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Modelling Experiential Knowledge for Research

This paper addresses an issue in art and design research. The art and design community is not homogeneous, and there are artists who feel that research in art is very different from research in design, and deserves to be analysed separately. Likewise, there are designers who feel that design is distinctive and warrants a separate treatment. The fundamental issue in this paper is something that is common to both, and indeed, is also common to architecture and the performing arts, etc. Finding a term that includes these disciplines and satisfies those who occupy them is difficult. The area is sometimes referred to as 'the creative and performing arts' (UKCGE 2003), but the word 'arts' can be provocative to designers. Alternatively, 'creative and cultural industries'¹ may be making assumptions about how knowledge is applied and valued. This paper tries to find what is common to these areas rather than what is different between them. As a result, the paper uses the term 'art and design' to identify a broad range of creative practices that share, in this case, an interest in the role of experience in knowledge generation.

The paper is an ontological enquiry: meaning that it examines the problem of how experience can be accommodated in art and design research, not by looking at examples but by looking at what the term 'research' means, and therefore how one might reconceptualise the term 'experience' in order to make them more compatible. It looks at this problem 'in principle' rather than 'in practice', which is what characterises an ontological enquiry. The conclusion is that the experiential feelings we have merely represent something called 'experiential content', and it is this content that is relevant to research. The paper does not attempt to demonstrate the existence of experiential content in practice. This may be dissatisfying to some readers, but it is not the objective of ontological enquiries to identify answers, but instead to point the reader in a direction where answers seem most likely to found.

Problem Statement

The context for this paper is the vexed question of the role that experience can or should play in research in art and design, and in particular whether we can clarify what is meant by 'experiential knowledge'. The reason this is a vexed question is that there seems to be an inherent contradiction between the nature of experience and the requirements of research, which arises from the more general problem of subjectivity and objectivity. This paper treats the term 'subjective' in the philosophical sense of 'pertaining to the perceiving subject'. Experience is essentially subjective because it 'belongs' to the perceiving subject and cannot be shared by someone else. There are at least two consequences of this subjectivity: it leads to variable interpretation of meaning and significance by different perceiving subjects; and it leads to difficulties in the communication of content because that content is part of the perceiver's personal and private experience. The inherent contradiction arises because of the converse expectation of 'objectivity' in research. This paper accepts that there are limits to 'objectivity' resulting from epistemological scepticism described in an earlier paper (Biggs 2000). As a result the term 'objective' is reframed so that concepts are 'defensible' rather than 'independent', because the latter implies some kind of philosophical Idealism. There are at least two consequences of this objectivity: the

¹ A term favoured by Tony Blair's New Labour Party in UK.

need for unambiguous content, thereby describing a specific and bounded parcel of knowledge; and the need for unambiguous communication, thereby laying a claim to this parcel by the author. Therefore, the consequences of experiential subjectivity appear to contradict the requirements of research objectivity.

In response to this vexed question and apparent contradiction, this paper investigates whether there can still be a place for experiential knowledge in art and design research, or whether the contradiction is actual rather than apparent and is therefore an indication that there is no possible place for such knowledge. The method employed to analyse this contradiction is concept analysis in the context of philosophical aesthetics.

The term 'aesthetics' refers to the analysis of a certain class of experience rather than the theory of beauty. 'Aesthetic response' refers to a reaction that we have to a meaningful sensory experience. It is sometimes felt as a physical response such as having goose-bumps, or being moved to tears by emotion. Having such physical symptoms is not a criterion of having an aesthetic response, but serves to show that we can and do have a special kind of reaction to certain stimuli associated with pleasure. In extreme circumstances, we may manifest physical symptoms, but at a lower level we may simply have preferences that are not necessarily backed by conscious judgements. This paper assumes that this ability to react to pleasurable stimuli is something commonplace, and not the kind of rare ecstatic reaction that has formerly been a focus in aesthetics, known as 'the sublime'. The 'aesthetic response' can also be described as a certain category of interpretation, which is familiar to us if we know how to view *objets trouvés* in the art gallery. We try to have an aesthetic response to such objects, as opposed to the everyday response we might normally have to something like a pile of bricks². We are also having an aesthetic response when we express a preference between equally functional designed objects. Having claimed that an aesthetic response is commonplace, we can return to the question of whether there can be a role for experience in research in art and design, and use the aesthetic response as an indicator of the presence of a relevant experience.

