

## Metaphysics of Design: Intuition and the Unconscious

*André Nusselder*

“To call up the past in the form of an image, we must be able to withdraw ourselves from the action of the moment, we must have the power to value the useless, we must have the will to dream. Man alone is capable of such an effort” (Bergson 2004, 94 – abbreviated as MM)

### Intuitive design, unconscious design

A golden rule for the design of technological appliances is that the interface should be ‘intuitive’.

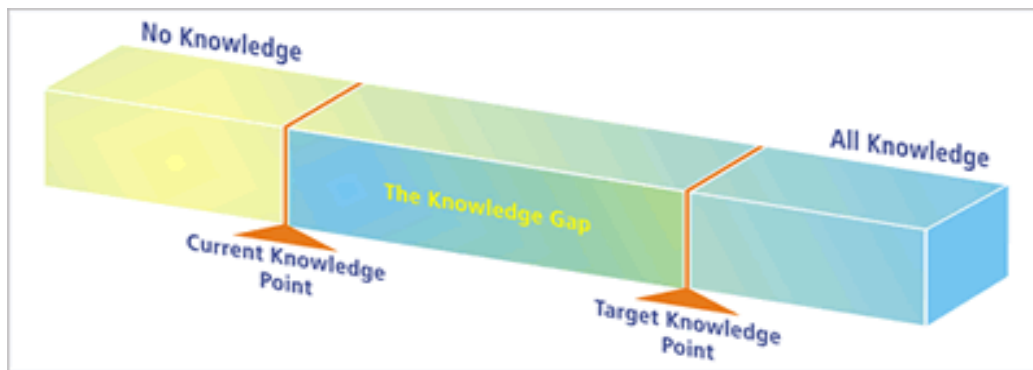


The user should be able to perform the required tasks without a need for conscious reflection. Driving a car at 70 miles per hour and simultaneously figuring out how to operate your car radio is not a convenient thing to do. And users that install a new application on their Iphone will not be too charmed by it when they realize that their knowledge is too limited in order to use it quickly and easily.

According to a standard dictionary (Oxford 1989, p. 660) intuition is the “(power of) understanding things ... immediately, without the need for conscious reasoning or study”.

However, it is not the interface that is intuitive. Intuition is a mode of the user who, when

the design is successful, intuitively understands what to do. So the icon of a trashcan on my desktop is more or less intuitive due to its similarities with a real world trashcan. The principle of intuitive design is the effective use of such similarities, of addressing habits and cognitive functions that we already have acquired in the past.



A design is intuitive when there is no knowledge gap between what the user knows and what is required to successfully operate the interface. Either the user already possesses this knowledge, or the interface is helping the user to bridge the gap in such a way that he is unaware of it - and trained in a way that seems natural. These are the two conditions of an intuitive interface.

Intuition in interface design shows that this kind of design does not so much address the conscious self, that is: the self of conscious symbolic reasoning. There is something else in ourselves that should perform the job or possess the required knowledge or skills.

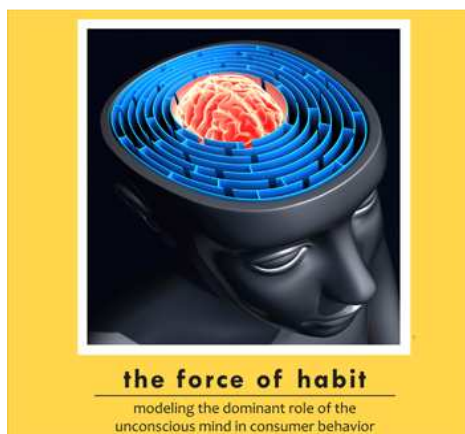
This 'other' in ourselves is what we call the unconscious, and the principle is to 'design for the unconscious mind'. The appliance of unconscious knowledge enhances the 'usability' of the product.

