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The Wandering Mind

What the Brain Does When You are Not Looking

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It is commonplace to consider mind-wandering as a secondary, useless activity of our mind to which we guiltily abandon ourselves for laziness or distraction. The aim of the book is to show that, far from being the slaves of a blamable indolence, every time we are absent-minded or lost in thought, we are involved in an essential mental activity. Not only is mind-wandering a fundamental component of our life (whether we want it or not, our mind meanders at night and for half the time during the day), but it also has a constructive and adaptive function that is crucial for facing the contingencies of a complex world. Without a wandering mind we would be stuck in the present, unable to invent stories and to escape the here and now through mental time travel. Mind-wandering takes us into unexplored regions of the unconscious mind that are inaccessible to the conscious will. Not only does this capacity allows us to build and consolidate the sense of our personality but it also helps to multiply our self into imagined possible selves and to expand the range of our experience. Creativity, too, lies in the randomness of mind-wandering, which makes possible unpredictable connections of ideas.

The book therefore takes into account different forms of mind-wandering. Mental traveling depends on memory, which provides the material that feeds our imagination. Memory is so important to mind-wandering that some syndromes, such as amnesia and hyperthymesia, can impair the ability to mind-travel. While the amnesic mind, having no access to the past, has nothing to nourish its mental meandering (as the author says, it has 'lost the luxury of nostalgia', p. 24), a mind that remembers everything, on the other hand, is unable to see relations, to make connections and to form abstractions. A mind of this kind (which reminds us of Borges's famous character, Funes) can not only never indulge in distraction, but is also incapable of delving into a wandering mental activity as simple as reading a novel, as each situation is conceived in such precise details that it's impossible to make sense of the totality.

In other words, for mind-wandering, remembering is as important as forgetfulness. Mental time travels into the past and future are possible precisely

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because memory is not recording, and remembering is not playing back a tape. There are holes and gaps in our memories, and that is what allows us to reinvent our past and to make our memories available for the imagination of future scenarios. Not only is memory the source of mind-wandering but remembering itself is a form of mind-wandering into the past, as in the case of the so-called *mémoire involontaire.* One may ask what would be of mind-wandering if human memory became what is envisaged in one of the episodes of the British TV series *Black Mirror* (S01E03: *The Entire History of You*), where people's brains are provided with an implant allowing them to record and to replay as needed their entire past.

Another form of mental travel analyzed in the book is mind-reading, which takes us into the minds of the others (including animals) to see what they are thinking or feeling. This capacity, seemingly 'telepathic', is more likely based on the reception of some subtle cues we may not be aware of but that we still receive through the senses. A capacity of this kind (the same that Proust considered as essential for the artist) requires the activation of a different level of attention, which normally turns on when we are distracted from what other people are saying. Words and conversations then become like background noise and we start involuntarily paying attention to some small details – gestures, expressions, voice tones – which we don't normally notice we are focused on the understanding of verbal communication. That's maybe the real reason why we normally get angry with people who are lost in thoughts while we are speaking!

Mind-wandering can be under our conscious control (for instance when we deliberately linger on the reply of past events or on the imagination of future scenarios), or can be something in between conscious and unconscious (as happens when we daydream). But mind-wandering can also occur in a completely involuntary way, like in the case of dreams and hallucinations, which the book extensively takes into account.

Dreams are forms of spontaneous mind-wandering, consisting of bizarre combinations of fragments of memories. Dreaming therefore relies on memory, but memory of dreams is often poor; normally we don't remember our dreams, unless we wake up while having them. A very interesting question raised by the book is why we forget our dreams. The reason for this is indeed 'something of a mystery, since dreaming activates the hippocampus, which is the hub of the memory system' (p. 113). So why aren't we able to remember our dreams? One may suggest that a way to deal with this paradox is to overturn the question; maybe, instead of examining why we don't remember our dreams, we should ask: do we really forget them? In fact, sometimes it happens, as anybody can easily experience, that the memory of dreams we had at night suddenly re-

surfaces during the day, when we are thinking about something else or are involved in some kind of undemanding task. Occasionally we remember our dreams while returning to bed the following night. From time to time, memory of dreams blurs with real memories, so that we may be in doubt as to whether something really happened or we just dreamt about it. Maybe we don't really forget our dreams: all we lose is the possibility of voluntarily recalling them, as they belong to a level of our mental activity that is totally different from the one involved in our common, conscious life. That could be why we are only aware of the dreams we were having at the moment of waking up: in this case, the ideas in the dream connect with the ideas of our waking life, so that they can be easily recollected.

