The imagination: Cognitive, pre-cognitive, and meta-cognitive aspects

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Abstract

This article is an attempt to situate imagination within consciousness complete with its own pre-cognitive, cognitive, and meta-cognitive domains. In the first sections we briefly review traditional philosophical and psychological conceptions of the imagination. The majority have viewed perception and imagination as separate faculties, performing distinct functions. A return to a phenomenological account of the imagination suggests that divisions between perception and imagination are transcended by precognitive factors of sense of reality and non-reality where perception and imagination play an indivisible role. In fact, both imagination and perception define sense of reality jointly according to what is possible and not possible. Absorption in a possible world depends on the strengths of alternative possibilities, and the relationship between core and marginal consciousness. The model may offer a parsimonious account of different states and levels of imaginal consciousness, and of how “believed-in imaginings” develop and become under some circumstances “lived-in experiences.”

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You can’t depend on your eyes if your imagination is out of focus
Mark Twain
1. Theories of the imagination and imagery

1.1. Historical overview

Philosophers can generally be divided into those who have attributed imagination a subordinate role such as Sartre, Plato, or Hobbes and those for whom it took on a super-ordinate, almost mystical role as with Kant, Coleridge, and Schelling (Brann, 1991). Aristotle can be placed in between these opposite positions as he primarily viewed imagination as a distinct faculty operating in a wide variety of cognitive processes. In particular, for Aristotle imagination referred to the process by which an image is presented to us, and may have been part of the same faculty associated with perception, the only difference being whether the image occurs in the presence or absence of sensory input. This link between sensory perception, imagery, and imagination has persisted. Table 1 gives a summary of the history of ideas up to 1900 when imagination effectively dropped off the philosophical map.

The current status of the philosophy of the imagination, or lack thereof, is traced back by Thomas (1997, 1999) to the linguistic turn in philosophy with its emphasis on the association between thought and language. In psychological theorizing, the behaviorist turn in psychology, denied the experience of mental images all together. Freud (1900) compounded the death of imagination by relegating it as a surrogate satisfaction of basic instincts along with fantasizing and hallucinations. Subsequently, in recent times, however, the phenomenological–existential tradition has addressed imagination as a separate and parallel faculty to perception. In Sartre’s (1940) terms, imagination concerns itself with ‘absence,’ perception with “presence.” Sartre and in particular Merleau-Ponty

Table 1
Conceptions of the imagination

<table>
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<tr>
<th>Imagination as a faculty</th>
<th>Imagination as memory and or a picture in the mind</th>
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<td>Bacon: Imagination influenced from above serving creativity, religion, and poetry</td>
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<td>Sartre: Imagination situates the unseen in time and place</td>
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<td>Wittgenstein: Imagination is in the service of intention and is an echo of a thought in sight</td>
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<td>Descartes: Imagination connects mind and body</td>
<td>Gibson: Imagery as perceptual anticipation</td>
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(1945) seemed to assume that imagination would essentially take a visual form to enable the imagination to physically situate the “unseen” in both time and place.

1.2. Imagination as imagery

Image theories resurfaced in the wake of the cognitive revolution, but without any explicit link between images and imagination. Current image theories generally do not claim to be theories of the imagination (Thomas, 1999) although in practice confusion between imagery and imagination still reigns (see Kosslyn, 1980). According to Thomas (1999), theories of mental imagery fail to accommodate the much broader concept of the imagination, in particular the creative aspect of the imagination. Picture theory for example, where visual imagery involves having inner pictures composed of copies or remnants from earlier sense impressions, fails to account for the association between imagination and creativity, because imagination involves more than just recombining copies from former sense impressions. Whereas picture and descriptive theory, cannot accommodate the association between imagination and creativity, active perception theory or seeing as could provide the missing link between imagination, imagery, and creative imagination in the arts and sciences (Thomas, 1999). Gurswitch (1964) talks of imagination as a necessary extension of perception to give continuity to seeing as. This active perception theory holds that the perceptual processes involved in imagery are the same processes active in perception enabling us to see things as they are or might be by discovering defining features. In this model there is no finished product, but an ongoing exploration of the environment. The notion of “seeing as” of course implies that we know what “seeing” is.

One legacy of the equation of imagination with imagery is the assumption that imagery and perception use the same psychological and physiological apparatus. Visual images and imagined imagery are hence mutually exclusive to the extent that conscious construction of visual imagery interferes with visual thinking or “imageless thought” (Kunzendorf, Young, Beecy, & Beals, 2000). Thus, the leading cognitive model of visual mental imagery holds that visual perception and visual imagery share a number of mental operations, and rely upon common neural structures. Recent reports of patients showing double dissociations between perception and imagery abilities have however challenged the perception-imagery equivalence hypothesis from the functional point of view (Kaski, 2002). But, the notion that imagination must take a visual form has persisted even if it is recognized that smell, taste, sound, and words may elicit the imagery (Baars, 1993). In the clinical literature also there is increasing recognition that imagined fears can be script or verbally driven rather than take a visual form (Borkovec, 1985).

1.3. Seeing and “Seeing as”

The processes supposed to produce imagination have reflected the quasi-perceptual nature of its content. Since the early days of perceptual theory, there was a tendency to consider that imagination was accounted for by perceptual theories. Sensory realist theories of perception do not need imagination, since perception is entirely accounted for by sensory input. As the mind was an epiphenomenon to behaviorism, so to sensory realism, imagination is an epiphenomenon to sensation. The imagination is not a faculty or a stored image even, it is, like perception, a response to the circumstances of external events. The person does the same in imagining as in seeing, except
in the former the stimulus is absent and so the reception of the stimulus is less clear (Rachlin, 1980). The image like a neural trace will slowly decay without further stimulus input.

Sensory realism implies by default the tacit acceptance that perception deals with reality, but imagination with the unreal, or what does not exist. Since our five senses can account for all that's there, any other functions are superfluous and are not dealing directly with reality. Likewise, historically, there has been a tendency to apply a sensory model to one's sense of thought, feeling, and imagination, which seemingly can only be understood in reference to images or quasi-perceptual experience. Such an inner sense model, however, does not give an adequate account of the other meanings of the imagination that do not involve images. Rather, a coherent theory of the imagination needs to go beyond image and perceptual theories of the imagination and offer an account for imagination that does not rely on sensory models alone. Early cognitive information processing theories built on the sensory realist model but interposed a cognitive “black box” mediation of events. In this model of perception the role of the imagination was unproblematically grouped with pictorial and other cognitive representations. However, in newer models of active perception, the world is viewed as constructed actively by the person.

The Gibsonian approach, for example, does away with cognitive representation, and sees perception “afforded” directly by the parameters in the environment, so that in an existential sense, seeing (and being) become doing. Imagery in ecological psychology is tied to action. It is anticipation of action. Images are not pictures in the head but plans for obtaining information from potential environments (Neisser, 1976). In motor theories of mind (Weimer, 1977), action, specifically muscle action, gates and determines sensory conduction tying image to action, harking back to earlier ideomotor notions of thought control (Festinger, Burnham, Ono, & Bamber, 1967; Munsterberg, 1899). This close connection between reality, intention, action, and meaning leaves even less space for an independent role of imagination than with the pictorial theories of the cognitive representation models. In an extreme direct perceptual view, there is no function which is not tied directly to relating and adapting to the environment. Imagination then either becomes an extension of the perception-action cycle, its precursor or its by-product.