Contextualising the Problem

Practice-based research is the focus of a great deal of attention in art and design at the moment. In the UK, the Arts and Humanities Research Council [AHRC] has commissioned a survey of both practice-based research and practice-based doctorates in order to obtain an overview of the range of activities that are encompassed by the term³. In Sweden, the government has introduced a Bill that extends the scope of national research⁴, and in response the Vetenskapsrådet [Swedish Research Council] has established a series of international guest professorships through which to develop practice-based research (Sundbaum 2006: 30). In Brazil, there continues to be a divide between research and professional practice at the highest level, and academic research. This is evidenced by the impossibility of reconciling the two areas in the national research database of Conselho Nacional de Pesquisa [CNPq]⁵. These examples show that the boundary between research and practice is unclear to national funding agencies. Even the terminology had yet to be standardised, as recognised by the AHRC in their survey briefing. Although 'practice-based research' is probably the most widely used expression, it does little to clarify what is special about this activity since most research could be said to be based somehow in practice, or to have a relationship to the practical world (Langrish 2000: 303). The AHRC currently prefers the term 'practice-led research' and others have used 'practice-based', 'process-led', 'studio-based' or 'studio-led' research. What all these expressions have in common is a reference to the way in which the field of art and design is advanced through the creation of artefacts. This in turn assumes a number of different relationships, a few of which will be the focus of this paper. In particular, there is an assumption that the knowledge base of art and design in some way includes either the artefacts

²E.g. Carl Andre, *Equivalent VIII*, 1966. Collection of Tate Modern, London.

³ AHRC Research Review Practice-Led Research in Art, Design and Architecture. Commissioned Summer 2005.

⁴ Bill *Research for a Better Life* 2005.

⁵ CNPq Plataforma Lattes. URL <http://lattes.cnpq.br/index.htm>

themselves or the knowledge that is embodied in them. This assumption is manifest in the cultural practice of the display and conservation of these artefacts instead of preserving only secondary literature about them. Finally, there is a tendency for theory to be about these artefacts, and to constitute critical commentary on them.

Artefacts and Theories

The claim in art and design that knowledge is embodied in artefacts is different from the claim of scientists and engineers in relation to knowledge demonstrated in their experiments. Although some experimental processes result in artefacts such as particle accelerators, nonetheless, research in these fields mainly aims to produce principles and theories that are then used to guide the construction of artefacts, e.g. bridges. One could say that the artefacts were the practical verification of the validity or value of the preceding theoretical outcomes of research. If we compare this with the embodiment claim in art and design, we can see that there is a difference in the relationship of theory and experience.

<i>art</i>	practice	→	theory
<i>science</i>	theory	→	practice

This generalised description illustrates that in art and design the artefact is not normally produced as a result of applying a theoretical or critical model. Indeed, the chronology is somewhat the reverse. Arts theorisation and criticism follows from an analysis of the artefacts that have already been produced and this chronology encourages us to think that the role of artefacts in art and design research may indeed be different from the role of artefacts in science and engineering. We can also see that there is a political difference between art and design on the one hand, and science and engineering on the other because in the latter researchers are in a different category of worker to the former. In art and design, we confuse the practitioner who generates the experience with the science researcher who generates theory. This contributes to the current problem concerning practice-led research and its relationship to studio practice. The mere fact that chronologically the studio practitioner and the science researcher are in the same antecedent relationship to art theory does not necessarily imply that all antecedent work in the studio is therefore research. When Ryle (1949: 30) said 'efficient practice precedes the theory of it' he was not making a claim about the status of practice as pre-linguistic research, rather he was making an assertion about the relationship of theory as commentary on efficient practice. The differentiation is also supported by Keinonen in the present volume, in his separation of the 'Field of Research (F_R)' from the 'Field of Art (F_A)'.