Because of our unconscious involvement with technological design it is important to ask ourselves what actually is at stake when we use notions like intuition and the unconscious,

and consider the necessity of critical reflection upon them. I will distinguish three different understandings of the unconscious: the Freudian unconscious, the cognitive unconscious, and the 'philosophical unconscious' (to be found in the thinking of Bergson and Deleuze that is central to my story).

### **The unconscious**

Following neurological research of the brain, psychologists nowadays mostly conceptualize the role of the unconscious mind in the performance of useful activities and of decision making. In the last two decades the scientific trend is to consider the unconscious as the information processing activities of the brain that take place outside conscious awareness (Dijksterhuis and Nordgren 2006). I call this the cognitive unconscious. So unconscious 'knowledge' or 'thought' helps us doing a task or making a decision without us being aware of it; the brain unconsciously processes information for us.



This unconscious mind is supposed to govern the decisions that we make. Also, we are often not aware that we are being steered: there is very little effort ('priming') needed for steering

our thoughts and behaviors.<sup>1</sup> A result is that the free will, which we cherish so much, is considered an illusion. This is the way Daniel Wegner puts it in his book *The illusion of Conscious Will*: “the experience of consciously willing an action is not a direct indication that the conscious thought has caused the action.”<sup>2</sup> John Bargh, professor in social psychology at Yale and one of the leading researchers on automaticity, therefore resumed the state of affairs in his discipline under the title ‘The Unbearable Automaticity of Being’ (American Psychologist 1999).



[highway hypnosis; hypnotic dissociation]

In my paper I will use another tradition in thinking regarding the unconscious, not the psychoanalytic one, but the tradition that goes from Bergson to Deleuze. This philosophy I will bring into action against theories of automaticity that lead interface design. For automatic processes are investigated primarily in relation to skill acquisition and perceptual analysis (Bargh and Chartrand 1999, 463). Bergson’s and Deleuze’s ‘philosophy of the unconscious’ does not only focus on memory in so far as it is useful in order to guide action or perform a task. Although Bergson acknowledges that the law of action is actually the law

---

<sup>1</sup> Popularized in a book like Malcolm Gladwell’s *Blink: The Power of Thinking Without Thinking* (2005)

<sup>2</sup> Daniel Wegner, *The illusion of Conscious Will*, MIT Press 2005, p. 2.

of life itself, he wants to think another kind of memory: “this memory itself, with the totality of the past, is continually pressing forward, so as to insert the largest possible part of itself into the present action” (MM 219).



[videostill: the emotional memory picture (Nina Vöge)]

The ‘philosophy of the unconscious’ seeks to think memory and the unconscious ‘beyond usability’. For Deleuze there actually seems to be a connection between the focus on skill acquisition and repression. For such a ‘useful’ understanding of the unconscious results when is admitted “that a full-scale repression originating in the present and an “attention to life” are necessary to ward off useless or dangerous recollections” (Deleuze 1991, 72 – abbreviated as B). What Deleuze calls the ‘psychological unconscious’ results from repression



And what is at stake in his philosophy is to think the *unconscious without repression*: “anything but Freud” (Kerlake 2007, 1). So what he names the ‘ontological unconscious’ “is pure, virtual, impassive, inactive, *in itself*” (B 71). This unconscious is the transcendental condition of the appearance of reality at all, for it is our ability to *synthesize time*, to connect past and present in a current perception, which defines our experience of reality. For the way in which we imagine, explain, and use time mediates all our perceptions of ourselves and the world and is hence constitutive of our identity and the culture we live in (Rifkin 1987, p. 1). It is this transcendental condition that interests Deleuze in Bergson. “Deleuze takes Bergson’s discovery as a challenge to transcendental philosophy: from now on, rather than focusing on consciousness, the transcendental philosopher must explore syntheses of time which are unconscious” (Kerlake 2007, 5).

The past is the unconscious, our virtual condition. “The past is therefore the in-itself, the unconscious, or more precisely, as Bergson says, the *virtual*” (Deleuze 2002, 29).