In more post-modern ecology and social constructionism, any reference to an internal world is suspect, or is a language game (Wittgenstein, 1953). In such post-modern accounts, although the imaginary may have a status, imagination does not. The imaginary is anyway a rhetorical, perhaps machiavellian, device to create illusions, as figures of speech. What is not real becomes simply a shadow cast by what is real, and is always in the service of reality and real goals. In post-modernism then conceptions of the imagination flip inside out and complete an historic shift in location from an inaccessible place inside the person to the public domain outside. At the other end of the spectrum, many literary writers would still consider imagination the epitomy of an inaccessible subjective process (Kearney, 1993).

The mechanism producing perceptual construction may be cognitive, ecological or motor as in the motor theory of mind. In all cases however, imagination is not well addressed in itself. In cognitive constructivist terms, if reality is what I impose and interpret, then non-reality must equally be my construction. It must serve a real purpose or it would make nonsense to construct it. But, of course, the idea that imagination fulfills a role other than imaginal representation or preparation for action, raises questions as to its adaptive utility. In particular, the creative role of imagination. Conjuring up representations of reality might be useful in order to address them at a distance or to
anticipate them. But what could be the use of a process devoted to creating and thinking about things we know do not and perhaps can never exist!

In any case the neat distinction between perception and imagination or reality and non-reality implied in both sensory, perceptual, and social constructionist theories does not conform with everyday experience where such realms are continually blurred and overlapping in a non-pathological way. The relationship between imagination and reality is far too ambivalent for either a realist or constructionist account. We can have a felt inarticulate sense of the real in the absence of perceptual input. We can experience inexplicable shifts in reality under normal perceptual circumstances. The imagined can appear very real and elicit real reactions even when intellectually we know we are imagining (e.g., mime illusion).

In the following sections we will outline a phenomenological account of the imagination which suggests divisions between perception and imagination are transcended by pre-cognitive factors of “sense of reality” and “sense of non-reality” where perception and imagination play an indivisible role. It is proposed that sense of reality and unreality informs both perception and imagination, so imagination and perception always operate in conjunction, and predominance of one over the other is a function of intention and level of absorption in reality. Finally, we argue that this synergy between imagination and perception supports a possibilistic model of consciousness. In the possibilistic model, consciousness only ever presents the world in different degrees of possibility never as certainty, consequently, perception and imagination must at all times work together to form any kind of awareness.

2. Perception, imagination, and sense of reality

2.1. Reality and non-reality

Reality as we know it, is essentially defined by a consensus (Rorty, 1979) although physicality and ‘thereness’ are part of the implicit criteria for recognizing reality, the feeling of ‘realness’ is built up by rhetoric and persuasion rather than through appeal to objective criteria (Edwards, Ashmore, & Potter, 1995). As Havel (1997) points out clear indications between real and conceivable worlds are not self-evident. We know reality through the attitude we adopt to it, and by a convincing discourse which builds up the real through use of culture bound signs not just through phenomenal experience. All cultures make reference to unseen forces which have a reality value or what de Rivera and Sarbin (1998) term ‘believed in imaginings,’ whether these be X-rays or demons, and the cultural consensus on visible or undetectable reality can change over time (Feyerabend, 1988).

One approach to understanding how sense of reality is constituted is to see what happens when it is not present. If we look at people who experience the loss of sense of reality, a condition also known as derealization or depersonalization (Fewtrell & O’Connor, 1995), we see that sense of reality is intricately wound up with sense of identity. Losing one puts the other in question. In a recent study looking at appraisals of those suffering from derealization, key worries were: fear of not regaining sense of reality, and fear of losing self (Charbonneau & O’Connor, 1999). Triggers for derealization tend to be discontinuities in normal experience, a trauma, an accident or a sudden change in arousal or even perceptual incoherencies in the world (seeing something out of
place) or dysfunctional self-awareness. Sometimes disruptions of the normal balance orientation system linked to dizziness can lead to derealization experiences (Fewtrell & O'Connor, 1988). People most likely to suffer distress from disorientation are those with a rigid and inflexible mode of perception, about what should or not constitute reality or normality (O'Connor, Chambers, & Hinchcliffe, 1989). Obviously, as in other psychological disturbance, secondary appraisals of the experience (I'm going crazy) can exacerbate distress, but the lack of ability to tolerate shifts to alternative forms of reality organization could make the person react 'as if' reality has disappeared (perhaps forever). In fact, one way to overcome derealization is to engage in whatever reality arises. In other words, drop the attitude of dysfunctional self-focus and focus awareness on external detail. In this way, acting "as if" the self is distanced from reality is counteracted by acting "as if" immersed in reality. Both "as if"s are meta-cognitive exercises which may draw on the imagination, so paradoxically, imagining specific interactions with reality can help the person engage in perceived reality and lose the abnormal sense of self-awareness.

A shift into derealization always represents a defensive option and indicates a positioning of self regarding engagement in reality. In some sense, removing the self from reality can be used to secure the self-world relation and safeguard sense of self over sense of reality. For example, a client begins to experience derealization after a period of intense self-questioning. She asks: “Do I appear strange?” “Are people looking at me?” “Am I talking properly?” She feels the intense need to continuously observe and monitor herself. Ironically, it is this hyperfocus on reality which is inducing derealization. She begins to see herself as acting strangely and oddly and acts “as if” she is divorced from her body. Conversely imagining that she is in reality and acting normally with her friends reduces the derealizing experience. So imagination can help reduce a sense of unreality by bringing the experience within the bounds of the conceivable. It does so either because the real is not perceptually available, or needs elaborating on, or the inconceivable needs to be established as a counterpoint to reality. However, this implies that a sense of reality and unreality informs both perception and imagination in self-world relations. Whether imagination or perception predominates may be a function of degree of sense of reality rather than a result of a cognitive choice made on the basis, for example, of content of material to be processed (e.g., visible versus invisible). We pursue this point in the next section.

2.2. Co-existence of imagination and perception

The common distinction between imagination and perception with the former signifying something that is not there and the latter signifying what is there is, by itself, not especially helpful in determining the “realness” or “thereness” of a mental experience. In waking life, images rarely occur in the total absence of stimulus input from outside reality and in situations where this is the case, for example dreaming, the difficulty distinguishing between what is real and not real is evident in sleep disordered states of parasomnia or dissociation. Perhaps even more salient is the fact that perception does not always have “thereness” or “vivacity” either, especially during times when we “imagine.” Yet, this is often considered less significant than any lack of vividness during imaging, because the reappearance of physical reality when we stop imagining is never doubted. Imaginal disturbance often accompanies perceptual disturbance, and as noted earlier, in derealization, imagination can help in re-establishing sense of reality. In anxiety disorders, imagined fears can lead directly to perceptual difficulties. Anticipation of threat can cloud vision
and impair attention. Conversely, a perceptual shock can be followed by subsequent haunting imaginary fears, as in post-traumatic stress disorder.

