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# Dementia, personhood and embodiment: What can we learn from the medieval history of memory?

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## Abstract

Memory and dementia are historical ideas that preceded the development of modern neuroscientific, psychogeriatric and medical approaches to aging and cognitive impairment. This article explores the value of such historical ideas in order to understand the discourses and metaphors by which Western thought has individualized memory as the guarantor of rational personhood, while at the same, treating memory decline as a threat to healthy and successful aging. Discussion focuses on the relationship between memory and the body in the classical and medieval *ars memoria* (the art of memory) and in the early modern philosophies of personhood, particularly the work of John Locke. Conclusions consider the significance of Western culture's history of embodied memory as it moved from cosmic to individual to neurocognitive sites for our wider views about the treatment of dementia.

## Keywords

aging, dementia, history, memory, the body

## Introduction

*Memory is an indescribable good; for this reason human skill cannot find the necessary words of praise to extol it; for he who remembers well, by either natural or artificial means, gleams like the sun and, like light in the darkness, provides brightness.* (Boncompagno da Signa, *On Memory*, 1235)

This paper is about the history of memory as a human capacity and its relationship to the aging body. I argue that we cannot look ahead to improving our treatment of dementia without looking back to see how we arrived at our present models of personhood which underlie it. Certainly dementia has a unique history as medical historians have

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demonstrated (Ballenger, 2006a; Whitehouse, Maurer, & Ballenger, 2000). However, as a disease concept dementia is historically recent and Alzheimer's disease itself did not become a mainstay of gerontological research until the early 1980s. Furthermore, the modern scientific model of memory seems inarguable: memory is a measurable and individual brain function, whose performance can be tested, coded and transformed into data that support persuasive correlations between aging and cognitive impairment. Yet memory is one of the oldest ideas in the world, despite the invisibility of its history in the clinical realm where neural networks, scanning technology and laboratory experimentation dominate research. Indeed, it is the neglect of the historical, discursive and metaphorical bases of the cognitive sciences that makes possible their naturalizing of memory 'within the walled interior of the universalized individual' (Danziger, 2008, p. 10). Where scientific accounts of memory and aging do exist, they mainly promote a narrative of continuous advancement, while sidelining their historical discontinuities, false starts and dead-ends.<sup>1</sup>

My argument moves outside the progress narrative to look at where memory opens out onto larger mysteries about what it means to be human. For example, the idea that memory is defined by what is measurable is itself a historical matter, as are the tools of memory measurement. Our models, languages and metaphors of memory also derive from the devices we have built, from the ancient wax tablet to the modern computer, that capture, store and represent memories (see Draaisma, 2000). Hence this paper views the gap between the long history of memory and the short history of dementia as filled with centuries of magical, cosmic, medical and philosophical explanations about the place of memory in cultural mappings of soul, mind, body, reason, time and consciousness. It aims to evoke a critical curiosity about the life of memory in the mind, body and spirit as well as the brain, as we cope with today's challenges of cognitive decline and disease in aging populations.

I focus on one of the most fascinating cultural formations on memory, which was the medieval 'art of memory' or *ars memoria*, whose history stretches from ancient Aristotelean roots to the philosophies of the early Enlightenment. Despite the distance in time and human experience between the present and the medieval past, pre-modern sensibilities have an affinity with our contemporary critiques of Enlightenment-based individualist and mind-body frameworks. They speak to us from a worldview that found unity between body, mind, soul and memory. This point is relevant to current criticisms of neuroscientific dementia research; in particular, that such research reduces persons to their brains and isolates them from communal forms of care and inclusion (see Dumit, 2004; Whitehouse & George, 2008). Critical dementia researchers have already produced models of personhood that restore the centrality of the body to considerations of person-centered care and treatment (Kontos, 2005; Kontos & Naglie, 2007, 2009; Leibing, 2008). They follow in the path of deconstructing what Fernando Vidal considers to be the advent of the Enlightenment's 'cerebral subject', a human figure based on the brain-person coupling or 'brainhood' ideology that dissolved the psychosomatic unity of the pre-modern world (Ortega & Vidal, 2011; Vidal, 2002, 2009). As such, their creative and critical work supports my interest in exploring the significance of a pre-cerebral diagram of the human subject.