Returning to the issue of the knowledge base of art and design, we need to consider the nature of the claim that it is in some way embodied in artefacts. This might be the weak claim that artefacts are useful, interesting, aesthetic bearers of meaning, and that this use of artefacts is in some way sympathetic to the overall aims of art and design. Alternatively, art and design practice-led researchers may be making a stronger claim. Their claim could be that artefacts are an essential part of either the process or the communication of its outcomes (*cf.* Scrivener in this volume: Table 2). It is not difficult to identify at least one key feature of art and design artefacts that is indeed related to this claim, and that is the ability to evoke an aesthetic response through visual, aural, or gustatory sensation, etc. Thus, we are essentially interested in the experience of the artefact and our reception of it. Aesthetic theories describe the nature of the aesthetic response as a particular kind of experience, and the reason we value it as more than just a particular form of sensory excitement, and why we give it additional social and cultural value. Because the aesthetic response is intimately linked to the artefact itself, it is clear that we must have artefacts and not just theories about artefacts in order to stimulate the aesthetic response. Here we can also see a familiar pattern, that aesthetic experience precedes aesthetic theorisation. The normal model is therefore experience first, and theorisation and knowledge second. This accords with the earlier observation that the practice of artefact production in the studio is usually not predicated on an explicit theory.

Let us stay for the moment with the insight that an aesthetic response is stimulated by an experience, and that experience is made available to us because of the existence of the artefact that has been made by the artist or designer. If we consider the illusive notion of 'intention', we might venture to suggest that the artist or designer intended us to have a certain experience and, as it were, embodied that intention in the artefact (Diaz-Kommonen 2004). This is, I believe, the nature of the argument given by practitioners to defend their role as researchers. The artist or designer embodies an idea in an artefact through their personal skill. This embodied idea then becomes the object of experiential reception and critical analysis. Because critical analysis and experiential reception both generate forms of new knowledge then, the claim goes, that was the intention of the artist/designer, who should have the credit as the researcher. This claim would seem to have some legitimacy if considered as a type of collaborative research, in which some of the work is done by the artist/designer and some is perhaps done by the critic.

We have observed that one of the functions of the critic is to extract theoretical notions from the analysis of artefacts. In addition, we can observe that there is also a modal transformation from the visual or sensual reception of objects into language. This is noteworthy because aspects of non-linguistic artefacts are represented in language by the critic, and that in terms of form if not in terms of content, this is the moment at which the claimed outcomes of art and design research achieve a presentation that is similar to the outcomes of research in other fields.

Earlier in this paper, it was suggested that we might use the expression 'intention'. Apart from the dangers of the so-called 'intentional fallacy' (Wimsatt 1954: IV), it is probably not the claim of all artists/designers that they have an explicit intention that they wish to communicate, but instead to put before the viewer a number of experiences and to admit, indeed encourage, a pluralistic approach to the significances of those experiences (cf. reference to Blanchot in Laakso's paper in the present volume). Such interpretations are situated and benefit from pluralism rather than being weakened by it. The reason why we may be tempted by the notion of artistic intention is that we have already noted that research includes at least two objective expectations that seem to require directed approaches. The first is that something new has been gained: not just a novel artefact that has not existed before, but new knowledge that has not existed before. In order to give credit to the artist for the production of this new knowledge, we must attribute to the artist an awareness of what they have achieved, and the claim that they had purposively embodied this knowledge in the artefact. Secondly, we also need to attribute intention [in the sense of purposiveness] to the artist, not just of manifesting the knowledge through this embodiment, but also of having the express intention of communicating it to others. Thus, we could say that the first intention legitimises the intellectual property as being, at least in part, owned by the artist. Secondly, we could say that the knowledge is disseminated by the artist, as is required if this new knowledge is to contribute to the field and not just to the personal development of the artist.