An important aspect about the boundary dispute between perception and the imagination, is that both can exist simultaneously, and this rather upsets the notion that one concerns non-reality and the other external reality. The “perky effect” originally showed the equivalent effect of perception and imagination on behavior, and that one cannot imagine and perceive the same object at the same time (Perky, 1910). But people can easily slide off into dream like states without losing contact with reality, occupying both imaginary and real space at the same time. A lady imagines clearly her father’s face in the window, whilst aware she is physically grounded in a therapist’s office. I imagine myself on a beach in Florida, whilst driving to work in Montreal in the here and now. The person can function whilst not completely in reality nor in the imagination but somewhere in between. The degree of this “in-betweenness” can clearly be modified by context. Deprived of clear evidence of reality, imagination comes to the rescue and there is an ability to shift between imagination and perception in the same stimulus context, without losing sense of reality in order to function. In case of ambiguity, the potential symbiotic relation between perception and imagination is evident, since imagination enables me to draw on experiences from different times and places to try to “fit” with present reality. Seeing a half formed image in the dark, I consciously generate different shapes from my memory (Casey, 1970, 1976), going back and forth between perception and imagination to both imagine and see how they fit. On the other hand, when current reality is not in question, the imagination can be evoked to conjure up experiences or objects which have never existed. As Casey (1976) points out, imagination can serve to enrich perception and when we return to perception it is enhanced. It’s use here is precisely that it is able to elicit powerful reactions to enhance the effect of a real physical context.

2.3. Imagination and intentional context

However, one fundamental difference between imagination and perception is that perception apparently responds less well to intent, manipulation, and expectations than the imagination. This rather self-evident observation is given its rightful importance in dream research as a difference between the perceptual dream environment and the conative aspects of the dreamer (DeGracia, 1999). This may tie in directly with sense of realness in that the consequence of the ability to direct our mental content, although providing us with a sense of control, gives mental experience the quality of impermanence as opposed to perception. When we open our eyes a perceptual environment will spontaneously appear while when we close our eyes our mental content follows our intent, volition, and expectations. However, much can be said for the idea that imagination would take on qualities normally ascribed to the perception of objects in the outside world if we would not use our volition so continuously, and if images and thoughts would not be so quickly replaced by another. Exercising one’s intent and volition may tie in directly with our sense of identity and the boundary between perception and imagination, with the latter signifying something we have and the former signifying something that happens to us. If we would imagine a tree without exercising any type of volition and thus not distract ourselves from the image of the tree, the tree would appear to happen before our eyes, or in other words, not be experientially distinct from seeing a tree in physical reality. In other words, interacting with the imagination can be identical to interacting with the environment. I can adopt different intentional stances. Either I can be the
spectator of an imagined scene and remain distant from it, or I can be absorbed and engaged in
the scene actively and be manipulating the imaginary environment around me. As in real interac-
tion when I have skilled involvement in the imagination, I may lose sense of ego in the flow of the
engaging activity (Csikszentmihalyi, 1975). Novelists report how imaginary characters and plots
take on a life of their own. In anxious patients, imagined scenarios take off seemingly out of con-
trol and exert a pull stronger than the person.

A crucial determinant of my intent towards either an imaginary or a perceived object is its con-
text. The imagination, like perception, always occurs in a context. It is not possible, in the imag-
ination as in reality, to imagine people, events or even have meaningful thought unsurrounded by
an implicit context (Ahsen, 1984; O'Connor & Gareau, 1991). In other words, in the same way
that when I see a tree, it is seen in the context of, say, a field and from an observer position,
so when I conjure up a person or a scenario in my imagination, there is a surrounding context
and I am positioned in respect to the person or scene. For example, I imagine my friend Geoffrey,
in Hong Kong, but the image is a Geoffrey dressed according to a specific past context or perhaps
a composite of contexts, but nonetheless linkable to specific past times and places. This context
and positioning embodies my way of seeing or imagining and hence guides my intent towards
the image. Changing implicit context may change intentional options. For example, I see a famil-
iar face at a party and I struggle to place it in a context, finally settling on a person working in the
local library. I am not in the library now, but this implicit context directs my immediate inten-
tional interaction with the person. On approaching more closely, I may realize that I was wrong
and that the face fits better within the context of the local hairdresser. Again my intended inter-
action and perhaps entire project towards and way of approaching the person could change. Nei-
ther the person nor the explicit context (the party) has changed, rather a series of implicit contexts
have redirected my intentional focus.

The existence of an accompanying background “wordly” context to any image or percept of
course confirms that all consciousness is relational. I am always in the world and, in some
way, relating to the world when I see or do anything. I’m never in a vacuum. But this context
has, at the same time, a geographical and a dialectical aspect. Geographically, the context takes
the form of a distribution peaking at the immediate focus and tapering off into the margins of
consciousness (see Figs. 1A and B). The gradient is defined by diminishing clarity and accessibility
and necessarily so, since as Stephen Brown (2000) notes, the lack of clarity at the margins is essen-
tial to contrast with the vividness of the figure, and this contrast completes the sense of being
“here” rather than “there.” What is unclear and out of view is an essential ground to give the fig-
ure clarity. Bruce Mangan (1993) has spoken eloquently of the margins of consciousness, and how
inattentiveness and inarticulateness does not diminish the phenomenological intensity and impor-
tance of vague feelings arising from the margins, such as “tip of the tongue” phenomena. In the
same way that I may just vaguely detect features of an object on the periphery of vision, so I may
have a vague sense of knowing a fact on the margins of my thinking focus.

The last point leads up to the inevitable dialectical logic of consciousness; what is clear is qual-
ified by what is unclear, what is seen by what is not seen (Fig. 1C). This basic dialectical limi-
tation of consciousness is simply a pre-cognitive fact of human existence, it does not need a
psychological or other explanation. However, the dialectical opposition between what is there
and not there creates a space between the two, in which we as human beings psychologically po-
sition ourselves. In psychological terms, what is unseen or unclear or vaguely on the horizon “out
of view” is never merely “not there,” it has a relationship to me and my projects, since the underlying dialectic of consciousness dictates it as essential to define the vivid real spot-lit workspace (Baars, 1988) where my conscious projects are focussed. For example, if I am writing a letter, I am not just not doing another activity. I am specifically and perhaps consciously not writing a cheque or a report, and this comparative knowledge guides how I write the letter. In addition, future possibilities are continually opening up as I carry out a task. A possibility is perhaps temporarily or permanently “out of sight” or seeable later conditional on evolution of my project. The most coherent way in which such a dialectical space can be “inhabited” by a relational consciousness and its future directed projects, is by itself becoming a possibility space affording me and my projects, future possibilities.
3. The possibilistic model of consciousness

3.1. Possibility and perception

Possibility as an epistemological category is hardly new to philosophy. Leibnitz (1682) was one of the earliest thinkers to introduce the importance of considering “things that are possible but yet not necessary and which do not really exist” in defining reality. More recently, artificial intelligence has also employed mathematical models of possible worlds as a way of reasoning about changes in expected actions (e.g., Ginsberg & Smith, 1988). But the richness of possibility as a psychological counterpart to the dialectical nature of consciousness merits further exploration.