### **Aristotelean 'somatic psychology'**

Frances Yates' book, *The art of memory* (1966), was an exciting rediscovery of memory as a vibrant cultural knowledge before it became the basis of a scientific field. Her collection of

archival materials from ancient to Renaissance periods reveals how seriously memory was studied in the past. However, as Yates says,

The art of memory is a clear case of a marginal subject, not recognized as belonging to any of the normal disciplines, having been omitted because it was no one's business. And yet it has turned out to be, in a sense, every one's business. The history of the organization of memory touches at vital points on the history of religion and ethics, of philosophy and psychology, of art and literature, of scientific method. ([1966] 2010, p. 374)

Yates' argument that the art of memory is 'every one's business', despite its neglect in 'the normal disciplines', is borne out in her work and in the research of others who followed (Carruthers, 1990; Danziger 2008). The story of the art of memory, or the *ars memoria* as it became known in medieval society, begins with Aristotle to whom the first 'organization of memory' is credited. In his writing, *On memory and reminding oneself* (Sorabji, 2006), Aristotle devised a way of thinking about memory that endured until the Enlightenment. As Ziolkowski summarizes it, Aristotle's treatise,

...distinguishes memory from other types of cognition; it establishes that the object of memory is what is past; it explores the reliance of memory on mental images and the need of the human intellect for such images; it provides an exposition of mnemonic techniques, especially the so-called place system; and it differentiates not only between recollection and remembrance but also between memory and imagination. (Ziolkowski, 2002, p. 153)

To these accomplishments, we can add wider questions about memory which Aristotle posed and which we still ask today, despite our scientific advances: What is truly remembered in memory? How do memories come into our minds? How is memory physical, emotional, ecological and spiritual? Are memories accurate and do they represent the past or the present? Is memory loss a normal human condition?

For our purposes, these points and questions can be grouped into three components of Aristotle's work and in the traditions he inspired. First, memory is an active act of the imagination that gathers and stores memories in the form of images and traces. Like words etched onto a wax tablet, a favorite ancient metaphor, memory could be reused, erased and kept sufficiently soft for endless impressions to be stamped upon it (Draaisma, 2000). Thus, the Aristotelean concept of recall requires creativity, a skill that distinguishes humans from animals (some of whom Aristotle believed also have memory), because recalling a memory is akin to *re-collecting* stored images and traces into a coherent picture. Individual agency and active interpretation are fundamental to good memory and not impediments to it, as they are thought today (despite our theories of neuroplasticity). Aristotle further outlined mnemonic exercises that involved the superimposition of one set of images over a set of places, so that each place was a symbolic part of a larger spatial order of recall. This idea that one could 'run through' a topography of mental places in a routinized order to evoke a memory would become a core framework of the *ars memoria* in medieval culture and beyond.

Second, for Aristotle memory is a physical property affected by somatic conditions, yet the body is not separated from mind, emotion or soul; all interact through a confluence of material flows and forces. Memory is not necessarily part of the brain but resides in those parts of the body that house the soul (Danziger, 2008, p. 35). Thus one could consider Aristotelean memory as a kind of soul-work. In later Galenic medical models influenced by Aristotelean thought, diet and health were seen to affect memory in the same way they

affected other parts of the body. Heat, light, behavior, environment, sleep, fluids, and exercise were memory resources too, which is why Carruthers (1990, p. 54) considers the Aristotlean-based Galenic tradition as ‘somatic psychology’ whereby memory needs nurturing as well as training. Further, memory could be symbolically inscribed upon and expressed by bodies (human, animal and magical) as condensed templates of retrievable texts, prayers, parables, poems and stories.<sup>2</sup>

Third, in the Aristotlean tradition, age in itself is not detrimental to memory health. Memory, distinct from recollection, continues throughout life. Memory and age were articulated by life-long humoral dynamics of heat and cold, and moist and dry, as these intersected with various physical, emotional, environmental and cosmic conditions. Good memory resulted from the optimal balance between heat and moisture and since getting older was associated with dryer and colder bodies, or overly moist bodies because of the cold; external aids were recommended to redress the imbalance. For example, Albertus Magnus, a thirteenth-century Aristotlean scholar, writes the following in his ‘Commentary on Aristotle’ (1254–1257, in Carruthers & Ziolkowski, 2002).

Very young infants in whom the moist age is dominant and very decrepit old people are rendered forgetful – infants because of the moisture in flux from the hot into growth, old people on account of external moisture that is moistening but that is in flux into shrinkage, to such a point that their insides remain dry and empty. It is likewise in other constitutions, in view of the fact that those people with very swift mental powers are not endowed with good memories because the moist receives readily but the hot is highly active. The hot stirs and upsets mental images; and the moist, especially when stirred by continuous heat, does not retain them well. Similarly, those who are very slow in mental power do not receive easily and therefore images fail in them; for this reason they are not good rememberers. (p. 133)

Here the association of senility with memory impairment bears little relation to the language about old age as a separate disease that would develop in the modern era, nor are the complex physical flows of moisture and heat that affect older people different than at any other age. Memory aids, whether in the form of diet or behavior or mnemonic exercises, have no specific age restrictions. In other words, it is not age itself but the interaction between the aging body and ageless physical forces that configures the receptive skills of ‘rememberers’, so that infants and the very old both suffer from poor memory because of their restless bodies and unstable states of ‘flux’ (see also Sorabji, 2006, p. 50). Aristotlean ideas about memory as active, imaginative, bodily and ageless, were the decisive building blocks for the art of memory in medieval culture, as the next section discusses.