We have now identified the two core claims of practice-led research. The first of these is that the artefact is essential because it has the potential not just to evoke experiences in the viewer but also to evoke particular experiences that have been embodied in it by the artist researcher. Second, that through this process of embodiment, the artefact becomes the vehicle of communication, and repeated exposure to persons will have the effect of disseminating the experiential content that has something to do with the research value of the artefact. Practice-based researchers may be claiming one or both aspects.

Unfortunately, it is still unclear the extent to which embodiment in an artefact is part of communicating experiences and the extent to which it is part of a research process prior to its communication. In other words, is the artefact the equivalent of a report that neatly summarises experimental and speculative work that has gone on elsewhere, or is the artefact more like an experiment: raw process or raw data that may or may not be summarised linguistically elsewhere, for example, by a critic? The stronger claim is that the artefact is the equivalent of a report. This is a strong claim because it implies that an alternative form of summary would not be possible, i.e. that art and design research produces something non-linguistic, and this is why the outcome must be an artefact and not a piece of writing by a critic. As we have seen, this is intimately bound up with the notion that the aesthetic response is

important in the field of art and design. This stronger claim also subsumes the weaker one because there would be no reason to have a non-linguistic communication at the end of a linguistic process. It is therefore coherent for the non-linguistic claims of art and design research that the need for an artefact-based communication of the outcomes of art and design research arises from the non-linguistic nature of the process as a whole. This would also be true for other forms of expression, such as music, architecture, etc.

At this point, it might be useful to clarify the meaning of newness and originality in art and design research, because the value that is embodied in the outcome lies not in its non-linguistic mode but in its original contribution to what is known or understood in the field. It would be easy, and indeed trivial, to create experiences that are new in the sense that they have never been experienced before. Every creative production is new: even the drawings of 5-year-old children have never been seen before in exactly this arrangement. This has caused some confusion in the past since all production from the studio is by this token new and apparently making a new contribution to the world. But that which is new in such cases is an experience, whereas what is required in research is new knowledge. Whether the new experience can be connected to new knowledge is something that is being discussed in this paper. What can already be stated is that the mere newness of the experience is not necessarily an indicator that it is connected to new knowledge.

There is something else that we can observe about the nature of the embodied experiential content. Since every creative production entails newness, what the art and design researcher needs to claim for experience is less about newness and more about instrumentality (Biggs 2002). Thus, there is an implicit claim: that we need to attend to the artefact because the experience of it is instrumental in the building or creation of the new knowledge that is its claimed value. Such a claim would begin to explain the role of the artefact and our experience of it, in the communication of content.

The instrumentality, the claim of a causal link between the experience and the subsequent knowledge, at first sight seems to be a difficult connection to establish. To illustrate the possibility of such a connection: we generally accept the social and cultural phenomenon of aesthetic reception in which an artefact, including intangibles such as music, creates a particular kind of reaction in the perceiving subject, over and above the apperception of the mere sense data or however else one might wish to model the basic sensory mechanism. The aesthetic response requires something more: a kind of resonance between the perceptual and the cognitive faculties that causes us to categorise certain objects as affective and to give them social and cultural value. Although it is true that these values change, the general principle that certain objects are capable of causing this resonant affect is one that is generally accepted (e.g. Scruton 1983). This reinforces the earlier observation that this paper bases its account of the relationship of studio production to research in the tradition of philosophical aesthetics, that is to say, not just the aesthetic response *per se*, but the significance of the aesthetic response to the social construct of meaning, significance and communication.