It is argued here that possibility is a key defining psychological characteristic of consciousness and that to be aware is to be aware of possibility. Possibility covers very well the relationship of all aspects of a ground “not yet in view” to my projects. It covers what might be, what might come later, what might constitute a tolerable variation of what already exists, how my changing position might modify my perception. However, the notion of possibility does not just apply to what might be, it applies also to what is here now.

In the same way that what is not yet seen has a meaning as a possibility, so what is “seen” is still equally a possibility. The nature of my projects in the world is that they are directed into the future, ahead of themselves, in other words their possibility defines them. Since everything I see, I see inside a project, so the “seen” too is defined by its possibility for my project. What I see about a telephone or a lamp or a door depends very much on what I intend to do. We can always detect new physical attributes in familiar objects which we never noticed before, but notice now because our project dictates a possible relevance. Equally, potential physical attributes of a visible object are never exhausted, and objects are frequently seen as complete objects despite the absence of their complete physicalness (e.g., the corner of the chair I cannot see but whose absence from view does not deter my belief in the chair’s solidity). Clearly, however, the leg of a chair I cannot see momentarily due to the perspectival limitations of my position has a different ontological and possibilistic status to the object not yet at all in view, or the scene around the next corner I have not yet turned, or the future possible use for an object not yet conceived. Although there are many qualitatively distinct types of possibility, and probably as many possible uses for an object as there are projects, it seems nonetheless feasible to construct a distribution of possibility with a maximum and a minimum for any one project. Such a maximum likelihood distribution conforms with the proposed distribution of consciousness with a figure ground gradient descending from core to margins (Mangan, 1993). The knowledge that possibility is a key defining psychological dimension of consciousness, makes the co-existence of imagination and perception not only understandable but mandatory for an adaptive functioning.

If the seen is partially defined by the surrounding unseen then the act of perception itself is defined by the background context of the imagination and, as such, imagination helps form the perceived event and is part of it. Continuing the figure-ground analogy, perception then explores the figure whereas the surrounding not-seen is a latent, if defining, characteristic of what is there. Imagination is the active exploration of this latent possible space in the same way that perception is the active exploration of the visible space.

We are now in a position to try to resolve previous incoherences in the cognitive distinctions between perception and imagination through appealing to a possibilistic model. Classically, per-
ception is outward, and concerned with what is there, whilst imagination is inward looking and concerned with what is not there. But we can consciously switch from one to the other world, and we can substitute one for the other. Also we can at the same time, sometimes within the same stimulus context be seeing some aspects and imagining others. It is clear that within the structure of consciousness itself, there must always be aspects of the real which we assume are there, but which present themselves by their absence (the back of a chair I cannot see) and the object of perception is always embedded in the larger context of a world beyond it, of which I have only marginal awareness. The same appears to apply to mental experience not directly related to physical reality such as thoughts, ideas, concepts or images, themselves being defined by the context surrounding it, which not only leads to the self-evident conclusion that we cannot imagine without imagination but may also indicate that we cannot have meaningful thought without it. Thus imagination can operate both inward and outward, but is ever present within all mental experience, regardless whether its causal history lies in the outside world or the one within. It then seems difficult to consider anything as entirely “definitely all there,” rather both perception and imagination are in different ways part of the same dialectical context. In both imagination and perception, the common structure of consciousness dictates that to be aware is always to be aware that I am aware of some things but not others. In other words, at the margins of consciousness are always possibilities (e.g., future possible outcomes). An integral part of perception is inferring what is not there, hence both, reality and possibility are part of perception. It may seem then more reasonable to see imagination and perception not as distinct cognitive functions but rather to as dual modes of consciousness operating together. In the following section, we expand on the role of imagination within a possibilistic model of consciousness.

3.2. The possibilistic model and imagination

The possibilistic model of the imagination grows naturally out of the foregoing observations on the structure of consciousness and the perspective limitation of consciousness—what is seen is necessarily defined by what is not seen but in particular it is defined by what could be. Possibility as a defining dimension of consciousness brings forth the important role of conceiving the possible through the imagination. Three separate claims of the model implicate the role of the imagination in sensing reality: (a) What I am doing exists alongside what I am intending to do—my projects in the world have a future, (b) Imagination creates the future and this creative aspect of seeing, fills up the space between what is and what is not, and (c) Living in reality is a matter of degree, and I exist in a gradient of awareness where different possibilities are associated with distinct senses of reality.

3.2.1. Imagining and doing

Heidegger (1962) emphasized the primordial importance of time in defining human existence and consciousness. I am always ahead of myself since I am constantly in a state of becoming. An object, a scene or a person is defined by what they promise to become. In Heidegger’s opinion, the past comes towards the present from the future. As Heidegger (1988) also pointed out, key emotions spring from the potential unfulfillment of the “about to be” (e.g., disappointment, grief, and anguish). On the one hand, everything which is real in the here and now must, in order to be so real, be independent from me with its history before and beyond me. But it only has this real
property independent of me in the first instance because it has a future, and this future primarily determines its existence for me as real. This future for the object always ties in closely with my projects for my future. So, for example, if my intention is to make a cup of coffee, everything I see fits into my coffee making enterprise, and is ordered in the center or on the margins of consciousness on the basis of relevance to my coffee making. Of course, I want to make my coffee in a “real” mug, not one I’m just imagining. A real mug is one that stands before me, beyond me, with its own “factual history” as a mug capable of holding scalding hot water and brewing a good coffee. If my project changes to clearing out old mugs, a whole new structure of past and future possibilities of the same mugs comes into being. The real mug now becomes an “old-out-of-data-stained-to-be-thrown-out-mug”, whereas previously it was a “solid-capable-of-holding-hot-coffee-mug”. The realist argument might be that even though I may not notice all attributes of an object at one time, they nonetheless exist independent of my project. But if I go back to view attributes of objects I had not previously noticed, my seeing is still intricately tied up with my being and projects (in this case a “going-back-to-see-missed-attributes”-project). What I see depends on what I do. I can of course vividly recall an activity at a different place and time. But memory access depends nonetheless on my current project. Elements of the past become important if they relate to future projects.

3.2.2. Imagination as the art of the possible

Some objects and events always exist on the margins of consciousness—as potential events, or objects that cannot yet be seen. They emerge into full consciousness as I switch my head to a different position or my intention to a different project. Gibson (1979), in his direct realist approach, locates these emergent properties invariantly within the objects themselves. So the use of an object is reflected in its about-to-be used attributes. My intended use affords its existence to me for my project. But the Gibsonian account cannot apply to all possible uses of an object. Many possibilities do not concern, not physical attributes but can be triggered by meta-suggestion. There is a creative aspect to seeing, which is embodied in imaginal possibility. I may use a shoe as a wedge or a hammer or for other uses not dictated by its singular attributes. In other words, imagination can be concerned with possibilities which are not uniquely physically afforded by an object.

At the same time that I can be creative with worldly attributes, I am also living in a world beyond me that I can only partially predict and control. Such a condition is an existential given, and trying to separate me from an “external” world is to destroy the essential pre-cognitive self-world functional unit, where my sense of me and of reality is always partly defined by what is beyond me. As the relational self is located in the space created by me and the world, so possibility is always situated between the person and the object in an intentional space filling the dialectical gap in-between the two. It is not located discretely in either one. So intentional space between me and the world needs always to be filled up creatively, it is never just there.

