ORIGINAL ARTICLE

An everyday account of witnessing

Phil Turner

Abstract   This paper presents a discussion of an everyday ontology of witnessing drawing on the writings of Martin Heidegger, cognitive science and presence research. We begin by defining witnessing: to witness we must be *present*; and that which is witnessed must be *available*. Witnessing is distinguished from perceiving in that it implies and requires a record (a representation) of what has been perceived. *Presence* and *availability* are (relatively) uncontroversial but finding a place for *representation,* which is a classically dualistic concept, in an ontological account potentially presents difficulties. We address this problem by recognising that being available, ready-to-hand and proximal can also serve to represent the very thing being witnessed.

Keywords   Presence · Witnessing · Representation · Availability · Affordance

1 Introduction

This paper considers what is involved when we witness an event from an (everyday) ontological perspective, by specifically applying, at least initially, the language and philosophy of Martin Heidegger. The use of 'everyday' is important because it distinguishes his flavour of ontology from other classical accounts which are concerned with getting to the 'core' of phenomena or as Husserl put it '[to] the things themselves'. This everyday or existential ontology is an account of *being* referenced on the everyday experiences of people (*Dasein*)[1] rather than to an abstract philosophical notion.

We begin with the simple premise that to witness requires *Dasein* to be present. Therefore to understand witnessing, we must understand that most important and necessary pre-condition, namely, that *Dasein* is present in the world. Indeed from a Heideggerian perspective, *Dasein*, by definition, means *being present in the world*. However, we immediately encounter a raft of difficulties as the more widely accepted definitions of *being present in the world* as proposed by the 'presence research' community—(see the International Society for Presence Research-ispr.info) typically treat it as it were a consequence of experiencing virtual reality technology or enjoying an immersive experience (e.g. a trip to the local IMAX cinema), rather than being a primordial condition in its own right. Thus, presence research has sought to understand the conditions required to create a sense of presence and to measure it thereafter. Presence has been treated as a commodity which can be increased, diminished, broken (interrupted) and otherwise manipulated (e.g. Brogni et al. 2003; Freeman et al. 2004—amongst many others). However, I argue that taking *being present in the world* as a primordial state means that (1) we regard it as a propensity or readiness to act or perceive and (2) it is geared towards the world and all that it comprises (more of this in the next section). In treating *presence* as a readiness to engage with the world, to cope with the world, to deal with the world and to witness events, people and things, then *witnessing*

P. Turner (✉)
Centre for Interaction Design, Edinburgh Napier University,
10 Colinton Rd, Edinburgh EH10 5DT, UK
e-mail: p.turner@napier.ac.uk

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[1] A quick word of explanation on *Dasein* before we continue. The German word *Dasein* (lit. being-there) is traditionally left untranslated and is taken to stand for 'human being' and is usually printed in a different font–like this. Being undefined, Dasein is recognized as being contingent or seen as a 'placeholder' for 'who' and 'what' we are.

itself becomes a consequence of being present in the world. Heidegger describes this readiness in his *History of the Concept of Time* as: *'the background of … primary familiarity, which itself is not conscious or intended but is rather present in [an] un-prominent way'* (189). To witness does not simply mean we were in a particular place at a particular time when such and such a thing happened. For example, I, with millions of others, witnessed the first (and subsequent) Moon landings. I have a clear memory of sitting up late (in the UK) and witnessing it on TV. I had followed the launch of Apollo XI, the broadcasts from outer space and the eagerly awaited the landing. To witness is then not so much about co-location or contemporaneity but one of being prepared, and of being ready. Witnessing can then be recognised as a mode of being in the world.

