing, hand and brain. Design after all bridges Snow's two cultures. While it does not engage with pure science, designers at least mix technology with art. The knowledge of 'how things work' is rightly valued as is the development of formal, visual and creative abilities. This is illustrated in the tight binding of the craft tradition with design education - designers are expected to learn partly by doing, addressing all these areas simultaneously. This style of learning is of course complemented by doses of theoretical learning, of relevant technology, business studies and, often, a course or unit with History in the title. Theory teaching has a major responsibility for making sure that designers are equipped to be 'agile manipulators' of the great range of fields which design practice traverses. I want to suggest that it is particularly important now, that theory teaching for design practitioners is reconsidered.

There is a perception that designers do not like to read. C.T Mitchell, says so quite explicitly in his recent book⬜. This may be behind his publishers' decision to make what is an important work of design theory look like a coffee table book. They even go so far as to point out the level of illustrations on the glossy cover. Their lack of willingness to read suggests that designers are not interested in theoretical explanation, analysis and equivocation. It is true that design is, partly, a mysterious activity. At a core level of a design task it is not always possible - or even necessary - to provide verbal explanations for the choices made and the synthesis developed. However, designers' creativity is understood to mean they conform to a particular character type. This character type has a lot in common with the romantic genius, striding over the peaks of culture, with scant regard for lower levels of humanity and with a complete confidence in his right to his position. As the writer and critic Wilhelm Heinse put it:

'The joys and pleasures of superior men decide questions of art, not the pedantry of school masters.'

The characteristics of the stereotypic designer are suggested by the title given to those who have ideas in the design industry. These are the 'creatives'.

C.P. Snow refers to the 'subterranean backchat'   which is nourished by the opposition which he describes between the arts and sciences - an opposition which is still detectable, for all the current fashion in art and design for the philosophical implications of virtual space and chaos theory. The two cultures in design, are not science and art. They are rather subcultures defined by stereotypes, sensualist romantic set against Calvinist reductionist, mute warrior hero set against whining intellectual fop, instinctual style aristocrat set against 'spekky swot'. There is plenty of opportunity for backchat, and most schools of design probably have their backchat mill.

It is my contention, that there is sometimes an emphasis on the first of each of the above stereotypes in education for design practice, which works to the detriment of design students, the design profession and the academic status of design. The second in each pair of stereotypes might be more interested in theoretical explanation, analysis and the resulting equivocation. The continuing debate over design research revolves around the relationship of theory to the practice of design. Mike Press recently commented that , it is vital to the survival of research activities that distinctive and appropriate methods and bodies of knowledge are established . Part of this process relies on an education which offers design undergraduates theoretical tools to make them effective researchers later in their careers, whether in professional practice or as academics.

Traditionally, design students were sent away from their studio spaces once a week to the ministrations of a separate group of staff who teach a subject / unit / course the name of which starts with 'The History Of......'. This can be framed more or less widely - from History of Art to History of Ceramics. As Victor Margolin has pointed out , the growth of art school education in the early 1970's gave the discipline of Design History its start in life, to the extent that it has grown into a sister discipline to Art History. It has thus been subject to the same formative influences which have broadened it into a thoroughly multidisciplinary field which draws upon Cultural Anthropology, Geography, Semiology etc.

Margolin proposes a refocussed Design History which reflects these changes. His 'Design Studies' provides some of the theoretical tools appropriate for design practice. He gives less emphasis though, to aspects of the process of design which distinguish it from the sort of commentary on its context, which is provided by cultural anthropology et al. One of the elements of his Design studies, Semiology, on the face of it offers a useful technique which can be drawn upon by design practitioners to consciously manipulate the real complexity in the objects they produce. The 'product semantics' which it has become does not live up to this promise. In three dimensional design, product semantics sometimes appears to be a one dimensional technique which can be added on to design practice as an adjunct to ergonomics. Margolin suggests that 'Design Studies':

'...encompasses issues of product conception and planning, production, form, distribution and use. It considers these topics in the present as well as in the past. Along with products, it also embraces the web of discourse in which production and use are embedded.'

Experience of working with design students suggests that while issues of form, distribution and use are well catered for by the 'son/daughter of art history' which he proposes, production, planning, and particularly product conception are not. As for the 'web of discourse', this is a long way from what most design students and educators understand to be appropriate to support studio practice. It may be that this is a symptom of a dividing line between 'design studies' and 'design theory' and that this reflects differences in background of the academics who design students encounter. Just as it is rare for designers to be good at theory, it is similarly rare for historians to have a background in design practice.