Experience

An aspect that has thus far passed by without comment is the relationship between experience and experiential content. These two are not synonymous. The word 'experience' focuses on the sensation and feelings we get when exposed to certain objects and situations, whereas experiential content is that which can be extracted from the moment and therefore has the possibility to form the basis for something else, such as knowledge. Finding some common ground in what are inevitably subjective [sic] judgements has long been a goal in aesthetics, for example Kant's differentiation between individual preferences and common judgements of taste (Kant 1980: §VII). Nonetheless, it is not clear whether such a separation is possible in contemporary practice and therefore whether there can be such a thing as experiential content. Perhaps as soon as we remove ourselves from sensation, or analyse it, then its essence escapes and experiential content becomes simply some abstracted reflection on what has happened. This would be a significant objection, and it is broadly the objection of Phenomenology. Phenomenology strives to maintain a direct relationship, a pre-cognitive relationship,

with experience but accepts, for example in Sartre, that one will inevitably be in 'bad faith' with one's own feelings and actions because at the very moment of their reception such feelings are subject to a local historicism in which they are instantaneously recruited into one's personal self-perception and world-view (Sartre 1969: 47ff.). It is an interesting symptom of the complexity of maintaining an authentic relationship with phenomena that the language used to describe it seems so indirect and complex. One might explain this as a symptom not of the complexity of the relationship, but of the complexity of describing sensory experience in linguistic form. However, the fact that chronologically the account comes after the experience is also an indicator that one is already in the historicising moment and the complexity of the language is a symptom of one recognising the inauthenticity of our relationship to what one is trying to describe.

The purpose of this discussion of Phenomenology is to consider the difference between experience and experiential content. What Phenomenology demonstrates is that maintaining a direct relationship with experience is difficult. This paper suggests that it is not only difficult, but in the present context, pointless, since it is what we do with its significance that matters. Although experience is something we value because it is so intimately related to the characteristic nature of the outcomes of art and design, in art and design research we need to step beyond that into the knowledge base of the subject. To do this, there needs to be a bridge, and the bridge that has been suggested, problematised, but perhaps as yet not substantiated, is the concept of experiential content.

Although experiences may be regarded as one element that particularly characterises the reception of art and design, they bring with them an important limitation as far as research is concerned and that is their subjectivity. Experiences are necessarily first-person: it is I who has the experience and nobody else can have the experience for me. As a result, I must build my own bank of experiences and I can learn only indirectly from what others tell me of theirs. This concept can be unpacked a little more. It is quite common for us to speak of experiences: when we come back from holiday we tell our friends of the experiences that we have had. But these are descriptions of what we have done, and perhaps descriptions of feelings that we have had. We do not anticipate or intend that those we tell will have surrogate experiences of exactly the kind that we have had. Our descriptions may cause our listeners to have feelings and experiences but they will be different from the experiences they would have had if they were directly exposed to the original stimuli as we were. Furthermore, even if they were exposed to the same stimuli at the same time, they would not necessarily have the same experience because of it being personal and subjective. That is what is wrong with the expression "if I were you I would have done...". If "I were you" I would have done exactly what you did, it is only if "I were me" that I would have done something different: but in that case the situation tells us very little. Language can be misleading because although we use expressions such as 'let me tell you about my experiences', there is no implication that the experience is communicated but rather 'let me tell you what happened to me' or 'what I saw', etc.

This clarifies the two difficulties above regarding the inclusion of experiences in research. These difficulties need to be taken into account in the description of what constitutes art and design research. The first difficulty is that as I build my bank of experiences everything that is new is new-for-me. Whilst having experiences that are new-for-me is important for me and my personal development, it has been shown that this is not the kind of newness and originality that is significant for research. In research, one is concerned with new knowledge that has hitherto been unknown to anybody. Because I must have these experiences myself and be directly exposed to the stimuli that cause them, I am locked into a very direct one-to-one first-person relationship with 'objects of acquaintance' (Russell 1912: Chap.5). The reason why I am forced into this kind of relationship is part of the second difficulty: that experiences *per se* cannot be communicated to others. In telling of my experiences I do not evoke the same experiences in others. Indeed a third difficulty is that I have no way of knowing whether, if others were exposed to the same stimuli, they would have the same experience. Thus experiences are necessarily private (Wittgenstein 1968: 299) and subjective in the philosophical sense of belonging to the perceiving subject and affected by their agency.