Treating witnessing in this way has a number of interesting consequences for the premises upon which it stands:

– Firstly, it challenges the treatment of presence as the mere product of human information processing, a point well made by Riva and his colleagues (2004). They have argued that presence either evolved for no particular purpose (that is, it is an emergent or serendipitous property of the nervous system) *or* it has some evolutionary advantage. In examining the latter alternative, they note that 'the appearance of the sense of presence allows the nervous system to solve a key problem for its survival: how to differentiate between internal and external states'. This biological/evolutionary perspective tells us one further thing about presence, namely that it is an active state (or process) and that this activity is directed at the world. Being directed at the world means that presence is *intentional*. That is, it has the property of being about something rather than some kind of free floating mental state. Intentionality connects our mental states (and bodies) to the world and when we witness something we 'inherit' this intentionality, so that the psychological and physiological states associated with witnessing are similarly intentional.

– Secondly, this consideration of witnessing also foregrounds the importance of understanding the properties of that which is being witnessed. Presence research, in the main, has tended to treat the make-up of the worlds (real or virtual) in which we find ourselves present as *content factors* (e.g. Fencott 1999; Lessiter et al. 2001; Schubert et al. 2001; Slater 2003; Baños et al. 2004; Nunez and Blake 2006 amongst others). Ijsselsteijn et al. (2000) have proposed examples of *content factors* as including objects, actors, events, interactivity, autonomy of environment and agents, reactions of others and the nature of tasks (conducted in a virtual environment). In contrast, and from this ontological

perspective, we recognise that to be witnessed things, people and events are required to be *available*. By *availability* we mean, within reach, proximal or as Heidegger (1927/1962) famously put it, *ready-to-hand*. Thus, we can feel closer to our own spouse, who might be hundreds of kilometres away, on our cell phone than we do to a passenger sitting next to us on a train. This account of 'readiness-to-hand' is based on his observation that we do not encounter entities as discrete objects or as substances but as part of a meaningful network of things we can use (Heidegger calls them *tools* and *equipment*), exploit or engage whilst other beings which are not immediately *available* to us are said to be *present-at-hand*.[2]

– Finally, witnessing is different from perceiving in that the former involves the creation of a representation of what we witness but this in itself presents us with a problem. The language and concepts we have used so far have been ontological which has no place for the representational. Our solution to this is to adopt and extend Clark's distinction between strong and weak representation. We propose that, like Clark, those things (*other beings*) which are *available* can also serve as a kind of *external memory* or as a weak 'representation'. This recalls both Dreyfus' observation that 'The best representation of the world is […] the world itself' (Dreyfus 2002) and that most ancient of mnemonics *the method of loci*.

We now consider each of these points in a little more detail beginning with a discussion of *presence*.

2 Being present

Presence has been (historically) defined as the sense of 'being there' (Held and Durlach 1992) and 'the subjective experience of being in one place or environment, even when one is physically situated in another' (Witmer and Singer 1998). It has also generally been treated as comprising multiple dimensions, for example, Lombard and Ditton (1997) have identified six different aspects including: the sense of having been transported, of being immersed and of being in a social medium whilst Schloerb (1995) distinguishes between 'subjective' and 'objective' presence. Presence has been theorised about factor

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[2] To describe *present-at-hand* as *unavailable* is a simplification but one which I do not believe misleads. Dreyfus (1991), for example, in his commentary on Heidegger's *Being and Time*, distinguishes between *available* and *unavailable* as being aspects of *readiness-to-hand* and uses the term *occurrentness* to describe being present-at-hand (*occurrentness* also having two states or modes). While these are important distinctions I do not think that they are germane to the current discussion here.

analytically (Schubert et al. 2001); has been treated as a biological phenomenon (e.g. Revonsuo 2006); as a consequence of evolutionary pressures (e.g. Waterworth and Waterworth 2001; Riva et al. 2004) and as an embodied phenomenon (e.g. Biocca 1997). Presence research has received relatively little philosophical consideration, an exception being Zahorik and Jenison (1998) who, as with the current discussion, relates it to Heidegger's being-in-the-world. More recent definitions have tended to treat presence as a conjunction of different psychological and physiological states. For example, Slater (2003) has made a strong case for presence comprising *engagement* with elements in the real or virtual environment and *spatial presence*—the sense or experience of being located somewhere specific.

