

CONSIDERING INTUITION IN THE CONTEXT OF DESIGN, AND OF PSYCHOLOGY.

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RESEARCH CONTEXT

This paper is constructed under the umbrella of a research project that is currently entitled '*Using Design Methodologies to Understand Complex Human Conditions: A Case Study in Humour*'. This wider research project is 'transdisciplinary' [1] in nature, and is situated in both the Transtechnology Research Group [2] (in Plymouth University) and MeAT Design Research [3] (in Cardiff School of Art and Design).

This transdisciplinary approach can be seen in the way that this paper draws upon converging fields of design and of psychology in its specific consideration of understandings of, and approaches to, notions of 'intuition'. Whilst declared transdisciplinary, it should be noted that this research is conducted by a designer, loaded with a bias and heritage that that term might imply. As previously mentioned: the wider research project that encompasses this paper considers humour. Whilst it can be argued that understandings of intuition are of importance in developing understandings of humour, in order to keep this paper tightly focused, humour will not be explored in any detail at this time.

CONSIDERING INTUITION IN THE CONTEXT OF DESIGN, AND OF PSYCHOLOGY.

This paper has two main functions.

The first is to explore a proposed peculiarity: namely that considerations of intuition appear to have been somewhat marginalised in the field of psychology [4], and yet they appears to be of comparative primacy in the field of design [5]: even exemplified by the emergence of 'intuitive design' as a design specialism.

The second, and more speculative, function of this paper is to propose that a reason for these alternative understandings of, and subsequent treatments of, intuition might stem from a fundamental, if somewhat generalised, difference in the approach that designers and psychologists take to the execution of their practice, specifically that psychologists proceed from a position that might be broadly considered 'analytical', whereas designers proceed from a position that might be broadly considered 'creative'.

The aforementioned peculiarity was first identified in a highly accomplished paper by Hodgkinson, Lagan-Fox, and Sadler-Smith entitled 'Intuition: A fundamental bridging construct in the behavioural sciences', published in the British Journal of Psychology in 2008. To begin this paper, Hodgkinson et al postulate that intuition has been consigned "to the 'fringes' of the field of psychology, within the realms of parapsychology, telepathy and premonition (see e.g. Claxton, 2000; Klein, 2003), and equat[ed] to esoteric and 'New Age' thinking (Boucoulas, 1997)" [6]. Reading as a designer, this was rather a shock: surprising for three reasons that are explored below.

Surprise One:

Intuition, as understood from a design perspective, appears to be so important as one interacts with "the designed world" [7]. Imagine, if you will, entering a pitch-black room for the first time, one reaches out for a light-switch at an approximate height, and opposite the hinge side of the door just entered. In this instant the experience of every light switch that one has ever located, or failed to locate, is compressed into one intuitive course of action. For a designer, this is intuition *in action*.

In his discussion of design affordances, which might be thought of as bearing some resemblance to the 'intuition pumps' described by Cullen [8], Donald Norman famously uses a door as an example [9]; one intuitively *pushes* a plate to open a door, or *pulls* a handle to perform the same action. Every door encountered qualifies this action, and reinforces the intuited response. Whilst this might be dismissed as a mere design convention, it would be hard to argue that it has not arisen from the material fact that it is extremely difficult to *pull* a door plate. This convention is of course made surprisingly apparent to people when they encounter a poorly designed door, as Norman would have it, i.e. one that requires a *push*, but presents a handle.

Designers have known about this human operating procedure, this intuition in action, for a long

time: for so long that examples that neglect this 'common design sense' are proffered as ridiculous. For example, this door identified by Chris Elyea is presented as being so poorly designed that it needs instructions printed upon it(!) [10].



Fig. 1. Door with printed instructions.

Surprise Two:

Design that is labeled 'intuitive' traditionally receives this epithet as a mark of praise, and this is taken as an indication of a kind of 'universal' human usability, rather than the more esoteric, specialist, and/or 'fringe' associations that might be associated with the psychologist's understanding of intuition that has been previously alluded to.

Surprise Three:

Intuition appears, to designers, to be a skill possessed by, and recognised in, the competent designer, e.g. see Spool [11]. The implication being that intuitive design is good design (to paraphrase Spool [12], and Fulton Suri & IDEO [13]).

These ideas certainly cohere with my design education – intuition appearing as a foundational concern for so-called usability design – and indeed the design subjects that I now teach.

What then to do?

Psychologists then must surely have a very different way of conceptualising intuition from that of designers. The following sections attempt to explore and understand these ideological and semantic differences, and some reasons for the apparent disconnect between these two communities.

