Memory

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Descartes thought about memory in the distinct contexts of **method**, **metaphysics**, **medicine**, mortality, and morals. Keenly aware of the fallibility and instability of natural corporeal memory, he considered various ways to bypass it or avoid relying on it, but also came to see its importance in understanding and dealing with the **passions** and the union of **mind** and **body**. His account of memory influenced Malebranche and associationist traditions, but was subject to sharp attack from critics who saw it as dangerously materialist and chaotic.

In the *Rules,* Descartes worries that the **intellect** must rely on memory to connect the steps in a reasoning process. But "since memory is weak and unstable, it must be refreshed and strengthened" by a continuous and repeated "movement of **thought**," until the thinker can intuit the whole series of operations, passing over them all "so quickly that memory is left with practically no role to play" (AT X, 409; CSM I, 38) (see **deduction**). Descartes was not attracted to artificial memory techniques, turning instead to **anatomy and physiology** to "explain what **imagination**, memory, etc. consist in" (AT I, 263; CSMK III, 40). In the *Treatise on Man*, Descartes writes that "the effect of memory that seems to me to be most worthy of consideration here is that, without there being any soul present in this **machine**, it can naturally be disposed to imitate all the movements" of real humans (AT XI, 15; Gaukroger 157). So there is genuine memory in soul-less bodies: Descartes is consistent in attributing memory to **animals** (AT IV, 310; CSMK III, 270).

Corporeal ideas are figures traced by animal spirits on the surface of the pineal gland. These occurrent impressions then leave traces "on the internal part of the brain...which is the seat of memory" (AT XI, 176-7; CSM I, 106; Hall 86-7; Gaukroger 149-150). Flowing through the gaps between the tiny fibers of the brain, the spirits enlarge or alter these pores, continually bending and rearranging the fibers and tubes. When the movement of the spirits is stronger, long-lasting, or often repeated, these patterns "are retained there in such a way that by means of them the ideas that existed previously on this gland can be formed again long afterward, without requiring the presence of the objects to which they correspond. And it is in this that Memory consists" (AT XI, 178; CSM I, 107; Gaukroger 150). In this account, all but repeated in the Passions of the Soul (AT XI, 360; CSM I, 344), remembering is the reconstruction of a patterned motion, not the retrieval of a discrete body. The internal dynamics of brain and body, and the array of factors influencing the state of the animal spirits, introduce causal complexity into the process, even without input from the soul or the external world (see cause). It "usually happens that several different figures are traced in the same region of the brain," so that "the spirits will acquire a [combined] impression of them all." This explains both imaginative fantasies and why "past things sometimes return to thought as if by chance" (AT XI, 184-5; Gaukroger 156).

Descartes was aware that this account brought memory and imagination uncomfortably close. Critics complained that our memories would thus be "stored with infinite variety of divers, yea contrary motions, which must needs interfere, thwart, and obstruct one another: and there would be nothing within us, but ataxy and disorder" (Glanvill 1661, 39). But Descartes had solved the puzzle of finding room in the brain for all a person's memories, which exercised him in the *Rules* (AT X, 415; CSM I, 41-2): there need not be a large number of "folds" in the brain "to supply all the things we

remember, because a single fold will do for all the things which resemble each other" (AT III, 143; CSMK III, 151). On this dynamic distributed model of corporeal memory, many enduring traces are layered or superposed in the same physical resources. Animals or automata without a soul, and humans when the soul is elsewhere, are capable of complex learning and experience-dependent interaction with their world (Sutton 1998, 74-93).

In other contexts, however, Descartes also invoked an incorporeal memory of **universals**, assuring **Burman** that "I do not refuse to admit intellectual memory: it does exist" (AT V, 150; CSMK III, 336), and depends on traces "in the mind itself." Its objects are "purely intellectual things," and it does not retain particulars or any special connection to the past: so "memory in the strict sense is not involved" (AT V, 150; CSMK III, 337; AT III, 425; CSMK III, 190; AT IV, 114; CSMK III, 233). Nonetheless, Descartes tells the bereaved **Huygens** that even after death "we shall still remember the past" by way of this "intellectual memory which is certainly independent of the body" (AT III, 598; CSMK III, 216). The relations between the "two different powers of memory" (AT V, 192; CSMK III, 354) remain unresolved, and Descartes' focus stayed with corporeal memory in the **Passions of the Soul**.

It is due to experience and memory, as much as biology, that "all brains are not disposed in the same manner" (AT XI, 358). Therefore, memory underpins the more effective, though difficult, "remedy" for the passions which Descartes considers. When our soul is united with our body-machine, we can come to understand the mechanisms of association which link particular physical movements with thoughts and passions. Considering examples of the complex alterations wrought by experience on body and brain, Descartes suggests that we can, within limits, control the passions through new habituation (Sutton 2000; Hatfield 2007) (see **habits**). Descartes did not argue that we should root out and challenge every memory or pre-reflective idea: there can be no total epistemological re-evaluation, no wholesale destruction of the fabric of belief, because of the holistic nature of memory storage in the patterned motions of animal spirits through the pores of the brain.

See Anatomy and Physiology; Animal Spirits; Automaton; Dualism; Habits; Human Being; Imagination; Machine; Mind; Passions; *Passions of the Soul;* Pineal Gland; Soul, Immortality of; *Treatise on Man.*

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