In contrast to these positions, as we have already noted, we propose that presence is a primordial state—in that it cannot be reduced to more primitive states—which we define as the *readiness to respond* echoing Riva and his colleague's evolutionary account (discussed above). Whilst theirs is an interesting and potentially compelling argument it presents two related problems for our account of witnessing.

Firstly, for Riva et al. the environment is an undifferentiated 'black box' (or grey smudge)—please see Fig. 1 which has been reproduced from their original paper. This lack of differentiation is at odds with our position regarding the *availability* of that which is witnessed, Gibson's account of affordance, current ecological psychological thinking, their own account of organisms actively solving problems and, not least, people's everyday experience of *being in the world*.

In short, we experience the world as a meaningful Gestalt and not as a source of undifferentiated sensory data. We daily demonstrate our presence (and familiarity with the world—see Turner 2008a, b for a fuller discussion of familiarity) by coping with situations, tools and objects by our understanding of world as a coherent whole. For example, Heidegger has argued that when we encounter a room we experience it as a whole, as a *Gestalt* (though he actually uses the Kantian term *manifold*) '… *from which*
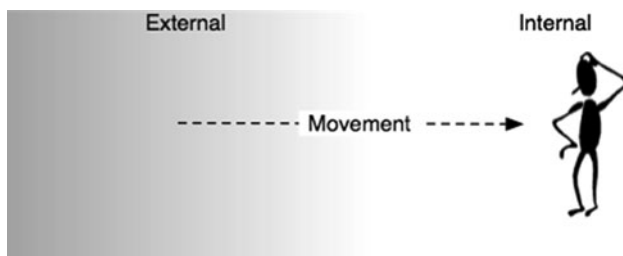

Fig. 1 Proto presence (reproduced, with kind permission, from Riva et al. 2004, p. 409)

the individual pieces of furniture and what is in the room stand out' (Heidegger 1985, section 187). From there, 'our practical everyday orientation' allows us to cope with whatever is there. Our familiarity with these everyday worlds ensures that when we return home we see the kitchen, one's spouse, the cat, the unpaid bills and that half bottle of wine from last night. We do not perceive a jumble of surfaces, strangers, printed paper, animals and half-empty bottles. We skilfully engage with this world by walking into the kitchen, embracing our spouse, feeding the cat, ignoring the bills and pouring a glass of wine. We actively engage with the world rather than merely processing of sensory information. But more than this, as we have argued elsewhere (Turner 2007) presence, by this view, is necessarily transitive—that is, it needs a predicate. We are present somewhere specific; we are engaged with those things which are available, and we witness specific events.

A second issue concerns the direction of the arrow in the figure which appears to portrays people as passive (and possibly puzzled) information processors whereas we have argued that presence is *intentional* which would suggest that the arrow points the other way, i.e. from the individual to the environment. It was Franz Brentano (1838–1917) who revived interest in intentionality, St. Thomas Aquinas having introduced the concept in the thirteenth century, by recognising that most of our mental states (including attitudes, affective states and so forth) are directed towards things and events in the world. Brentano defined intentionality as the main characteristic of mental phenomena, by which they could be distinguished from physical phenomena (Brentano 1995). The word itself is derived from the Latin *tendere*, which means *being directed towards some goal* or *some thing*.[3] Accepting that presence is intentional suggests that the arrow in Fig. 1 may be pointing in the wrong direction.

So what is intentionality? We now consider two contrasting though mutually sympathetic accounts. The first is based on the work of Merleau–Ponty which takes as its starting point our corporality and the second draws on the neurological work of Walter Freeman.