That is not to say that the deconstructive tendency which derives from the 'New Art History' to which Margolin appeals is absent from design at large. Greg Rowland and Malcolm Evans interviewed in Co Design recently show that the free ranging pluralism of advertising gives them a home. It is pertinent though, that Rowland and Evans are both graduates in humanities subjects other than design. They have had the benefit of full blown exposure to the poststructuralist / deconstructivist theory which is associated with contemporary literary criticism.

A notable application of this brand of theory to design education has been at Cranbrook under Katherine and Michael McCoy. The graphic design which has come out of Cranbrook, has drawn criticism for its irrelevance to the market for graphic design - it has been described as 'ugliness in the face of fashionable experimentation'. Poststructuralist theory seems to offer a useful tool in the hands of art directors, but not in the hands of designers, possibly because it questions the accepted, romantic, understanding of the power of the designer to define the meaning of their work.

To return to Margolin's 'Design Studies', it may be useful to note the spectrum of theory teaching which is necessary for design education and establish what is included in his model and what is not. At the extremes are engineering related technical subjects and a design history based on connoisseurship. Near to the

engineering extreme are the group of subjects often lumped together under the title 'professional studies' - business and marketing theory. Near to the other extreme, are the sociology-related subjects which Margolin includes in his Design Studies. Somewhere in the middle, and not included by Margolin, are areas which relate to the understanding of individual creativity and general issues of political economy. While Margolin's Design Studies allows for a closer relationship between theory and practice, this middle ground blurs the distinction irrevocably as it looks firmly in both directions, towards the pragmatic and towards the abstract.

There was traditionally a more or less complete division of theory from practice in design education, taught by different groups of academics with different backgrounds and different outlooks. This meant that inadequate attention was often paid to the notions which students hold about the realities of the process of design - from their self image as 'creative' people to the function of the design process within commerce and designed objects within culture. One consequence of this is to make a strongly theorised postgraduate experience, for design, a very difficult row to hoe, because of the low fertility of the ground which has been laid at undergraduate level. This will probably change, as the courses in Design Studies started in recent years help to establish the subject as a distinct field. The contact which design students have with this field will help to break down the two cultures as the student experience reflects back onto practice, by challenging the basic world view which design practitioners carry.

A look for causes for the hand / brain opposition again brings up the conception of the type of person a designer is supposed to be. At the same time as being supposedly pragmatic and commercially oriented, designers have been keen to hang on to a mystificatory notion of creativity, which is validated by their status as creative people who inherit the status of the romantic genius. It is important to challenge this idea for pragmatic reasons. The context for much design work is no longer the individual consultancy, but the multifunctional team. It is tempting to suggest that what is needed to provide this challenge is not a new subject, a design theory, design studies or design history, but a different approach to the teaching of all theory to design students. This approach would set out deliberately to blur the division between the two cultures and derive from within design itself, relating at all times to design practice.

The two cultures perhaps relate to two world views, one useful for an agile design practice, the other not. One world view has it that there are facts, qualities and structures which are absolutely true, are sufficient unto themselves and are separate from the affairs of people. These facts, qualities and structures are considered to be autonomous - not connected to pragmatic concerns, economics, markets etc. Examples of this attitude are found in a conception of scientific fact as absolutely true; the psychological idea of individual egos as given and stable; the idea of selfhood as fundamentally separate from culture, unique, and made up of an 'inner nature'; the idea that individual creativity operates in an autonomous manner.

The other view - they can be seen to be in opposition - has it that there is no absolute autonomous truth, that all knowledge, either of the world or of ourselves is made up of shifting constructs which are dependent on the context in which they arise. These constructs are understood to be dependent on specific cultures and therefore to embody political prejudices and social attitudes. According to this view, the work of all 'cultural knowledge workers' - artists and designers - is primarily to do with formulating and reformulating temporary and momentarily appropriate responses to the demands of their situation.

According to my own criterion that theory should be driven by design practice, it may seem far too abstruse to consider design education in these terms. After all, the

design profession demands pragmatism and commercial realism. However, the demands of the design profession are not identical as those of education for it, or of research activities which are relevant to it. Because of this, it is necessary to consider and unpack the conditions which bear on design from first principles, as far as possible . An illustration of the way in which 'theoretical' approaches to teaching can inform practice derives from the idea of creativity. Creativity is often understood in terms of the first world view above, as an attribute of a particular personality type - a special sort of person. This is the common sense view. For design teaching and current design practice, creativity is more usefully understood in terms of the second world view.