UNDERSTANDING INTUITION

Intuition on the fringes

The understandings of intuition presented under this subheading are drawn from the field of psychology and are notable in that they are markedly different from the understandings of intuition drawn from the field of design that are presented later.

In an attempt to understand the marginalisation of intuition as a legitimate phenomena for study within psychology, we might first consider some aspects of a history of the term. In this vein, Noddings and Shore [14] cite Descartes' position regarding intuition: 'Intuitive knowledge is an illumination of the soul, whereby it beholds in the light of God those things which it pleases Him to reveal to us by a direct impression of divine clearness in our understanding, which in this is not considered as an agent, but only as receiving the rays of divinity'. For Descartes then, intuition is

indicative of a benevolent God. In declaring so he constrains intuition to the field of theology in the manner of Dawkin's 'terminal regressor' [15]: i.e. a deity materialises at the point where analysis becomes problematic, and in doing so the problem is solved (or rather it is not, but is put to rest all the same).

Arguably, a historical proximity to God might be important for other reasons. With the emergence of Western Science, and the manner in which it assailed the more 'irrational' aspects of theism, intuition might have been dismissed due to an association with faith.

To draw further from history, Claxton identifies European thinkers from later periods: grouping Spinoza, Mill, Bergson, and Jung in their view of intuition as 'privileged' (which one presumably takes to mean private rather than elite) and 'arcane' [16], which might be interpreted as mystical. To look to more contemporary thinkers, there appear to be numerous associations between intuition and other ideas that have traditionally been situated at the fringes of psychology. For example 'species memory' and 'collective unconscious' [17], 'precognition, clairvoyance, divination, [and the] paranormal' [18].

Hodgkinson et al propose that, in the field of psychology at least, 'intuition and rationality are perceived at opposite ends of a common bipolar dimension' [19]. This perceived distance from, and opposition to, the rational could be a cause for a marginalisation of the consideration of intuition in pro-rational Europe.

To conclude the text above, we might continue with Hodgkinson et al for further explanation. They state that "psychology literature has lacked a coherent overarching conceptual framework in which to place intuition. In consequence, the concept has been used in a haphazard and fragmented manner" [20].

Converging Understandings

The understandings of intuition presented under this subheading are drawn from the fields of psychology, and of design, and are notable in that they are more closely related to one another than the ideas that are presented under the subheadings that immediately precede and follow this section.

Intuition is the word that often has embodied or somatic [21] associations and this provides some common ground for design and psychology, for example in the reoccurrence of 'feeling'. Erlhoff and Marshall speak of a "feel" for intuition [22], with Shirley and Lagan Fox also referring to a "Feeling" [23], and Boucouvalas offering the rather more visceral "gut feeling" [24]

Other associated terms that appear in both fields tend to have more to do with intuition as an "ability" [25] or an "aptitude" [26] that one might possess, and develop. Development is key here for the designer. To paraphrase Harbort, professionals can cultivate intuition [27]: nurturing an 'automated expertise', i.e: a 'recognition of a familiar situation' and 'subconscious application of previous learning' [28].

Such associated terms include "insight" [29], a "holistic hunch" [30], 'fluid intelligence' [31] and 'sense of coherence' [32].

Intuition Essential

The understandings of intuition presented under this subheading are drawn from the field of design and are notable in that they are markedly different from the previously presented understandings of intuition drawn from the field of psychology.

In their attempt to present 'perspectives on design terminology' Erlhoff and Marshall define intuitive design as "understandable without the use of instructions" [33] and refer to the Apple iPod's click-wheel as a popular example against which other "intuitive designs are measured".

This definition could be argued to be somewhat lacking in certain respects, and could even be interpreted as a description of blind luck, rather than design. One might ask 'what is really meant

by “understandable” in this instance?’, and ‘what depth of understanding is implied? For example, one might use a mobile telephone to make a call, and in doing so would demonstrate some understanding of the telephone’s operating system, however one might not necessarily have much understanding of the chemical process required to convert chemical energy to electrical energy (for want of better terminology) in the telephone’s battery, the complex functions of the individual components on its circuit boards, the ‘hand-over’ protocols of the cell-phone towers, the economic pressures that govern tariff rates, and so on ad infinitum. ‘Usability’ might be a more productive term here as something can be useable without being thoroughly understandable. A better definition might then arguably be that intuitive design is ‘usable without recourse to *new* instruction’, i.e. a design that is tacitly utile: when the design is first encountered one need only refer to the ‘instruction’ of previous experience in order to ‘use’ it. Intuitive design might be considered then as design that easily ‘nests’ into an existing user-centred logic, and experience, i.e. design that is ‘in tune’ with previous experiences of the world. This intuition being then dependant on subconscious tacit knowledge [34] that is informed by a lifetime of design encounters.