Merleau–Ponty (1945/1962) developed the concept of intentionality to include what we would now describe as *embodiment*. He argues that it is only though our lived bodies do we have access to what he describes as the 'primary world'. Without our bodies there could be no world thus the concept of the lived body is central to his account of (corporeal) intentionality and replaces the usual Cartesian mind–body distinction. The world and the lived

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[3] The everyday use of the term *intentionality* meaning intending, intentions or motivations such as the intention to drink a cup of tea should be distinguished from the concept's philosophical sense.

body together form what Merleau–Ponty calls an intentional arc which binds the body to the world. For example, the movement of the lived body actually creates (produces) existential space. It is not, however, the 'objective' movement of the body as such, instead it is the experience of this movement, 'Far from my body's being for me no more than a fragment of space, there would be no space at all for me if I had no body'. To feel our body (kinaesthesia) feeling its surroundings is not merely an exercise in self-reflection but the means by which we, as Merleau–Ponty puts it, 'pretend' the world. This kinaesthetic feedback is the means by which we both objectify the world and orient ourselves within it. To orient ourselves is to adopt an external point or frame of reference. However, Merleau–Ponty also recognised the role of the world (environment) when he wrote, 'To move one's body is to aim at things through it; it is to allow oneself to respond to their call' (ibid). This intentional arc is then the knowledge of how to act in a way that *coheres* with one's environment bringing body and world together. But this is more than just being physically present in the world: 'the life of consciousness-cognitive life, the life of desire or perceptual life—is subtended by an *intentional arc* which projects round about us our past, our future, our human setting, our physical, ideological and moral situation'. So, from this reading of Merleau–Ponty, witnessing is an act of construction and a part of an *intentional arc* binding us to the world.

The second treatment of intentionality draws on the work of Walter Freeman, the celebrated neuro-scientist, who has described the philosophical treatment of intentionality as 'anaemic'. Instead, he describes intentionality as 'the process of the brain in action' (Freeman 1999 p. 18) and 'having the properties of unity, wholeness and intent (the intension of taking in by stretching forth)…'—the parallel with Merleau–Ponty (cf. Dreyfus 1996) is striking. In his *Society of Brains,* Freeman sees intentionality as an outward push and likens it to what Darwin called 'nerve force'; and what Bergson called 'élan vitale'. This outward push is mediated by the neural circuits represented in Fig. 2. Freeman observes that studies of the origin of 'spontaneous' background activity of cortex place it in the mutual excitation amongst neurons which can spill over into the restlessness. The schematic flow of activity locates the intentional arc in the forebrain by which purposive behaviours are generated.

Writing in *Society of Brains* he notes that the state of the brain at any moment, may be conceived of as a spatio-temporal pattern, which is the result of the interaction of the motor, sensory and associational areas creates. This pattern is transmitted to the brain stem and spinal cord, with a number of feedback loops acting as a control mechanism. Additional feedback is delivered pro-pioceptively and monitors action and evaluates the performance
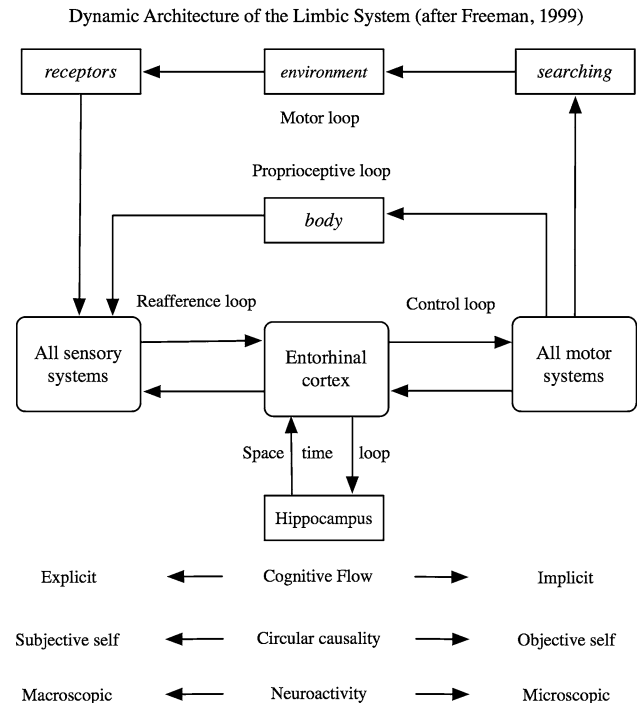
Dynamic Architecture of the Limbic System (after Freeman, 1999)

Fig. 2 The dynamic architecture of the limbic system—redrawn after Freeman (1999, p. 150)

with respect to the intent. The above architecture provides for a neurological basis for intentionality.