## Duration

The merit of Bergson's major work *Matter and Memory* is to consider the past as the a-priori condition of perception at all, that is, as a transcendental memory (Deleuze 1994, 140). For Bergson there is no perception without memory. "It is indisputable that the basis of real, and so to speak instantaneous, intuition, on which our perception of the external world is developed, is a small matter compared with all that memory adds to it" (MM 70). The images of memory constantly mingle with our perception of the present (MM 70). His important lesson is that there is nothing that is instantaneous.



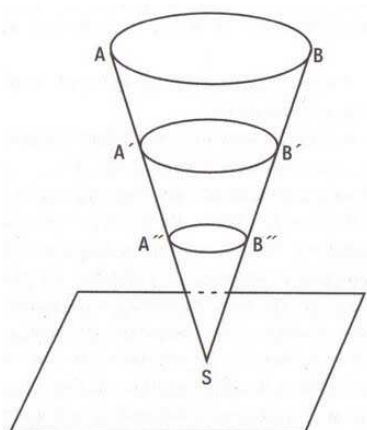
"there is for us nothing that is instantaneous. In all that goes by that name there is already some work of our memory, and consequently of our consciousness, which prolongs into each other, so as to grasp them in one relatively simple intuition, an endless number of moments of an endlessly divisible time" (MM 76).

This perspective, thinking from past to present, may seem counter-intuitive for us. However, this strong fascination for the past as the actual site of being was characteristic of the late nineteenth century (for instance in the notion of eternal return in Nietzsche's work). Not the present 'contains' Being, but the past. For Bergson, Deleuze says, the past "is the in-itself of being" (B 55). The present is than thought of as pure becoming (B 55). "At the limit, the

ordinary determinations are reversed: of the present, we must say at every instant that it “was”, and of the past, that it “is”, that is eternally, for all time. This is the difference in kind between the past and the present” (B 55).

Deleuze stresses that for Bergson all our past coexists with each present (B 59). Duration, the continuous flow of reality, is virtual coexistence of past and present (B 60). Bergson gives an illuminating example. It is odd, he states, that beyond the walls of the room that we are in we do acknowledge the existence of an unperceived world stretching out in space. Nevertheless, we have difficulty in acknowledging an unperceived world in time. For Bergson, all of the past virtually coexist with the present. “In truth, the adherence of this memory to our present condition is exactly comparable to the adherence of unperceived objects to those object which we perceive; and *the unconscious* plays in each case a similar part” (MM 187). Like things outside this room form a chain (first comes the building, then the streets, than the city etc.), memories also form a chain. “But, if we look at the matter nearly, we shall see that our memories form a chain of the same kind, and that our character, always present in all our decisions, is indeed the actual *synthesis* [my italics] of all our past states. In this epitomized form our previous psychical life exists for us even more than the external world, of which we never perceive more than a very small part, whereas on the contrary we use the whole of our lived experience” (MM 188).





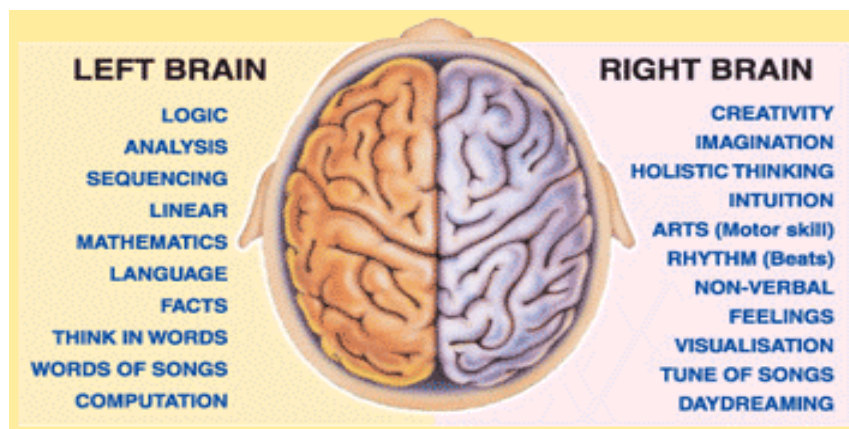
With the figure of the inverted cone Bergson illustrates how all of the past is virtually present, but that in our present actions only one 'pinpoint' of it (of the whole of recollection) is working (the point S). The "present itself is only most contracted level of the past" (B 74). Being on the upper level of the cone (the circle AB) would mean being immersed in the virtual: dreaming, contemplation.