## **The art of memory (*ars memoria*)**

While this article is limited to a historical sketch of memory culture, research literature on the medieval life-course demonstrates how it was depicted as a dialectical relationship between the physical and the spiritual, with aging bodies enfolded into larger cosmic contexts (Burrow, 1986; Katz, 1996). As Dove (1986) notes, ‘wheel of life’ models positioned every age as fluid symbolic points of contact between the time of the body and the timelessness of the soul. Historians have also illustrated that, while age definitions and chronological categories were not as elaborated nor as strictly identified as they would later become, medieval experiences and narratives of aging were still complex and diverse

(Gilleard 2002, 2009; Pelling & Smith, 1991; Rosenthal, 1996; Shahar, 1997; Van Houts, 2001). Medieval memory, constituted communally and collectively, lived across and between individuals, ages, groups and regions and the practices of recollection were rendered meaningful through shared memorable narratives.

Such historical research supports Corsi's observation that medieval Christian teaching was filled with artistic and literary parable, symbol, image, metaphor and allegory because these facilitated the memory of things considered too complex and inaccessible otherwise, such as the experiences of salvation and damnation (Corsi, 1989). This facilitation was the work of the clergy, amongst whom the art of memory became a scholastic project. As Carruthers (1990) describes in her fascinating text, *The book of memory: A study of memory in medieval culture*, the ways in which the influence of Aristotle and later Galen bore a particular significance on memory was as a scholastic training system that referred 'not to how something is communicated, but to what happens since one has received it' (Carruthers, 1990, p. 13). Our modern models of memory consider mistakes to be a problem of accuracy in recall. In medieval culture mistakes were a result of improper imprinting at source, such as trying to be mentally greedy by remembering too much too fast. The art of memory insisted that memory training was based on the conditions under which memorable material was received and embodied; that is, 'input' mattered as much as 'output'. While the mnemotechnics of the art of memory were designed to improve recall, good memory was more about preparation and adaptability than accuracy and validity.

It is important to stress that the art of memory was not a byproduct of medieval culture's supposedly widespread illiteracy, as is commonly thought. Rather, it was a way of building moral and responsible character through learned interaction with theological and scientific texts. Hence, 'possessing a well-trained memory was morally virtuous in itself' (p. 71), with Thomas Aquinas considered an exemplar in this regard. For the clergy, whose craft of public oratory, sermons and preaching was an art in itself, recalling textual authority through proper technique was key to religious performance. Again, memory was somatic, hence clergy were advised to subvocalize and murmur, eat and drink while reading in order to be physically receptive to the text's memory, even rub certain herbs into their heads to open up their minds (p. 165). Books were to be read digestively, through rumination, chewing over the pages in one's mind.<sup>3</sup> Hence, 'medicine and diet on the one hand, mental images on the other: the rich experience of the art of memory lies between these two poles' (Corsi, 1989, p. 19).

Medieval books were written to be animated through sight, noise, color, emotion, tactility and the spiritualizing dialogue between private and public knowledge. Unlike today, they were designed to transcend time as cognitive technologies of inventive recall. Through books, as well as the organization of libraries, the art of memory shaped relationships between bodies, minds, things and words, and articulated thought with literacy, memory with morality, and micro with macro orders. This is why Carruthers concludes that 'instead of talking about ethical rules in medieval culture, it would be truer to speak of ethical memories' (1990, p. 182), since 'ethical memories' guided one's journey through the wheels of life by embodying what one had seen, heard, felt and read. The dialogue between physiological, sensual, literary and mental processes that went into remembering was an imaginative one, a skill to create one's own images and narratives in unpredictable and joyous ways. This final sense of the sensual joy of the art of memory, often hidden within its lengthy exercises and weighty prescriptions, is probably its most overlooked aspect. But joy is evident as one of 'the principal supports by which memory is strengthened' in the work

'On Memory' by Boncompagno da Signa, a medieval teacher of rhetoric and philosophy at the University of Bologna.