Having considered presence as an outward, intentional *push* we now turn to the object of its 'attention' in the environment.

3 Availability

Heidegger notes that our primary interaction with beings[4] is through use or by communication if human beings are concerned. Dreyfus describes this interaction as 'skilful engagement' (Dreyfus 1991). Dreyfus and Wrathall (2005, p. 4) in their introduction to a collection of essays on Heidegger write, '*we first encounter worldly things as available. Something is available when (1) it is defined in terms of its place in a context of equipment, typical activities in which it is used, and typical purposes and goals for which it is used, and (2) it lends itself to such use readily and easily without need for reflection. The core*

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[4] Heidegger's ontology requires us to regard all things in the world as beings–e.g. *chair*-beings, *book*-beings, *macbook-pro*-beings, *pencil*-beings, *cup-of-coffee*-beings. While this is, to most people, unfamiliar it does remove the fundamental Cartesian assumption of subject and object. Instead, we *encounter* other beings but this is not to suggest that these beings have intelligence or sentience but that an everyday ontological examination of chairs would be into their chair-ness for me. The everydayness of a chair is its availability for sitting on, or standing on, or for barricading a door with and so on.

case of availability is an item of equipment that we know how to use and that transparently lends itself to use'. For Heidegger, all human activity is located in vast, inter-related array of tools and equipment. For example, I am writing this at my desk, in my office sitting on a chair. On the desk is my Apple™ iMac, to the right of which is a wireless mouse (I am right-handed). Immediately before me is a wireless keyboard, to my left is a coffee cup, a notebook, a book on Heidegger, and a pile of academic papers. By the above definition, all of these items are available to me, as they are proximal and ready-to-hand and comprise one of my working environments. However, in addition to these physically proximal entities, I have a high-speed Internet link which (by way of a click or two) connects me to online databases located on other continents. I also have access to a range of network services located through the University—but exactly where I really have no idea. So, readiness-to-hand is a matter of experience, or of how I encounter the world rather than location in physical space. Indeed readiness-to-hand is also a very good description of the *affordances* available to *Dasein* (Gibson 1986).

This Heideggerian perspective moves us away from thinking in terms of listing the discrete properties of things, to how we encounter these things as tool-beings (Harman 2002). Re-casting this slightly, we can say that we encounter the world as a network of inter-connected *affordances* (Turner 2005). Gibson describes an affordance in a similar kind of way, for example, when he writes 'An affordance cuts across the dichotomy of subjective–objective and helps us to understand its inadequacy. It is equally a fact of the environment and a fact of behaviour. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer' (Gibson 1986, p. 129). Thus, *affordance* is not a property of a tool but how we encounter that tool. Whilst this all appears rather functional, and rather confined to manual labour, tools for enjoying ourselves and for having fun are no different. However, since Gibson first introduced the concept, it has been developed in a variety of ways particularly by ecological psychology (e.g. Warren 1984; Turvey 1992; Stoffregen 2000) and human–computer interaction communities (e.g. Norman 1988, 1999; Gaver 1991, 1992; de Souza 1993; de Souza et al. 2000 amongst very many). Hartson (2003), for example, has proposed a four-fold division of affordance for the purposes of designing for interaction. These four categories are (1) cognitive affordance; (2) physical affordance; (3) sensory affordance and finally, (4) functional affordance. This fourfold classification maps onto corresponding functions: for example, physical affordance is synonymous with utility, whilst sensory affordances include such things as colour and contrast.

Affordance also appears in the academic reporting of anthropology, for example, Cole (1996) identifies a range of affordance offered by a variety of mediating artefacts including the life stories of recovering alcoholics in *Alcoholics Anonymous* meetings (affording rehabilitation), patients' charts in a hospital setting (affording medical diagnosis) and poker chips (affording gambling). Cole notes that mediating artefacts embody their own 'developmental histories' which is reflects their use.