3.2.3. Absorption in degrees of reality

According to the possibilistic model, what defines our sense of reality is not an “out there” capturing our senses but our level of relative absorption in what is most possible. Such a degree of absorption implies a comparable lack of absorption in a range of alternative possibilities. What is seen arises against a background of what is not seen, what was there, or what can never be there, or what might be there, or what is yet to come into view, all on the margins of consciousness.
Psychologically, there is a clear distinction between 'supposing' and 'imagining'. Imagining always takes place in a lived-in context, just as perception, otherwise we are supposing and not imagining. So although I may suppose a possibility as an abstract idea, it is absorption in this possibility which gives me the sense of reality in which I live, and so conditions what I know is there and what I know is not there.

Conceiving possible worlds then in no way compromises my absorption in a real world. Indeed, cognitive focus is predicated on a pre-cognitive world always there. But a gradient of absorption covarying with degrees of possibility accommodates smoothly our sporadic changes in consciousness whilst maintaining our sense of reality. In other words, our focus of consciousness changes seemlessly only because such focus takes the form of a possibility distribution where the next focus is already imminent on the margins and appears or disappears from view according to its likelihood value in the possibility distribution rather like successive ripples on a water surface. So, in fact, conceiving possibilities actually sharpens degree of absorption in reality.

The possibilistic model would be in broad agreement with the cognitive model of perception, concerning the immediate perception of empirical detail under a normal sense of reality. So the validity of the model is best explored though how it accounts for the role of absorption in setting up a sense of reality in altered states of consciousness, including dreaming, where the person becomes absorbed and reacts realistically to an unreal world.

3.3. Dreaming and altered states of consciousness

Sense of reality does not suddenly collapse in the absence of sense information. One of the differences noted earlier between perception based on sensory information and imagery occurring inside of us is that the former is often regarded as something that happens to us, while the latter is wound up with our sense of identity and hence are qualified as experiences that we have. It appears the degree of absorption is directly related to these qualifiers, which in turn may be the result of exercising our volition in the case of inner imagery, while perception with its causal history in physical reality does not respond very well to any mental manipulation. Controlling the imagery and exercising volition implies a meta-cognitive stance towards such imagery, which leads to holding a particular image or sequence of images static instead of letting the imagery present itself on its own terms without any conscious intervention of the observer.

Let us say a person would be asked to close the eyes and imagine a pile of foods on a dish. At several points during such an imaginary exercise the person will exercise his/her volition either by deciding he/she wants to see a particular type of food displayed on the dish and retrieving the proper information from memory. During that time, the focal point of awareness is not the imagined dish. Instead, the person has removed attention away from the image with the intent to return later once the proper information has been retrieved and decided upon. In such circumstances, the image remains static, because the person beforehand decides what will be seen, and will remain largely in a context generated by him/herself instead of the context surrounding the dish.

However, if less volition is exercised, but attentional focus remains on the dish then with no other thoughts to divert the persons attention, the focus of awareness continues to be the particular type of dish. The person's focus may however drift to the vegetables on the side. The person did not intend to pay any particular attention to the vegetables on the side, and their colors, but
was drawn to them automatically. The colors may stand out far more than before, and the whole perception of the dish increases in vivacity. Then suddenly, again without conscious volition, the person may suddenly become aware of something in the periphery of the dish and see a white table cloth on which the dish is placed, all the while however no conscious decision has been made to widen the imagined scenario. At this point, the image can hardly be distinguished from seeing a dish on a table cloth in reality. The dish is vivid, very much “there” and appears to happen instead of being something he/she has. The person is immersed in an imaginary scenario, which led to actively participating in an imaginary world. Here we see the importance of intentional context which may bring about a complete shift in object-subject where what was previously subject becomes object.

As hard as the above thought experiment may be to perform on demand, it occurs every night as we go to sleep and become absorbed in hypnagogic imagery that appear to form the nucleus around which a dream scenario appears. Regrettably, as the context which frames our waking experience retreats to the background it often leaves our waking self in its wake with little memory to report on such incidents. According to DeGracia (1999) such perceptual environments are the result of a disengagement of the sensory “gear” leaving the perceptual and cognitive “gear” in operation, which continue to produce a world that one is immersed in. When perception based on sense information retreats to the background it leaves a vacuum. This vacuum is poised with ambiguity on the verge of what could or might be there, which by degree of immersion will be perceived as really there.

LaBerge and DeGracia (2000) propose that global transient contexts and the cooperation and the competition among them frame the dreaming experience, and this idea is not so conceptually far from the possibilistic notion of competing possibilities of what could be there operating at the background of any perceptual environment, poised ready to become part of the scenery as “about-to-be-seen.” For instance, the dreamer watches a dark doorway looking to see if something is there, and not surprisingly, a figure appears not much later, or, the dreamer imagines flying up from the ground and soon after finds her/himself shooting up in the sky. It then appears that the unfolding story of the dream is the result of continuous shifts in possibilities of what could be there and which by virtue of degree of absorption introduce themselves and fade out of the perceptual environment. Lack of involvement and absorption in the dream would most likely result in a sudden collapse of the possibility distribution resulting in the disappearance of the perceptual environment with alternate possibility distributions coming to the rescue to fill up the vacuum. Or alternatively, a lack of competing possibilities may result in the perceptual environment becoming static and fading away, because the dream is unable to shift into alternate events to continue the storyline. Both experiences are reported by lucid dreamers as a “blinking on and off” of the visual field. This is more likely to occur with novice lucid dreamers perhaps because the possibilities operating on the margins of the events in the lucid dream are less well developed, and this may emphasize again the importance of possibilistic context.

Rightfully, LaBerge and DeGracia (2000) emphasize the importance of dream context in the ongoing flow of the dream story and such a conceptualization enables a better understanding of that special variety of dreams (lucid dreams) where one is aware that one is dreaming. The importance of context for explaining this phenomenon is that the particular context affords a continuity with accessible memory so that the person while still dreaming is able to retrieve memories from the waking self unrelated to the activities being performed in the dream. Such a 'lucid dream-
ing context’ consists of (LaBerge & DeGracia, 2000): (1) a reference to state (a meta-cognitive awareness that one is dreaming) (2); a semantic framework (a framework of knowledge to conceptualize and give meaning to the experiences); and (3) a goal-options context (a range of behaviors expressed in the dream). In phenomenological terms, this context allows the waking self to position itself in relation to events in the dream resulting in the formation of a functional waking self-dream world unit that would otherwise not be feasible. Of course, such a context is a delicate one creating a competing possibilistic context that normally operates while awake (for instance, the realization that one is actually lying in bed). If the latter was fully activated it would lead the person to wake up, or conversely, lead the dreamer to become absorbed with events in the dream not part of the lucid dream context, and so revert back to a non-lucid dreaming.