As Deleuze stresses, this should teach us the crucial philosophical lesson not to confuse Being with being-present (B 55). Intuition is the method for doing so; it is a 'thinking in duration'.

### **Two forms of memory**

My initial question was how it is possible that we can have an intuitive understanding of a certain interface. The basic answer is that this is possible because of the 'information' (Bergson calls this 'images') we have acquired in the past. The condition of possibility is us being creatures with a past. Memory is therefore crucial for understanding intuition and intuitive interfaces. "The bodily memory, made up of the sum of the sensori-motor systems

organized by habit, is then a quasi-instantaneous memory to which the true memory of the past serves as base” (MM 197)



[not analyzing subjectivity in terms of brain only (left and right): but brain in relation to virtuality of the past. Subversion of materialism of brain research. Not: past perceptions are it in the brain, but brain is in them (MM 196)]

In *Matter and Memory* Bergson distinguishes two forms of memory: one that *repeats*, and one that *imagines* (MM 93). The practical memory only addresses what is useful from the past in order to successfully execute a present task. This is a memory replying to demands; it is habit rather than memory (MM 195). It focuses on action, and the past as part of my present is lived and acted rather than represented (MM 91).



As such it follows the fundamental law of life which is the law of action (MM 194). It is memory as a sort of automatism – and we may add that it is memory as investigated in current theories of automaticity. Bergson gives the example of a dog welcoming his master, barking and wagging his tail. The dog does not retrieve past images for the current perception, but rather mechanically reacts due to an attitude which has been gradually built up (MM 93). John A. Bargh speaks of such automatic processes as ““mental butlers” who know our tendencies and preferences so well that they anticipate and take care of them for us, without having to be asked” (Bargh and Chartrand 1999, 476). Although for Bergson even an animal can have vague images of the past that overflow into present perception, those images do not interest the animal enough to detach it from the present. The virtuality of its existence remains undisclosed due to its focus on action in the present.

The connection between perception and recollection is usually limited due to the fundamental law of action. Nevertheless, we can also experience a more fundamental being in time (through intuition). This is the shift of perspective that Bergsonian philosophy seeks to achieve. The question of subject and object should be put in terms of time rather than of space [MM 77]. We, being dominated by the worldview of calculus of science and technology, think all of ourselves and of our world in terms of space. In this mathematical space everything has its position and can be calculated and analyzed. What we forget, thus Bergson is the ‘other’ dimension that penetrates this entire world, namely time.

Even memory is in the scientific view considered in terms of space: as a gigantic storage space from which we retrieve what is useful for our current actions.



This presupposes a static conception of time: the past is gone and fixed. For Bergson, however, the past is not a dimension of time separated from the present. For him the past is dynamic, is something that is inseparable from the present – as the figure of the cone and the ontological primacy of the past illustrate. Here his views align with current cognitive research on memory that does not consider memory as a chest of drawers where information is stored in the drawers that can be opened in order to see what is in there (Modell 1996). Memory represents the past inscriptions in consistency with our current beliefs, goals and desires (Schacter and Scarry, 1998; Lamm, 1993). Memory is transcriptive and an *active* process of construction (Edelman, 1992; Freeman, 1995).

### **Intuition and Imagination**

What is at stake in Bergson's philosophy is intuition as a 'method of thinking in duration', a method that does not separate the world into all sorts of analyzable parts. Intuition is a comprehensive synthesis of past and present, memory and perception. It is an attempt to enlarge consciousness, to include the unconscious (Lawlor 2003, 63).