These difficulties are all counter-indicators to the possibility that experiences *per se* could be an integral part of art and design research, because of the requirement that the outcomes of research must be communicable and disseminated. Even if one accepts a certain plurality in the way in which individuals receive and make use of experiences, still the research context requires a purposiveness and directed quality to the transmission of knowledge from the researcher to the audience. It is this requirement that focuses our attention on the content of the experience rather than the experience itself. In other words, what content have we gained as a result of an experience once the immediate feelings and sensations have passed?

In an earlier paper (Biggs 2004: 9), it was proposed that it might be useful to consider the relationship between experiential content and experience or experiential feeling as being a representational relationship. The purpose of an alternative representation is either to overcome some difficulty in the perception of certain qualities in the original, or to facilitate its communication. The alternative form is therefore chosen because it does not suffer from the difficulties of the original. There must be some difference between the representation and the original, or we cannot say that one represents the other. For example, an object cannot represent itself, it simply *is* itself. The word 'representation' would be inappropriate in such circumstances⁶. Therefore, in evoking representation, this paper asserts that experiential content is distinct from experience or experiential feeling.

We have seen that the form of experiential feeling presents certain difficulties for research because of its inherent subjectivity and problems of communication. Therefore changing the form of experience might overcome some of these difficulties. Using this approach, we might anticipate that experiential content is not especially like experience, but in some way analogous to it. In an analogy, certain qualities of one thing are compared with certain qualities of another, but in other respects the two things compared are quite different. As a result, we could hypothesise that experiential content might not be especially like experiential feeling in the way in which we experience it, so much as the way in which we understand it. As a result of this transformation, experiential content need no longer have the undesirable qualities of experience and therefore need not bring with it notions of epistemic subjectivity. Nor need experiential content be a strange hybrid of experience and cognition.

Proposal

This paper therefore proposes that experiential feelings should be regarded as representations of experiential content. There are several reasons for suggesting this. Experiential feelings are very powerful and are characteristic of, and often essential to, the reception of artefacts in art and design. But these feelings are subjective: they are trapped within the perceiving subject, and we cannot be sure that all people experience these artefacts in the same way. This makes communication and dissemination difficult. If these qualities were regarded as representations of something else more fundamental, then these difficulties might be overcome. Two questions remain if we take this path. Firstly, what kind of form would this content have, and secondly, how desirable is it that we maintain and communicate these experiential qualities?

It is difficult to imagine a represented content that in some way refers to the qualities of experiential feeling that interest us, without it continuing to suffer from the same problems of subjectivity and communication that we have already encountered. However, this problem can be avoided because these qualities, although they are characteristic, are not the core qualities that concern us and therefore we are not obliged to seek a form that has these qualities. This paper proposes that the presence of the problems of subjectivity and communication are merely indicators of the presence of a certain kind of artefact: an aesthetic artefact. These qualities cue us to interpret the artefact in a particular way: as an

⁶ Naturally, a lot more could be said about these statements, e.g. linguistic semantics is based on this distinction. Even the mimetic theory of representation relies on at least a small difference between the representation and the representamen in order to identify the process of mimesis. The constructionist theory of representation concentrates on this difference. The representational theory of cognition suggests that this difference is inescapable.

object of art and design. Having cued the adoption of an appropriate mode of interpretation, we can dispense with the notion of experiential feeling and concentrate on the more significant and transferable aspect of experiential content. Therefore, although the representation may be characterised by experiential feeling, what it represents need not have these characteristics.