Finally, there is also substantial evidence from studies of the neural basis of perception and action, for example, positron emission tomography has shown that those parts of the brain responsible for motor representation are activated in response to the perception of the affordances of objects. Grèzes and Decety (2002, p. 212) concluding that 'perception of objects automatically affords actions that can be made towards them'—cf. Freeman. It may be that availability has its origins with the ways in which we first encounter the world. Although Heidegger does not address the issue of our corporeality or embodiment, it is evident that we first encounter the limits of the scope of what is available, proximal and handy by way of our bodies. This progresses from encountering our own hands (through, for example, sucking our thumbs) and the body of our mother to all manner of external objects (beings) to the internalisation of these actions to form what we experience as cognition—if Piaget is to be believed. So, it is likely that embodiment is at the root of what we find available.

So far, we have suggested that two of the requirements of witnessing are complementary: the *readiness* to encounter and the *offers* to encounter[5] presented to *Dasein*. In the next section, we consider the issue of the *representation* of the witnessed event.

4 Representation

At the outset of this paper, we identified representation as being one of the characteristics of witnessing and the biggest problem for this everyday ontological account. At its simplest, witnessing is distinguished from perception by virtue of the record or *representation* that the former implies. There is, of course, a large body of psychological research which has considered the nature of witnessing and 'eye witness' accounts (for example Loftus 1975, 1979; Loftus et al. 1989) and, of course, our episodic and auto-biographical memories are memories of events (episodes) we have witnessed or in which we have participated (see for example, Conway 2001, 2003). However, *representation* is used in many different ways by the very many

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[5] Lewin (1936) referred to affordances as *Aufforderungscharakter* or invitation character.

different disciplines which write and reason about it. Clark (1997a, b) has made considerable efforts to unpick and clarify the nature of representation, which he defines as 'information-bearing internal states'. Rejecting the extreme non-representational, radical embodied accounts (e.g. Dreyfus 2002; Chemero 2009), he distinguishes between 'weak' representations and "strong" representations (Clark and Grush 1999). *Strong* representation is what most people would regard as genuine representation—the stuff of cognitive processes. Strong representations are further defined as being 'de-coupled' from the immediate world and thus stand for things when they are removed from us (or us from them). Here, we see representation as re-presentation (to present again). In contrast, *weak* representation refer to internal states bearing information about an external object (event or person) but only when that object is available, proximal and ready-to-hand. Weak representations are found in what Clark describes as 'information and control systems' rather than information-bearing states *per se* and as such they facilitate our responsiveness to the environment (e.g. fight or flight). In the next section, we briefly consider *strong representation* (from the perspective of everyday memory) before doing the same for *weak representation*.

4.1 Strong representation

Bearing witness is mediated, it is derived and necessarily relies on the manipulation of a (strong) representation of that which was witnessed. The extent of this manipulation is a matter of concern not only to academic psychologists, but to journalists, lawyers, historians and so forth. Curiously, the study of memory has not, until relatively recently, been concerned with real world memories: instead it has focussed on laboratory-based studies of how many items can be remembered, or how quickly they are forgotten. These laboratory-based studies, which have broadly followed the protocols established by Ebbinghaus in the nineteenth century, predominated until Neisser dismissed the work on memory of the previous 100 years of research as worthless for failing to answer 'the important questions about memory' and called for a shift to the 'realistic' study of memory (Neisser 1978). Since Neisser's outburst, everyday memory research has become well established and there has been a growing number of studies on such varied topics as autobiographical memory, eyewitness testimony, prospective memory, 'flashbulb' memory, memory for action, memory for faces, memory for places and so forth (e.g. Cohen 1989). There is now a substantial body of psychological evidence relating to the recall of witnessed events which variously show that these memories are re-constructed (e.g. Burt et al. 2001); are subject to distortion and manipulation (e.g. Loftus 1979; Loftus et al.