Andreï Tarkovski, *Stalker*

[in Tarkovski's Zone the conception of place seems to be constantly evolving, ever-adapting to the circumstances of one-self]

To use one of Bergson's examples: an extensive description and analysis of a character in a novel can never reach the depth and meaning of a sort of mental identification with the hero himself, in which the "character would be given to me all at once, in its entirety" (Bergson 2007, 3). Such identification creates a lively image of the hero because of all the personal memory-images associated to it. In another example Bergson stresses the difference between seeing a picture of a city and the actual experience of walking in it. Analysis, or the creation of concepts through the divisions of points of view, can only ever give us a model of the city through a construction of photographs taken from every possible point of view, yet it can never give us the dimensional value of walking in the city itself. Intuition would be more similar to the actual experience of being there. "By intuition is meant the kind of intellectual sympathy by which one places oneself within an object in order to coincide with what is unique in it and consequently inexpressible" (Bergson 2007, 5).

It is clear then that Bergson highly appreciates the imaginative form of memory, which "contracts into a single intuition many moments of duration" (MM 80). It contracts into a present perception all of the colored and lively images of the past that are associated with

the present perception, also those that seem useless and meaningless. For Bergson, such a mental filling in of perception that is not restricted to habits, but which is spontaneous, creative, capricious and personal, is what provides an intuition.

It is this kind of memory, the “personal memory-images which pictures all past events with their outline, their color and their place in time” (MM 102), which is lost in theories of automaticity. John Bargh concludes his article by stating that what all psychological experiments have shown is that a mental representation performs its function independently of the way it is being activated, conscious or automatically. So there is no real difference in the motivational state whether we want to achieve a specific task because of a conscious intention to do so, or when the achievement goal was automatically activated by the environment, or even primed. “Mental representations designed to perform a certain function will perform that function once activated, regardless of where the activation comes from. The representation does not “care” about the source of the activation; it is blind to it and has no “memory” about it that might cause it to behave differently depending on the particular source. The activated mental representation is like a button being pushed” (Bargh and Chartrand 1999, 476).

So where most of the design of intuitive interfaces seems to be directed by principles of automaticity, there may also be a design that is more compatible with Bergson’s perspective, and which would focus more on the ‘imaginative unconscious’. Maybe an example can be found in the interfaces designed to re-enact history, and in which the representation seeks to ‘immerse’ the viewer in the historical situation. A transition which would only be successful when the whole of the imaginative life and of the subjects

historical knowledge is addressed, so as to give the viewer an 'intuition' of what happened and not only represent it for him in all sorts of analyzable parts.



Counter-Strike re-enacted

[ another manner of actualizing the virtual  
– not of virtual past but of virtual game]

Another example might be mobile and location based learning, such as a mobile city game that was developed by the Dutch Waag Society in Amsterdam in 2005.



In this game, small groups of pupils, aged 12 to 14, playfully acquire specific historical knowledge about the city of Amsterdam. With the help of the Internet, smart phones and GPS technology, Amsterdam changes into a medieval playing-field (Raessens 2007). Those

examples may remind us of Bergson's statement that "we shall never reach the past unless we frankly place ourselves within it" (MM 173).<sup>3</sup>

Intuition and the imaginative memory transfer us to the realm of the virtual in a manner that analysis never can. It requires the inversion of senses (not dividing world); vision will have to be harmonized with touch and hearing (Lawlor 2003, 64). Therefore we may ask whether Virtual Reality does not operate with such an intuition, as it does provide the experience of actually walking in a city, being in its model. Virtual reenactment of historical events may illustrate this. Nevertheless, the crucial question is that of symbolic mediation. Whereas Bergson seeks to develop metaphysics as "the science which claims to dispense with all symbols" (Bergson 2007, 6), Virtual Reality cannot function without symbolic mediation – while at the same time the goal of the interface design in VR is to achieve greater immediacy in the experience of computing, to develop 'interfaceless interfaces' that we do not experience anymore as a medium but as direct contact with the thing itself (Bolter and Grusin 2000, 23).