The fact that we do attempt to describe our experiences to others perhaps suggests another way of conceptualising experiential content. When we speak about experiences, we know that we cannot evoke the same experience in others as we had ourselves. We rely on two things in the listener. The first is that the listener may recognise in what we say some equivalent experience that they have had themselves. Both parties know that the degree of agreement in the nature of this experience is likely to be unpredictable but where there is a willingness, a 'suspension of disbelief', to be tolerant of the degree of agreement or disagreement, then communication can occur. We describe such listeners as 'sympathetic'. The second way that communication can occur is if we have a listener who is 'empathic'. The empathic listener need not have experienced what we describe, but is prepared and able to 'put themselves in our shoes' and creatively imagine what it might have been like in that situation and what feelings that situation might have evoked. The most empathic listeners go further and appear to understand what it would have been like for the speaker in that situation rather than themselves. The concepts of sympathy and empathy show that there are surrogate ways of having experiences that are linguistically and socially institutionalised and point towards a notion of experiential content. In this context of sharing it is clear that the experiences themselves cannot be shared. The experiences stimulate a description and the sympathetic or empathic listener uses this description to anticipate something about that experience and recreates a surrogate experience for themselves, knowing that this is not the same as that which would be caused by direct acquaintance with the stimulus. In this description, something has bridged the gap between the speaker and the listener and this bridge is once again the concept of experiential content.

Other examples can be given in which we are more concerned with content than with the accompanying feeling, even though it is a feeling that cues our response. Figure 1 is an example of simultaneous brightness contrast from colour theory (Itten 1964).

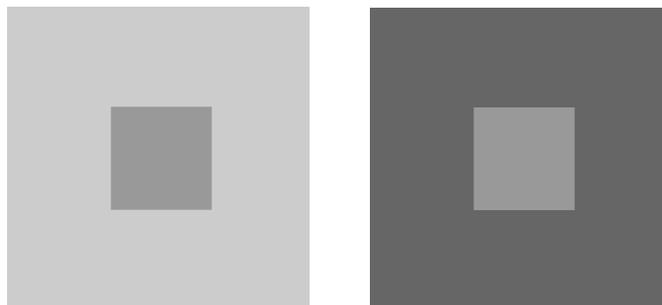


Figure 1: Simultaneous Brightness Contrast

It is clear that one must engage with the phenomenological experience of seeing these colours and not just reading about them. Someone who has been blind from birth could not have direct knowledge of this phenomenon: it would not be an 'object of acquaintance' in Russell's terms. But there are many things about which we do not have knowledge, even regarding objects with which we are acquainted. It was my experience during colour theory classes at art school, that many students did not seem to be experiencing the phenomena that were being described. I had that experience myself, that I did not always 'see' what I was supposed to see.

Gregory and Heard (1979 §1.1), as a second example, claim that subjects will consistently experience the horizontal lines in the Münsterberg Figure as crooked. This is also a phenomenon with which we

must have direct acquaintance in order to have the associated experience; of a conflict between our conceptual and perceptual knowledge.