1989; Braun et al. 2002); and are story-like or schematic in their structure (Bartlett 1932; Conway 2001, 2003). As this is so well documented and so well established, we will leave the discussion at this point and move on to a consideration of the less well-known role of weak representation in witnessing.

4.2 Weak representation

The idea of the outside world acting as part of our cognition has received sustained attention in recent years, which have seen the creation of enactive, dynamic, situated and distributed accounts of cognition (indeed this is an almost unmanageably long list). All, to a greater or lesser extent, identify and implicate a role of some feature or aspect of 'not us' in our memories, problem solving, reasoning and so forth. In many respects, however, these are still largely cognitive accounts. In contrast, for Clark, weak representations do not count as genuine representations, that is, they do not stand for anything. Weak representations only become active when the individual is *engaged* with the world (whilst, correspondingly, strong representations are active when we are *disengaged* from the world). Weak representation provide us (*Dasein*) with rapid feedback about proximal objects enabling us to respond to them effectively (there is substantial evidence that it is the striate motor cortex is responsible for encoding information related to proximal objects). Clark has also noted that if the source object of a weak representation becomes distal (or absent) the representation becomes unavailable. At this point, we propose extending this account. We suggest that the affordances of the entities themselves may actually serve as an external representation, as a kind of recursive memory of themselves. This point can be illustrated with a simple, everyday example. We all use shopping lists, online calendar, diaries, our smart phones and notebooks as media for the external representation of what we need to remember or for plans of various sorts. In other words, we exploit the affordance of notebooks as memory prosthetics. However, we can also use the affordances of objects themselves as reminders of the things we need to remember. So, the night before we are due to travel (assuming an early morning departure) we will put passports, travel documents and so forth in plain sight. I, for one, will put important documents in the path which I am bound to take as I leave my home. The very sight of these objects as they become available (as I leave the house) provides me with the necessary information to act appropriately (i.e. remembering to take them with me).

A very similar technique is used by police forces in the 're-creation' of crimes by populating the crime scene with people, objects and events which are 'close' (proximal) to the people, objects and events involved.

5 Discussion

> Not a whit, we defy augury: there's a special providence in the fall of a sparrow. If it be now, 'tis not to come; if it be not to come, it will be now; if it be not now, yet it will come: the readiness is all: since no man has aught of what he leaves, what is't to leave be-times?
> Hamlet, scene II

This has been a wide ranging discussion bringing together neurological studies, ontological perspectives and cognitive science. The argument was based on three premises, namely, to witness is to be present, that which is witnessed must be *available*, and witnessing requires a record or representation of what has been witnessed.

Taking each of these in turn, we have had to define presence, availability and representation to reflect what these means for Dasein.

We began by describing presence as an active phenomenon and treating it as *readiness to encounter* other beings (entities). In this respect, it shares many of the characteristics with familiarity. Accepting that presence is directed at the world, it then possesses *intentionality*. Intentionality connects us to the world and when we witness something we 'inherit' this intentionality, so that the physiological and psychological states associated with witnessing are similarly intentional.

Next, we considered the nature of the things (beings) we witness. Again by definition they must be available, proximal, and ready-to-hand. We then equated our experience of their availability with Gibson's concept of affordance, which we have extended beyond the natural world of surfaces and edges to include many aspects of our human-made worlds.

Finally, the third aspect of this discussion concerns the nature of the representation associated with witnessing. We adopted Clark's distinction between strong (genuine) representation and weak representation to suggest that when we witness something it is associated with this latter form, whilst when we recall what we have witnessed we rely on the strong form as evidenced by the manipulation that these re-collection are subject to. Again, we extended this idea of Clark's to suggest that the affordances themselves serve as an external representation, indeed a kind of recursive representation of themselves. Whilst this suggestion may be anathema to affordance purists it does serve to connect the phenomenological with the cognitive.

This special issue of the journal AI & Society on Witnessed Presence has given us an opportunity to consider real world presence or to re-phrase this in Heideggerian language, it has disclosed the nature of presence and one of the consequences of being present in the world.

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