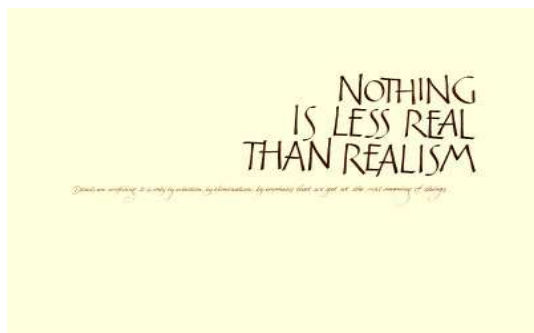
### **The virtual**

Using all sorts of learned sensory-motor reactions and schemes as a manner to make a design intuitive is, as mentioned, a limited way of mobilizing the unconscious. Actually, for Deleuze such a limited way of 'information retrieval' is a reduction of the *virtual* of the past to the *possible*.

---

<sup>3</sup> Huizinga (1872-1945), a Dutch historian, stands for an emphatic and intuitive approach to history : the feeling of an immediate contact with the past, a sensation as deep as the purest enjoyment of the Arts... you touch the essence of things, the experience of Truth through history.





[ realism: thinking in terms of realization of the possible]

For him this is the crucial philosophical difference, as many scientists “fall into a confusion of the virtual and the possible” (B 97). This seems to align with Bergson’s critique that many psychologists do not make a difference in kind between the two sorts of memory; they “see in pure memory only a weakened perception, an assembly of nascent sensations” (MM 179).

For Deleuze, the possible is characterized by two essential rules, *resemblance* (of the real to the possible) and *limitation*. Limitation means that “some possibles are supposed to be repulsed or thwarted, while others “pass” into the real” (B 97). The possible only realizes the virtual in a limited manner. Many other possibilities are not realized; “realization involves a limitation” (B 97). Also the second rule of resemblance implies a limitation of the real, which is supposed to be “in the image of the possible that it realizes” (B 97). By using the term ‘the possible’ we think that what is there is what was possible, and that there is no beyond.

At stake in the philosophy of Bergson and Deleuze is exactly the articulation of a thought that stresses the beyond of the possible: being should not be reduced to being-present.

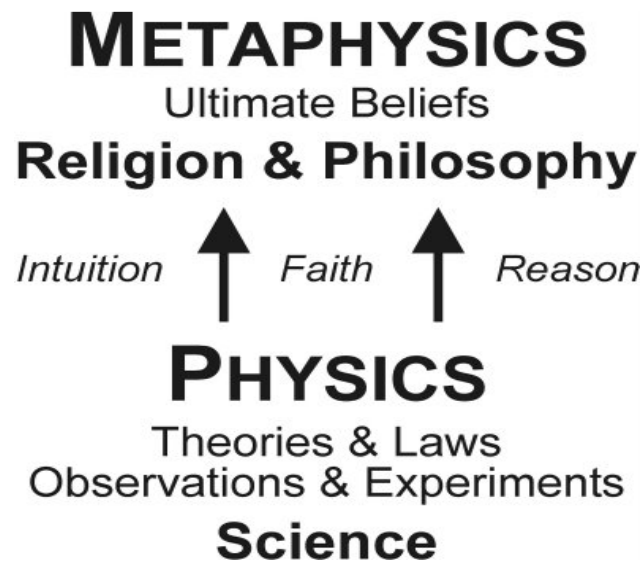
And in order to articulate such a thought they must subvert the categories of Western thought which has, since Aristotle, always thought reality in terms of the unfolding or discovery (a realization) of an underlying substance (God, Reason, Nature) - just as a tree realizes the potencies of the seed. Thinking in terms of the virtual is a rupture with this