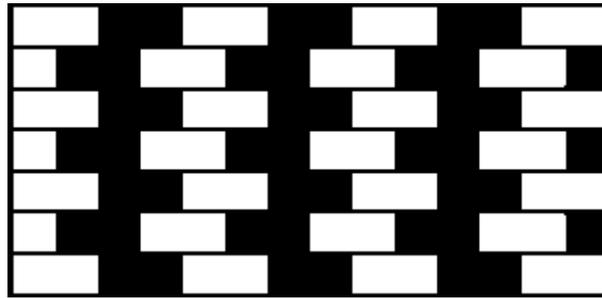


Figure 2: Münsterberg Figure

As a final example, experiments were conducted by Fechner in the 19th century in which subjects were asked to express a preference for the proportions of rectangles, and those experiments seemed to reinforce the claim that the Golden Section is perceived as a particularly harmonious and preferred ratio (Frings 2002: 19). All three of these examples: simultaneous brightness contrast, visual illusion, and harmonious proportions; although based on perceptual experience, can be summarised linguistically. In all cases it is necessary to have a perceptual experience, but the outcome is a rule from which one could construct examples that demonstrate the phenomenon in question. Even the example from colour theory could be specified in terms of the wavelengths of the light involved, etc. This shows three things: that there is a content that is separable from the experience; that it can be summarised and communicated linguistically; and that the conditions for these experiences are replicable. As a result, this paper claims that it should be the purpose of art and design research to disembodify the content from the experience and thereby render transferable what was formerly subjective and non-transferable. Art and design research should use the experiential feeling aroused in the viewer as an indicator of the presence of experiential content that might otherwise be hidden in the plethora of objects in the world. Making this separation makes the conditions of the experience, rather than the subjective experiential feeling itself, replicable and hence comparable to one of the important criteria of research in the sciences

Conclusion

We now have a model of how to address experience in art and design research, and extract from it experiential knowledge. Not all research in this field needs to have this as a central issue, but when it does, this paper suggests a solution as to how it may be addressed. The model frames the problem as a representational one in which content is initially indicated by the presence of certain experiences and feelings, and it is the task of the researcher to make explicit the content of which these experiences and feelings are a representation. The underlying problem will always be of the type: 'of what is this a representation?' As a consequence, one might ask whether experiential content could itself be an artefact that evokes feelings. It would be attractive to artists for the answer to this question to be 'yes' because that would mean it was possible to have a research outcome consisting solely of visual artefacts without any additional texts, i.e. to have experiential feelings as representations of experiential feelings as content. However, this paper now proposes an answer, and, to the disappointment of the artist, it is 'no'. The reason why the outcome of the research cannot be constituted by an artefact that evokes particular experiences is because all experiences are subjective and non-transferable, and therefore can only be indicators of the presence of something needing to be unpacked. This paper does not propose that the implication of unpacking is that one must be able to specify the content linguistically, and communicate it linguistically. However, it is making the requirement that to be an *outcome* rather than part of the *process* of research one must face the issue of subjectivity and communication. Therefore, the outcome cannot itself be intrinsically subjective and non-transferable, and if there is an aspect of experiential feeling to the representation then it must not be essential to the

appropriate interpretation of the representation. This is comparable to the questions of psychological research into perception, which do not simply demonstrate phenomena, but attempt to explain why these phenomena occur (cf. Gregory & Heard 1979). In psychological research, the experience is a means to an end, and that is how it needs to be in art and design research, too. Experiential feelings *per se* cannot be the outcome of research, and even though experiential feelings are important in the reception of art and design, they are merely an accompaniment to content.

This modelling of the role of experiential feeling in research in art and design should still be attractive to researchers because it leaves open the possibility that part of the research process might legitimately be involved with experiential feeling. What is now perhaps less attractive is that experiential content is only indicated by, and not explicitly communicated through, embodiment in artefacts. Experiential content must, therefore, be extracted and alternatively represented. Making art and design research into a representational problem does not diminish the importance of this experiential component. According to this paper, content is initially indicated by the very experiential and aesthetic aspects that most characterise the field. That is an important role for experience. Following this initial identification, the transformational process of unpacking the representation is also both creative and revelatory. It allows us to see aspects and to make connections that were hitherto invisible and unknown. We might compare this to the sciences that also seek to find new insights and to make new connections in the existing material world, not just to add new artefacts to it. In a similar way, this paper has concentrated not on the newness of the artefacts that are the products of studio practice in art and design, but the insights and connections that arise from them as a result of art and design research, and the way that can contribute knowledge.

Finally, conceptualising the act of research in art and design in this way substantially reduces the apparent differences between the sciences and the arts. We have seen that both aspire to make 'objective', transferable and communicable judgements about the material world. The collection of judgements that are accepted by the respective communities as meaningful and upon which further work may be based forms the knowledge-base of the field (Biggs 2005). The knowledge-base is what the contemporary practitioner needs to know in order to function effectively and to address the current issues and questions in ways that are relevant and meaningful to others, and through so doing is able to add to that knowledge base.

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