Students usually enter BA courses Design with the common sense view of creativity. They see it as a quality possessed by a special group of 'chosen' people, which connects them with a realm of absolute value which is entirely separate from the social sphere. This romantic conception of the artist - genius is so ingrained that it is just part of the cultural landscape. From a common sense perspective, creativity is just like that. The negative results of this conception of creativity are familiar to anyone who has taught first year undergraduates of a particular stamp. When confronted with a situation in which they are asked to account for their decisions, they deny that it is necessary or appropriate to do so. In my experience the weakest students, often rely on this picture of themselves as innately creative - one of the chosen. While this may bolster their fragile self esteem it puts them in a dangerous situation. They risk total personal annihilation when their work is brought into the public sphere. After all, if their work encounters any rational criticism, their conception of themselves is challenged fundamentally. If they are indeed one of the chosen - by nature - then it follows that their work is guaranteed to be exceptional. If it is demonstrated that a piece of their work is not exceptional, indeed is faulty, this implies they do not have the creative nature they supposed. They are demoted all at once to the common run of people and may question their choice of career. They suffer the consequences of the absolutist romantic version of creativity.

Creativity is the object of study of a branch of the social sciences. It draws the attention of psychologists and social psychologists who attempt to model its workings and enable business to tap into the creative potential of their employees more easily. There exist at least two formulations of creativity within this field. One has it that creative types are different both in personality and neurological make up. The other, represented by Robert Wiesberg , has it that creative thought is of the same nature as what he calls 'every day' thought, and that creative outcomes derive from being in the right place at the right time as well as having sufficient skill, knowledge and motivation for the task in hand.

An introduction to this debate would help untie the bind that the romantic tradition locks practice into. This can also be achieved by the study of history - using a particular approach. By giving students a clear understanding of the history of the romantic version of creativity; its place in the history of culture, it can be shown to be a construct, not a given. To achieve this, first year students can be taken through the Renaissance, the Enlightenment, romanticism and Modernism, without the stress on stylistic issues which some art history offers, to show the development of the attitudes which they consider 'common sense'. This means that ideas must be covered as ideas - using references to particular practitioners and schools of art and design to illustrate the points which are raised. The romantic conception of creativity can be shown to have grown up alongside economic and social changes. The division of labour which accompanied industrialisation and removed the possibility of creativity from most work, meant that it became the preserve of art, divided from productive labour. It was only in creative work that an individual could see a project through from beginning to end.

This analysis requires a particular approach to history - one which would be provided by the Design Studies put forward by Margolin. It offers an instance where part of the 'web of discourse' which surrounds design practice is exposed to analysis.

The subject of creativity can again help to show how such a deconstructive approach is useful and necessary to design practice. There is no situation in which designers might find themselves in which their status as 'creatives' is not part of the reason why they have been employed. The reality of this issue is suggested by the idea that 'creatives' are so different from normal employees that they must be managed in a distinct way. 'Creatives' in industry are ascribed certain specific characteristics. As Winston Fletcher describes, they tend to be '...insecure, egotistical, stubborn, rebellious, poor time-keeping perfectionists who seek fame and are not necessarily all that intelligent.'☐ He also suggests that 'creatives' '...appear intransigent because they lack analytical debating skills.'☐

Fletcher points out that managers need to be on the look out for 'creatives' who actually play up this personality type - when it is not actually inherent in their genuine make up. This suggests that at the most superficial level, it is important for design students to know something of what the 'creative' type consists of - so better to play the role. More seriously, the reason why it is important that students are helped to understand what the boundaries are of the cultural ideology of creativity, is to make them able to distinguish between the cultural stereotype, and the habits of mind which lead them to be productive.

One of these habits of mind must be to analyse the results of their work as it progresses. Some of this analysis will draw from the tacit knowledge of their field which students develop through studio practice. However any decision over where to go next with a piece of work will always also rely on the 'analytical debating skills' which Fletcher identifies as a weak spot among 'creatives'. If this is so, it is necessary for design education to both give students practice at this on the level of skill and provide them with the habit of gathering the cultural knowledge to enter into analytical debate.

To this end, design students need to have some picture of what sort of culture it is they inhabit. The very fact that creativity is such an important field of study might be argued to be connected to the neophilia of late modernity. It cannot but help students in their design practice, to be offered theoretical models of culture as a whole. This again reiterates Margolin's point, but it is more useful to students to understand the characteristics of Modernity, and Postmodernity than to look at artefacts which can be labelled Modern or Postmodern. Students have been heard to express annoyance at having to 'do the Bauhaus again', presumably having looked at the stylistic and formal language generated by the Bauhaus ad nauseam, without being shown that the ideas which generated those forms and that institution are conditions which affect their own design practice.