Experienced lucid dreamers are often quite aware of the waking self-dream world unit where thoughts and expectations manifest themselves in their corresponding dream environment. Lucid dreamers regulate their thoughts and expectations accordingly, since a free floating stance towards the dream world may quickly result in an undesired and likely non-lucid story line.

Another aspect of lucid dreaming is the reliance on ambiguity to develop a dream scenario, whereby that which is as yet unseen can often provide an excellent doorway to develop a dream in the desired direction. For instance: Around that corner of the building there will be a magic door transporting me to X, or in a few moments, a figure will appear from that dark spot in the room. Failure or success in moving the dream environment in the desired direction often depends on a persuasive plot line, and the avaiability of alternative possibilities to emerge in the story line. A persuasive narrative does not necessarily need to borrow upon elements in the dream environment, but can be completely bypassed by a reliance on well-functioning waking self-dream world unit. It seems then perceptually normal in lucid dreaming to be in a both real and possible world at the same time. Whenever I see an object, I see its possibilities, and reality itself is established by my absorption in a most likely world rather than a certain one. Hence, I must necessarily maintain some flexibility about the maximum possibility to permit for future developments and future adaptation to projects. This meta-cognitive aspect of the imagination, entertaining competing maximal possibilities, also plays a crucial role in both normal and pathological absorption in waking reality.

3.4. The possibility distribution

The idea of a personalized possibility distribution may be heuristically compared to a likelihood distribution where the maximum possibility is a maximum likelihood (Edwards, 1972) (see Fig. 2). In its simplest form the possibilistic model proposes that what we take as our reality is arrived at as the most possible world in the context of other possible worlds. So this world is never a stand alone reality, rather it is only ever constructed as maximum possibility relative to other possibilities. Hence, it forms the maximum of a special distribution of alternative possibilities, some likely, some remote, given the maximum. The possibility distribution may be skewed, it may be irregular, it may be sharp or flat. If flat, this would mean that in the face of certain alternatives, the person would be more vulnerable to transition from one reality to another. The person might tolerate more deviation in one direction or another. The maximum possibility may then easily shift amongst closely competing possibilities and may be constantly modified or updated in con-
continuity with minor adaptation on the basis of interactive experience with the world. Choosing between the possibility that a roaring noise outside my apartment door represents a pack of wild wolves, or the caretaker hoovering the hall floor, may not be difficult; everything about my current horizons, history, and projects support the caretaker as maximum possibility. There are other likely possibilities, it may not be the caretaker who is hoovering, but his assistant, or someone else. These possibilities are likewise well tolerated by my distribution and do not require re-orienting my projects to which both the noise and the caretaker were in any case on the margins.

Of course if my current project involved the caretaker and hoovering, the possibility distribution would be more focused on the nuances of hoovering and could be sharpened by resolving these possibilities, through opening the door, updating experience, and gaining perceptual fit. This is the normal way for pursing perceptual fit and refining a possibility distribution by testing the extent to which possibilities thrown up by my project in the world coincide with the figure ground relationships of preexisting self-world horizons; my pre-cognitive sense of reality. The more remote the possibilities from my current intended project, the more they form the tail end of the possibility distribution and the flatness of the tail end of the possibility distribution means I have more tolerance for a variety of possible outcomes. But the maximum can also be modified by changing the personal context of comparable alternative possibilities, forming around the margins of the distribution. In other words, a change in the conception of what could be there (but is not) could change perception of what is there. A good example, here, is waking up the first night in a strange hotel room, forgetting you are not in your own bedroom at home, and being disoriented by your perception of objects in apparently strange places; a perception rapidly normalized by contextualizing the space as a hotel room.

The margins and the peak of the distribution are inter-dependent. Obviously change in one will affect the form of the other. A bad perceptual fit will shift the peak possibility of the distribution as may a change in the alternatives on the margins. However, the point is that according to the model, both are at the mercy of the possibilistic distribution. We see an object and a possibility distribution immediately forms around it, which defines my perceptual field, but imagining other forms of possibility can easily change the perceptual field. Suppose, for example, I am looking at a
photograph of a man standing on a bridge. I know nothing of the context of the photo. But in my imagination I conjure up different contexts. If I imagine that he is about to be shot and the photograph is taken by one of his executioners, the way I ‘see’ him will be distinct from if I imagine he is a tourist ambling by a historic bridge. Of course perception could be influenced by information about say, age of the man or his achievements which might guide also my attentional focus. But the point here is that even without such cognitive information, the imaginal context can also change perceptual focus.

Technically, to be absorbed in possibility X implies not being absorbed in possibility Y yet the level of absorption in Y may affect the level of absorption in X. Thus, absorption always exists in relation to other possibilities where the degree of absorption in a particular scenario would be viewed as the result of the relative degree of absorption in possibility X given the degree of absorption into competing possibilities Y1, Y2, Y3, etc. If there is a displacement from what is possible to what is not possible, then this could likely be due to perceptual error, but also due to shifts in the imagined context. So the reality value of possibility X is defined by the reality value of alternative possibilities. Such a conception of absorption allows level of absorption to be schematically represented in Fig. 2.

Notice, in Fig. 2, that while the specific value of possibility X (shaded bar) can be similar in both conditions (A and B) yet the level of absorption may differ from situation to situation. The shape of the possibility distribution differs, with a high absorption scenario the distribution being far sharper than in a low absorption scenario. Thus, the particular shape of a specific possibility distribution corresponds directly to the degree of absorption. Assuming that the comparison of alternative possibilities can be represented as a likelihood ratio, degree of absorption could be defined mathematically as degree of support for one possibility against the others. Support then could range from zero to an indefinitely large amount; greater values denoting greater degree of support/absorption. The scale is arbitrary but subjectively meaningful. The support/absorption function for a multinomial distribution would take the form: \( S(q) = \sum_{i=1}^{s} a_i \ln p_i(q) \) where \( S \) is support function, \( a \) the number of possibilities, \( p(q) \) the probability value for the \( i \)th of \( s \) classes (Edwards, 1972).

3.5. Meta-cognitive absorption in different realities

Sense of reality at any moment for any project then is defined by the maximum possibility distribution. It follows that one could be absorbed in two maximum possibilities while still perceiving only one reality, since an absorption in a maximum possibility is a combination of available alternative possibilities and my current project in the world. My project is always in the process of becoming and so the object(s) or event(s) toward which it is directed are also in the process of becoming. Since, at any one time an object may have two or more alternative equally likely possibilities, so I could be equally absorbed in the possibilities. Also, a maximum possibility distribution, and a sense of reality can exist for something totally unrelated to information coming through the senses, because an imminent attribute could have a possibility value even though it is not real. A possibility distribution could for instance involve a sense of reality towards the idea of invisible contaminants on a hand, which might be unrelated to actual perception.