Hallucinations, too, are produced in the mind out of any conscious control but, differently from dreams, they are not forgotten and are experienced as part of waking life. Hallucinations can be induced by drugs (LSD, opium etc.) but also by sensory isolation. When normal sensory input is removed or reduced, the brain provides its own stimulation, as happens to people held in cells, who experience the 'prisoner's cinema'. Not only are there specific hallucinations related to each sense (auditive, visual, tactile and so on) but also dreams can be regarded as a kind of hallucination produced at night when the sensory world is cut off.

As forms of unconscious and uncontrolled mind-wandering, dreams and hallucinations have traditionally been seen as sources of divine or poetic inspiration, leading up to creative ideas, scientific discoveries and philosophical insights. That was the case with Romantic English poets such as Coleridge, who defined one of his most famous and visionary poems, the *Kubla Khan*, as an attempt to recollect a vision had in dream induced by opium. One may consider whether the dreamlike experience described in a poem as visionary as *L'infinito* by Leopardi can also be read as a case of hallucination (some critics already spoke of auto-hypnosis or self-suggestion) produced by sensory deprivation (the setting of the poem, with the hedge obstructing the view and arousing the imagination is well-known).

A very thought-provoking question raised by the book is whether mind-wandering is unique to humans. Do animals have mental travels? And if they do, what identifies our mind-meandering and distinguishes it from that of other animals? This is indeed a central question in the book, also having a philosophical relevance. The answer proposed by the author is very nuanced and open, and tends to go against the philosophical commonplace according to which animals are stuck in the present, unable to distract themselves from the here and now of their own 'disinhibiting ring', and so 'poor in world'. In fact, according to the author, 'the idea that only humans are able to travel mentally

in time is open to challenge' (p. 144). Not only do some animals (like rats and birds) have the hippocampus, which is the basis of memory as well as the center of the system activated during mental time travels, but also their behavior seems, in some cases, to provide evidence for mind-wandering (a chimp in a zoo collecting stones in advance to later throw them at visitors seems to picture a specific future event; the same could be observed for tool-making industries among apes or for strategic food storage among birds). Plus, some animals seem to have the capacity for dreaming and for mind-reading (dogs show empathy for human beings; the hunted antelope can read the emotions of the chasing lion). Also tactical deception, of which nature offers many examples, is based on the understanding of what other animals are likely to think or see.

The author does not provide a definitive answer to the question whether animals experience mind-wandering. Of course, according to the 'principle of parsimony', also known as Morgan's canon ('in no case may we interpret an action as the outcome of a higher mental faculty, if it can be interpreted as the exercise of one which stands lower in the psychological scale'), all those examples could be easily explained in terms of chance, instinct and habit modified by experience. Nevertheless, the recurrent Darwinian mantra repeated throughout the book ('The difference in mind between man and the higher animals, great as it is, certainly is one of degree and not of kind') prevents the author from staying wedded to the idea of a gap between humans and other species. Even in the case of what seems more distinctively human in terms of mind-wandering – the capacity for sharing imagined events and narratives with others (as Pierre Janet stated, 'narration created humanity') – the challenge is to nuance the difference and to stress the continuity between men and animals. Storytelling has, indeed, evolutionary precedents and derives from play and language. As we all know from the examples of cats and dogs, many animals play – that is to say, engage themselves in activities that often imply pretending and consist in doing something for pure enjoyment rather than for serious purposes. Language, too, is something we have in common with animals; the author endorses the fascinating theory according to which the mechanics of human language derives not so much from animals' vocal calls, which are mostly emotional and instinctive, as from hand gestures and body action, like grasping and grooming, which are more useful to intentionally convey information about events. Not by chance, we still gesture when we speak, and speech in itself can be regarded as a form of gesturing, located within the mouth and involving the movement of tongue, lips and vocal cord. At the end of the day, 'whether the distinctiveness [human storytelling] lies in the internal construction of imagined events, or simply in the telling of them, remains something of a moot point' (p. 96).

Animals may not be able to invent stories or to have creative insights but, far from being specific to humans, mind-wandering proves to be an activity that essentially connects men with other species as well as with the rest of the universe. As a source of creativity, wandering is based on the same unconscious randomness that seems to permeate the entire universe and that has produced events as important as the appearance of life on Earth. In other words, the more we allow our minds to wander (the more open we are to hosting within our minds the uncertainty of the universe itself), the more likely we are to find something new.

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