The theoretical material introduced to student designers must offer them agility. It is certain that the conditions under which they start their careers will not last unchanged. Change in the profession itself has been trumpeted recently at the Design Renaissance conference at Glasgow in 1993. As Bill Moggridge said there:

'The future seems to be coming at us faster all the time. In order to create products that will be right for their time, we need to have ideas about the direction of this onslaught of change.'☐

Baudelaire, often invoked as the first theoriser of modernity, identified change as fundamental to modernity. The 'transient, the fleeting, the contingent' which he described, he set in tension with 'the eternal, the immutable' . Given the weight of common sense which theory needs to shift in design education, it is more rewarding

to attend to the fleeting and contingent, than the eternal and immutable as our common sense unhelpfully suggests that the world really is stable. For instance, design practice is deeply caught up in the fleeting and contingent qualities of information based technology. This may relate to its impact on the techniques available to the designer and their implications for the designer's self image. It may relate to the ways that new technology impacts on the management of design by bringing designers into teams with other professionals round a single data model. It may relate to the design of electronic goods themselves.

Electronic goods offer a good example of another strand of the bundle of awareness which needs to be included in theory teaching for design. While the issues of interface design can be informed by the textual analysis which derives from the deconstructive tradition, there is other theoretical material though which can help students understand the design of electronic goods. On a broader look at many electronic goods, there is room for the introduction of basic political economy, to illuminate the likely conditions of production, in the Pacific rim for instance. To understand the power of their iconography, Marx's comments about the fetishistic quality of commodities are illuminating. He noted that aside from the use value added to material through manufacture, as commodities, objects turn into 'something transcendent' . They take on associations which are not directly connected with their physical form and their usefulness. What Marx called the 'metaphysical' aspect of commodities is what is most important about them from the point of view of design. These ideas put another gloss on the 'priestly' role of the designer, as officiator at that transcendence to the metaphysical plane. They also suggest that a study of the mechanisms through which meaning in commodities interacts with the individual psyche is relevant to design teaching, through a psychoanalytic analysis of desire and the ways in which it can be manipulated by design.

Recent design theory exists which attempts to square our pre-millennial condition with the ways in which design practice has been understood. C.T. Mitchell suggests that many of the shortcomings of architectural design derive from the star system of top architects, whose careers are curated by an adoring critical press. He makes this historically specific and links the failures of some modern architecture with the divisions in the labour of design since the industrial revolution. He notes that architectural design relies exclusively on drawing to communicate the finished proposals of the single designer who is therefore divorced from the process of making and the evolutionary work which can accompany it. He proposes a process based design procedure, which he illustrates using examples from fine art and software design. While the indirectness of his examples is frustrating to a degree, it may be understandable, as the procedure which he advocates is not normal to the design profession.

However apparently impractical Mitchell's proposition may seem, It is important to design education as it goes beyond the scope of much theorising about the design process and teases out the connections to related fields. In doing so, it challenges the role and persona of the designer. Another intervention which does this, comes from Jennifer Gonzales . She writes from an anthropological perspective of the function of objects within an individual's biography. The meanings which adhere to particular objects or sets of objects by virtue of the memories and associations which attach to them are often the most significant aspects of those objects for the person who owns them. This field of meaning is beyond the influence of the designer, it is beyond the reach of the market in new goods. If this really is the territory on which much of the relationship of people with objects exists, then the designer as hero needs a large and therapeutic dose of humility.

Gonzales' thesis is probably some way from being directly useful to design practice and for that is probably of most interest to graduate design students. However, it is

clear that there are areas which come within and beyond the umbrella of Margolin's 'Design Studies' which challenge the sort of theory teaching often laid on for design students and challenge common sense notions of the scope of design theory. That this challenge is important is made clear by the speed and complexity of the changes which face design. If the objective is to alter the way in which theory is offered to design students to turn them into 'agile manipulators', able to cope with change, how is this to be done on the ground? Lessons may be drawn from fine art and probably have been at many institutions.

The high modernist scenario, whereby mute heroic art practitioners produced art and literate critics sanctioned it for high cultural consumption through their interpretation and appraisal has been challenged. Thanks to the intervention of a clutch of elements - feminist art practice, art practice drawing on psychoanalysis and a general relativising tendency deriving from post structuralist positions - it is now accepted that art practitioners need to be able to articulate the theoretical basis for their work and that this comprises a key part of their fine art practice.

A gentle academic migration has been crucial to these developments in fine art. Studio staff have been willing to cross into territory previously the preserve of 'historians' - and to take on the demand for rigour and clarity of expression demanded there. This has been made easier, perhaps, by the theoretical / philosophical rigour demanded by contemporary fine art practice. In the same way, 'historians' have been prepared to respect the knowledge and approach of studio staff and to work with them in their territory, with the production of objects.

An equivalent blurring of boundaries between the fields of Design History, Design Studies and Design Theory is necessary to equip design students with insights, skills and attitudes appropriate to twenty first century practice. This intention is likely to run up against institutional and professionals dogma and prejudices. Nonetheless, it is worth attempting, to produce designers who are not only good at dealing with the situation they find themselves in now, but also have sufficient understanding of all the conditions in which they work, to initiate and deal with change.

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