Let the intellect [animus] of him who wishes to remember rejoice, because rejoicing much strengthens the ability to remember. Let him who is going to remember enjoy the freedom he has longed for because . . . the constraint of one's will does great harm. Let him enjoy fresh, free air, because the container changes the contained. Let the diet be tempered according to the nature of the person's complexion, and let it be eaten in moderation, . . . Stop now and then in delightful and pleasant spots, in which one may hear nightingales and the sweet-sounding running of brooks. (1235, Carruthers & Ziolkowski, 2002, p. 109)

This kind of memory is full light and pleasure, fragrance and sweet sounds, with no hint that memory could become a source of victimhood and disease as would later develop in the modern era.

### **Early modern dissolution of the art of memory and the cerebral subject**

The secularization of post-medieval European society, due in part to the greater availability of print materials and decline of clerical authority, also transformed the art of memory into an increasingly secular regime. Indeed, during the Renaissance the art of memory had a resurgence in circles where occult and Hermetic ideas on memory drew it into cosmological models of body and spirit.<sup>4</sup> A good example of where such models extended the art of memory were the imaginary theaters developed by Giulio Camillo (1480–1544) and Robert Fludd (1574–1637). Camillo and Fludd portrayed theaters in which doors, columns, stages, levels, props and entrances were symbolic sites to unite mind, memory and the celestial world as one system. According to Corsi (1989), Camillo's memory theater, which he produced for the King of France and published posthumously as *L'Idea del teatro* (1550), 'promises to imprint on the mind all the things of the world, all the arts and sciences. It becomes a kind of universal library, a machine that encompasses all knowledge in order to restore it to the user, ready for use' (p. 23). Robert Fludd, an English Hermetic philosopher, conceived a theatrical memory system as part of his vision of intersecting micro-macro orders. In his beautifully illustrated *Microcosmi Historia* (1619), Fludd attempted not only to recreate the 'macro' in the 'micro', but also situate memory as the place of consciousness through which the 'macro' dwelled in the human mind. As Yates comments, Fludd's 'system is hitched to the stars' ([1966] 2010, p. 321).

At the same time as the art of memory was elaborated in these imaginative and magical ways during the early modern period, scientific and humanistic ideas about the mind and body began to reject fanciful metaphysics and cosmological utopias. And while medical thinking was still based on extended Galenic models of humoral balances and embodied ecologies, early Enlightenment philosophers and experimenters sought to understand memory in the body in new mechanical ways. In this regard, particular importance has been credited to Descartes (1596–1650), who sought a reordered relationship between the mind, soul, body and memory in his endeavor to theorize a rational individualism. Descartes' mechanistic neurophysiological model of the mind reset it within the pathways and flows he assumed connected glands, animal spirits, substances, reflexes and functions (see Sutton, 1998). In attempting to understand the material basis of human existence, Descartes separated mind and body as two different categories. Reiss may be right to

point out that a simplistic notion of a pre-modern ‘enchanted whole’ (1996, p. 593), which critics have condemned Descartes for tearing asunder, never really existed. However, Descartes did posit a theory of mind whereby memories were permanently imprinted within the folds of the brain and the body as traces and, as such, the reliability of memory relative to higher mental functions of reason became questionable. Hence in Descartes’ *Discourse on method*, ‘method is the opposite of memory’ (p. 601).<sup>5</sup> For our purposes, the split between mind and body may be the lesser issue compared to the split between reason and memory. If the Cartesian movement transformed memory from a soulful, moral achievement to a soul-less, mechanical process, against which higher functions of mind had to contend, then memory decline could also be explained in ways that segmented holistic and active personhood. As medical historian Schäfer (2003, 2005) claims, the popularity of Cartesianism made the idea of an ageless soul less prominent in Enlightenment natural philosophies, thus opening the thought space for the ‘somatization’ of cognitive weakness in old age.

Other contemporaries of Descartes, such as Robert Hooke (1635–1703), also essayed a new relationship between a material body and mechanical soul. The title of Hooke’s lecture, *An hypothetical explication of memory: How the organs made use of the mind in its operation may be mechanically understood* (1682, in Waller, 1705) is a good indication of his overall framework in which he posited the physical basis of memory as a located ‘organ’ that ‘may be both improved and impaired’ (p. 140). Hooke also emphasized note-taking, list-making and diary-keeping as memory apparatuses so that the systematic recording of material bore some resemblance to the way memory functions in natural science (Mulligan, 1992). Thomas Willis (1621–1675) was another experimenter who saw memory as a brain function in a more neurological sense. His innovative book, *Cerebral anatomy* (1664), was part of a modern perspective on the brain, neurology (a term he coined) and the medical treatment of mental disorders (Finger, 2000, pp. 85–99).