A visibly clean object could become dirty if touched or knocked over in the dust, but these possibilities can also relate to the past. It could also have been dirty, or dirty and not washed properly
even whilst not appearing so. The fact that I do not see any dirt does not invalidate the sense of reality that it could be dirty. As we noted physical “thereness” is not a criteria for sense of reality and anyway our complete physical scene is always partly inferred. So it would be feasible for me to, at the same time, know that a door is locked but at the same time entertain the possibility that it might not be and accord both a “sense of reality.” Or to feel on the one hand I have my hat and gloves in my hand, but to feel a strong sense on the other hand that they could not be there but left behind in a café. Entertaining competing possible worlds at the same time is entirely possible and even in some situations desirable. The problem is the degree of absorption in possible worlds. Although there are several possible worlds, there is only one pre-cognitive reality for any given project. But the same reality can spawn distinct and contrasting possibility distributions. Absorption in this case is not a question of perceptual fit, but of how my project, by my self-world relation, maintains a remotely possible world in preference to a more possible world with better perceptual fit. Although we can be conscious of the imaginary part of a possibility and consciously know that we are living ‘as if’ or seeing ‘as if’ something is there, in a more absorbed state, the metaphorical stance may be forgotten and we become confused as to the reality value of the imaginal possibilities. We can consider three distinct degrees of absorption: (1) detachment—an attitude of intellectual curiosity; (2) a metaphorical stance—acting “as if”; (3) living “as if”—complete absorption.

In my current writing project, I may consider the lamp in front of me has several possibilities. It could change angle, go off, flutter, perhaps change colour slightly, it could even perhaps explode, in all of which it would maintain its perceptual fit as a lamp. However, if it started flying around the room, my perception of it, as a lamp, would be very disrupted. As a consequence, I would likely in the process revise my projects towards it and my other self-world horizons would change dramatically. Supposing, however, I felt that the lamp which performed all the normal functions of a lamp, could at the same time also be a latent bird. So that the light bulb was its eye, the stem its neck, the position its perch. In this circumstance, all the normal features of the lamp would stay intact but with the additional possibility that they might develop into bird features. Now in some sense my attitude towards the lamp and its operation would retain the possibilities and perceptual fit of the lamp and I would treat the lamp as a lamp. If its bulb fails, I replace it, I change its height or position for better light, but at the same time I would act towards it as a bird, occasionally stroking it, talking to it, making it more comfortable. I am not at all surprised if the lamp squawks or flies around the room, as well as shining light on the table. Am I treating a lamp “as if” it were a bird, or am I treating a bird “as if” it were a lamp? Both positions could be supported by appeal to the same real features. I could point to the switch or the metal cover of the lamp and without denying anything about their perceived properties, I could consider them bird-like. Saying in the cognitive sense that I have attributed bird features to what is really a lamp, is to add in an unhelpful layer of cognitive process which does not reflect the seemless way in which I alternate and integrate the two possible forms of the lamp (one near, the other remote) within the same reality. In fact, “seeing” the same physical reality is at the root of the two distinct (bird/lamp) possibilities, and only because they both “fit” real “seen” features could they be held simultaneously to both be possibilities. Producing facts for example about birds is more likely to fuel my lamp-as-bird possibilities since the reality of birds or lamps is not in question and perceived reality, as noted, is the starting point for both competing distributions. If the lamp were to physically mutate into a chair, the chair would no longer be seen either as a lamp or a bird. It is only, in this instance, by chang-
ing my degree of absorption in imagined possibilities that I am likely to change my lamp-as-bird possibility.

3.6. Pre-cognitive, cognitive, and meta-cognitive domains and the imagination

There is then a pre-cognitive, meta-cognitive, and a cognitive aspect to consciousness. At a pre-cognitive level I need a taken for granted sense of background possibility and reality in order to even think further. But in a cognitive sense the work is never finished. In my further inspection and seeing of real objects I am always consciously jostling local possibilities. Is it this form, is it that form? The pre-cognitive aspects of consciousness are the givens by which I know I am conscious and through which I consciously realize my projects. The world is always there, in front of me, and beyond me. There is space and time, distance, and other than me which in turn defines me and my relational unit with the world. Senses obviously function as senses, once sense of reality is established. Details are seen empirically and reported on, and clearly may reflect back to cognitive decision making. At a meta-cognitive level, I may be able to consciously detach myself from one sense of reality by creating imaginary possibilities and meta-cognitively jostling these possibilities to create several senses of reality at the same time. Hence a person could legitimately be absorbed in two possible worlds at the same time, as for example, in states of dissociation, or flip alternately from one to the other, with a very small perceived change in context. However, if there is a pathological dissociation from reality, it may not be a problem of perception but of absorption.

So why would people construct and absorb themselves in different competing possibility distributions? It seems compelling, personal and cultural narratives may fuel the necessity to find alternatives, and fill up a self-created possibility space.

3.7. How “believed-in” imaginings become “lived-in”

A good case illustration of the process of lived-in imagination is hypnosis. In hypnotic suggestion, the person is led up to believe in a story line and to respond and feel appropriately. The induction techniques restrict the senses, and direct attentional and sensory focus to internal experience, and then guide exploration of this internal experience from beyond the person’s experience, so positioning the person as a passive recipient of possible experience.

Several authors have reported that a hypnotically induced image can be as vivid as a real one (e.g., Bryant & Mallard, 2003) and invoke similar physiological reactions (e.g., Kosslyn, Thompson, Costantini-Ferrando, Alpert, & Spiegel, 2000). In hypnosis, sense of reality is enhanced by the participant’s ability to impose familiar and personally meaningful attributes on suggestions. Elevated hypnotizability is associated with increased levels of absorption, and other traits and cognitive styles (Bryant & Mallard, 2003). Heaps and Nash (1999) found a close association between imagination inflation and hypnotic suggestibility and dissociativity. Lynn, Kirsch, and Rhue (1996) note that hypnosis depends more on clients’ ability to absorb themselves in suggestions and personalize suggestions through imaginative and dissociative abilities than on induction technique or trance-like states. The inductive narrative and procedure works best however if it is familiar and culturally credible in order to be trusted and believed-in. McGuire, Adams, Junginger, Burright, and Donovick (2001), for example, reported that in a sample of people with delusional beliefs, cultural familiarity with the context of delusional narratives mediated estimates of
their probability. Green and Brock (2000) highlight the importance of the transportation quality of a narrative to influence belief. Transportation requires imagery, affect and attention, and is unaffected by whether a story is labeled as fact or fiction. As several authors have pointed out, the absorption in hypnosis loses its metaphorical ‘as if’ qualities and becomes a lived-in experience.

But people under hypnosis often report a metacognitive aspect as part of the experience. They may be able to observe and report on their sensory state (e.g., hidden observer technique). There can also be an awareness of the environment and of the hypnotic illusion/delusion. The experience of hypnosis then does not change perception and can be most parsimoniously explained as a way of modifying degrees of absorption in imagined possibilities. This experience is not far removed from mime or magical illusion where a magician’s patter and mis-direction or a mime’s actions lead us to believe that what is not there is real, since the actions or patter leave us no alternative but to believe so, even in the absence of proof. In the words of Kay (2001), the expert magician seeks to deceive the mind rather than the eye. In both mime and magic, however, the spectator can be aware of the environment and of the illusion and may be aware that they are aware of an illusion but content to be absorbed in it since the metaphorical ‘as if’ is maintained.

Imaginary beliefs in order to be lived-in as well as believed in must somehow be convincingly placed in the world. de Rivera and Sarbin (1998) have suggested that the background for such beliefs must be a cultural framework. The lived-in world must have a familiar past and a future, and an ecologically coherent history which creates a current environment and a future horizon.