The pursuit of such ‘intuitive use’ is often problematic for the designer. A certain analytically impregnability appears to arise from the subjective nature of intuition; by definition a ‘gut instinct’ is one that is experienced somatically, viscerally even – as the name suggests – and is experienced as the curious phenomena of an instant reaction, to paraphrase Hodgkinson et al [35] that is informed by an individual lifetime of experience (to return to Norman’s Door again). Intuition, often mentioned by designers, appears to be rather complex and impenetrable, and of a similar nature to other forms of so called ‘black box’ [36] design thinking.

Other Models

The understandings of intuition presented under this subheading are drawn from the field of psychology and are notable in that they are ideas that, whilst not having an explicit link to design, appear to resonate with, or be consistent with, intuition as the concept understood by designers as presented in this paper.

Rowan presents an intriguing model, situating intuition as “com[ing] from some stratum of awareness just below the conscious level” [37]. Intuition is conceived here as bubbling up and bursting into consciousness: a crossing of the ‘threshold’ of conscious awareness. As Polanyi insists: ‘intuition is not conscious’ [38].

Not so much is stated, but one might draw a metaphor with a geyser: much ‘subterranean’ activity suddenly and spectacularly made visible.



Fig. 2. A Geyser as a metaphor for the process of intuition.

This conscious/unconscious binary echoes other dual process theories described by Hodgkinson et al and drawn from social cognition and cognitive psychology, for example: Bowers et al are cited in their claim that intuition has two stages: “a guiding stage involving an implicit perception of coherence that guides thought, unconsciously toward a more explicit perception of the specific coherence in question. By a process of spreading activation, clues that reflect coherence activate relevant associationistic networks, thereby producing a tacit or implicit perception of coherence” [39] (this being stage 2). In a similar vein, Lieberman et al describe an ‘X-C system’ consisting of two modes of cognition: the *reflexive* (X-system) mode being intuitive, and the *reflective* (C-system) mode being more analytic [40].

A PROPOSAL

This paper proposes that alternative understandings of, and subsequent treatments of, intuition by design and by psychology, might stem from a fundamental, if somewhat generalised, difference in the approach that designers and psychologists take to the execution of their practice. Specifically: that psychologists proceed from a position that might be broadly considered ‘analytical’, whereas designers proceed from a position that might be broadly considered ‘creative’. The appreciation here is of approximate and indistinct patterns of practice; this proposal should not be interpreted as suggesting that there are no analytical designers nor creative psychologists.

Historically speaking, one might argue that design has emerged from an artefact/artisan relationship that is strongly linked to hand-crafting. The crafter, engaged in an process of creation, might be conceived of as ‘trusting’ in their skill, indeed as ‘trusting’ in their hands. Such

skill resists analysis, being as it is a rather embodied and tacit [41] execution of practice. The designer therefore possesses an inherent faith in their intuitions, and is comfortable in the resistance of intuition to analysis: comfortable because intuition is an ever-present and effective component of design practice.

Alternatively, the practising psychologist might be argued to be the very embodiment of analysis. It seems logically consistent to say that things that are difficult to analyse are consequentially difficult to measure. Intuition is, by its very nature, notoriously difficult to measure, and for this reason Hodgkinson et al describe it as 'scientifically weak', and later 'psychometrically weak' [42]. This being the case, intuition – tacit, resistant to a rational analysis, and 'unscientific' – is mistrusted. The danger being perceived here is that to sanction intuition would be to endorse the "legitimisation of thoughtlessness" [43].

As Claxton asserts: for psychologists 'action that is not planned or premeditated, answers that come without reasons, understandings that cannot clearly and quickly be put into words, are stigmatised as essentially second rate.' [44]. However, for designers, and artists (designers closely associated kin) spontaneous action and tacit intuition are valued as vitally important.

This paper argues then that the apparent presence of these diametrically opposed value systems, and situated practices in some way accounts for the disconnect between the understandings of intuition that are presented by the field of psychology, and the field of design.

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Fig. 1. 'Door with printed instructions' (Elyea C, **Push, Pull, or Imitate Maxwell Smart?** [online] Available at: <<http://chriselyea.com/design-lessons-learned/badly-designed-doors/>> [accessed 20 March 2012], 2010.

Fig. 2. 'A Geyser as a metaphor for the process of intuition' (Strokkur Geyser, Iceland. Authors own photograph, 2007).