defining ontology of Western thought (Levy 1998). Unlike the possible, the virtual does not know of *realization* but of *actualization*. And actualization is not just adding existence to what is already there (as with realization) but it is a new manifestation of a virtual presence. "For, in order to be actualized, the virtual cannot proceed by elimination or limitation, but must *create* its own lines of actualization in positive acts. The reason for this is simple: ... the actual ... does *not* resemble the virtuality that it embodies" (B 97). And: "the rules of actualization are ... those of difference or divergence and creation" (B. 97). Thinking in terms of actualization must break up the straitjacket (the 'repression') of realization, and of all the (ideological) regulations that are attached to it. For instance a notion like 'self-realization' may then emerge as a discursive construct with strict demands (for what do media offer us – or demand from us – in order to realize ourselves?)

The question is what kind of metaphysics is appropriate for thinking our current era, in which science and technology are not just discovering what is there in reality but are starting to create reality themselves.

In marketing terms, creating a slogan in terms of the possible might not be most appropriate way to express the current age. "Making great things possible" (Globe Telecom) or "Discover What's Possible" (Anritsu) might thus better replaced by slogans like "How Big Can You Dream?" (Cadence), "Invent" (Hewlett Packard) or "Imagine" (Samsung). Fujitsu's "The Possibilities are Infinite" is a tricky one.

From the philosophies of Bergson and Deleuze onwards we can continue to think a new, different metaphysics that is required even today. For "science is never "reductionist" but, on the contrary, demands a metaphysics – without which it would remain abstract, deprived of meaning or intuition" (B 116).



## References

Bargh, John A. and Tanya L. Chartrand. 1999. The Unbearable Automaticity of Being.

*American Psychologist* Vol. 54, No. 7, 462-479.

Bergson, Henri. 2004. *Matter and Memory*. Mineola, New York: Dover Publications [MM]

Bergson, Henri. 2007. *An Introduction to Metaphysics*. London: Palgrave.

Bolter, Jay David, and Richard Grusin. 2000. *Remediation: Understanding New Media*.

Cambridge, Mass.: MIT Press.

Deleuze, Gilles. 1991. *Bergsonism*. New York: Zone Books [B]

Deleuze, Gilles. 1994. *Difference and Repetition*. London: Athlone.

Deleuze, Gilles. 2002. *Desert Islands and Other Texts (1953-1974)*. New York: Semiotext(e)

Dijksterhuis, A. and L.F. Nordgren. 2006. A Theory of Unconscious Thought. *Perspectives on Psychological Science* 1, 95-109.

Edelman, G.M. *Bright Air, Brilliant Fire. On the Matter of Mind*. New York: Basic Books, 1992.

Freeman, W.J. 1995. 'Chaos in the brain: Possible roles in biological intelligence'.  
*International Journal of Intelligent Systems* 10, 71-88.

Kerslake, Christian. 2007. *Deleuze and the Unconscious*. London/New York: Continuum.

Lamm, L.J. 1993. *The Idea of the Past: History, Science and Practice in American Psychoanalysis*. New York: New York University Press.

Lawlor, Leonard. 2003. *The Challenge of Bergsonism*. London/New York: Continuum.

Lévy, Pierre. 1998. *Becoming Virtual. Reality in a Digital Age*. New York/London: Plenum Trade.

Modell, A, H. 2006. *Imagination and the Meaningful Brain*. Cambridge, Ma: MIT Press.

*Oxford English Dictionary*. 1989. Second edition. Prepared by J.A.Simpson and E.S.C. Weiner.  
Oxford: Clarendon Press (20 volumes).

Raessens, J.F.F. (2007). Playing history. Reflections on mobile and location-based learning. In T. Hug (Ed.), *Didactics of microlearning. Concepts, discourses, and examples* (pp. 200-217).  
Munster: Waxmann Verlag.

Rifkin, J. 1987. *Time Wars*. New York: Holt.

Schacter, D. and Scarry, E. (eds). 1998. *Memory, Brain, and Belief*. Cambridge, MA: Harvard University Press.