If we go back to self-perception itself, part of knowing I am in the here and now in my current environment is a knowledge of how I got here, what is beyond here, what is inside, outside, what is me/not me. Without all these bearings, I would not feel comfortably here. By and large I can give a credible account of myself and my surroundings, how I arrived, my intentions, how I intend to carry out my projects and what at least some of the consequences of my acting in the current environment would be. It is when this narrative about our immediate environment is temporarily supplemented with a more remote but convincing one that we ‘knowingly’ see illusions. We act ‘as if’ they were real, even though we may know differently because to question the reality of an illusion puts in question our normal way of arriving at the real, and so it becomes normal to accept two competing narratives with a meta-cognitive over-rider that our sense of reality has been tricked.

Sense of reality can change then not only due to problems of perceptual “fit” in either stimuli or consequences but also to absorption in a possible world through transportation by an imaginary narrative. Furthermore, such absorption is a logical consequence of being led up to see competing alternatives as less likely either by experience or narrative. It follows then, in the evaluation and understanding, of altered states of consciousness that the background distribution of other possible states should also be explored. The cognitive tendency has been to assume that in states of delusion or hallucination, data gathering or perceptual processing is biased (e.g., Garety & Freeman, 1999), whereas, as we have seen, it may be an imaginary possibility not perception which maintains a distorted sense of reality. In this case what might be required is a therapy to change parameters of the imagination. This would include operationalizing a possibility distribution, and manipulating alternatives on the margins of consciousness in order to shift absorption through proposing a narrative context to introduce new credible alternatives. Meta-cognitively the imagination can challenge sense of reality providing it can give a coherent and detailed story of the historical, spatial, biographic, material context necessary for an alternative possibility to
generate a sense of reality. For example, if I just stated that the pen I’m holding is really a microphone, there would probably be little shift in the distribution centered around the maximum possibility that the pen is simply an instrument for writing. If, however, I embellished the story with details of its past, present and future life as a microphone accompanied by my acting towards it as a microphone, the possibility shift might be more marked. The story would require spatial and temporal depth plus a repositioning of my project towards the pen in order to for me to be better absorbed in the pen-as-microphone sense of reality.

The clinical message here is simply that when people enter states of dissociation and appear absorbed in unreality, they may not be suffering from distortions of reality but from a meta-cognitive absorption in imagined possibilities. In this case, attempting perceptual “fit” through encouraging reality testing or information seeking is inappropriate. As an example, people with obsessional contamination fears can be convinced of the existence of “unseen” dirt, despite the presence of an intact and accurate perceptual system which “sees” no dirt. Further exploration reveals absorption on the basis of a personally convincing narrative in the possibility of what might be there despite proof to the contrary. The therapeutic approach proposed here is to work with the client constructing alternative imaginary scenarios in an attempt to dislodge the maximum possibility from the bottom (i.e., margins) upwards (O’Connor & Robillard, 1999). A cognitive focus on improving perception of reality testing will not be helpful if reality is not the problem.

4. Conclusion

The current article has drawn on previous philosophical and psychological accounts of the structure of consciousness, plus clinical observation to construct a possibilistic model of the imagination. In this model, the defining characteristic of perception is possibility, possible use, possible form, and possible events. Sense of reality results from absorption in a maximum possibility above other alternative possibilities. The shape of the possibilistic distribution depends on intentional context and projects towards the world. But the possibilistic space is always creatively constructed in between what is and what could be. The maximum focus requires the margins of consciousness to give it focus. The dynamic between core and margins is not dissimilar to Baars (1997) notion of the tension between conscious and unconscious cognitive processes, with both forming a “contrastive” context with the same content. Baars (1997) notes how discrepancies between conscious and unconscious can lead the unconscious to become the focus of the global theatre workspace (GWS). The margins can change the focus, but the notion of a possibility distribution makes such dynamic change a key property of the workspace not just a product of a discontinuity. Indeed the possibility distribution ensures by its nature a fluid uneventful transition of conscious focus, which is so not apparent in Baars conception of the GWS.

The perceptual “fit” of the maximum possibility with sense information is the normal way that maximum possibility is confirmed and follows the hierarchical cognitive processes present in the GWS. However, in order to function, cognitive explanations require the pre-cognitive architecture of a world-as-given. One where there are “real” objects, distances, things, and events beyond me and around me, and which afford me a real self-world relation. The pre-cognitive architecture is a relational consciousness which always takes the form of a gradient from conscious core to unconscious margins. This context has a geographical and dialectical dimension. Geographically, every
sharp focus is surrounded by a field of consciousness and this focus becomes less and less acute towards the margins (see Figs. 1A and B). But dialectically, what is seen is seen in a context of what is not there. More specifically, the space between the seen and unseen becomes a possibility space of what is about to be (Fig. 1C). Hence the need for imagination as a creative faculty which fills up the possibility space by “imagining” what is not there. Perception has no such creativity. It is this meta-cognitive possibility gap which provides the leeway for detachment and absorption in reality. Although there is only one world or “reality structure,” our meta-cognitive ability permits us to be absorbed in several possible worlds at the same time, and experience a sense of reality in relation to worlds which do not (and which we sometimes know) do not exist but which nonetheless by their non-existence inform perception. The same perceived attributes may be seen inside distinct and possibly opposing intentional contexts and projects so feeding distinct senses of reality.

Intricately wound up with absorption is the intent of the person as personified by projects, positioning and doings in the world. This link is inescapable and nothing can be seen or imagined unless the person acts towards it to bring out its promise and possibility. Hence change in intentional context can change possibilistic context and vice versa.

The possibilistic model then proposes that sense of reality can be changed from the margins upwards, as well as by perceptual “fit” downwards, and that this explains the easy co-existence of perception and imagination, and indeed the very ability to shift continuously over discontinuous environmental structures. Perceptual and imaginal illusions can lead us to see conflicting or paradoxical information because narrative cues create a compelling competing context to perception. It is normal on such occasions to ‘see’ imaginary events and hence meta-cognitively experience conflicting senses of reality, whilst however “knowing” there is only one pre-cognitive reality.

It may even be desirable on occasion to be metaphorically absorbed in two senses of reality, for example as a spectator of a magician’s or a mime’s illusion. We “suspend our disbelief” in reality on such occasions. But, we may be transported by a convincing visual or verbal narrative to construct a maximum possibility distribution and believe in it accordingly, without in any way compromising our wider perceptual sense of what is “really” there.

Meta-cognitively the person can adopt one of three degrees of absorption with respect to possibility: detached; metaphorical; or living-as. The problem, clinically speaking, occurs when the metaphorical stance is dropped and the temporarily “believed-in” becomes permanently “lived-in.” Psychopathological distortions of reality where the person experiences a state of dissociation, and appears absorbed in unreality, may not signal cognitive distortions, but rather a meta-cognitive shift of the imagination. Absorption occurs on the basis of a credible story line which promotes remote possibilities not as alternatives to, but as extensions of factual reality. Facts are unlikely to influence absorption. So this sense of unreality may be alleviated more by changing the imagination than attempting to correct faulty perceptions.

References