If an anti-Aristotlean development in the early Enlightenment formulations of Descartes, Hooke, Willis and others created a distinct physical basis to memory and charted the migration from soul to mind as the seat of human nature, another was the identification of personhood with continuous conscious memory, as exemplified in the work of John Locke (1632–1704). It was John Locke who popularized the notion that memory was the guarantor of individual personhood, or more specifically, guarantor of Locke’s rational, self-conscious ‘forensic person’ who ‘was a new figure who arose from evolving practices of law, property and trade’ (Hacking, 1996, p. 81). Locke, in the sections entitled ‘Of Retention’ and ‘Of Identity and Diversity’ in his *An essay concerning human understanding* (1689), makes it clear that good memory structures successful identity. Where memory is ‘wanting, all the rest of our faculties are in a great measure useless. And we in our thoughts, reasoning, and knowledge, could not proceed beyond present objects, were it not for the assistance of our memories’ ([1689]1974, p. 125). In cases of memory ‘defects,’ including memory that moves ‘slowly’ and ‘retrieves not the ideas it has,’ the result can be ‘stupidity’ and loss of ideas (p. 126).

Most importantly for Locke, personhood is built on the continuity of personal identity, where personal ideas and memories should not vary in time. As Locke says about consciousness,

[It] distinguishes himself [the person] from all other thinking things, in this alone consists personal identity, i.e., the sameness of a rational being; and as far as this consciousness can



be extended backwards to any past action or thought, so far reaches the identity of that person; it is the same self now it was then; and it is by the same self with this present one that now reflects on it, that that action was done. (p. 212)

Forgetfulness, by interrupting the continuity of memory, also interrupts the continuity of personhood since 'Nothing but consciousness can unite remote existences [sic] into the same person' (p. 218). Being a person means remaining identical to oneself throughout life, hence Hacking says that for Locke 'the person is constituted not by a biography but by a remembered biography' (1996, p. 81). If a person cannot recollect, remember, or retain experiences, then they are not the same person who had such experiences in the first place.

Locke's *Essay* was widely read, debated, and embroiled in his contemporaries' intellectual work on skepticism, empiricism, metaphysics and theology (Lowe, 1995). Locke was also a great reader, collector of books and note-taker. As did Robert Hooke, Locke developed his own method of organizing and storing information so it could be efficiently retrieved, but not necessarily to be remembered in the sense of the medieval art of memory (Yeo, 2004). Just as Locke compared memory to a storehouse in his *Essay*, his own scholarly practices were a reflection on this metaphor of memory and its exemplification of the Enlightenment's new encyclopedia style of scientific research.

While other historians have argued that the combination of Cartesian and Lockean diagrams of personhood, memory, body and consciousness are the philosophical underpinning of our modern frameworks of mind and self, I would add dementia to this list as well. The concept of personhood which the Enlightenment engendered, based again on a cerebral 'brainhood' figure, also meant that memory and memory loss became essential measures of individual status and human worthiness. It became possible not only to isolate and disembodify memory, but also possible to isolate the person who became a victim of faulty memory. While it would take another three centuries to develop the modern brain sciences as we know them today, the commitment of Western thought to a universal vision of a cerebral personhood whose chief attribute was an internalized and continuous memory accessible to objective standards of reason, was laid down in the seventeenth century. As for the art of memory, it existed up until the modern era as a genre of quaint games of recall revived from time to time by eccentric mentalists, but its powerful unifying vision that memory could hold the world together was shattered.

## Conclusions: What has been gained and what has been lost

In the centuries following Descartes and Locke, the sciences of the brain and memory changed and advanced according to the priorities of various cultural moments (see Rosenfeld, 1988). Movements emerging from nineteenth-century brain localization research, Freud's work on psychoanalysis and Hermann Ebbinghaus' (1850–1909) experimental memory psychology, concretized the idea that memory was not only an object of science, but key to understanding human nature itself. As Draaisma notes, 'Looking back at the nineteenth century it seems as if memory underwent a transformation every ten or twenty years' (2000, p. 69). The twentieth century began with the discovery of Alzheimer's disease (AD), followed by subsequent research on the amyloid plaques and tangled fibrils associated with it, further confirming that normal as well as abnormal aging brains contained dead and dying neurons. With the acceleration of neurological research, especially since the 1960s, it is not surprising that Alzheimer's

disease has become such a powerful articulation of concerns about aging. Gerontological advocates such as Robert N. Butler, the first director of the American Institute on Aging in 1974, urged the replacement of 'senility' with the image of AD as deserving of public funding because, unlike 'senility', AD was separable from the aging process itself. But whether the ensuing AD movement has lessened or heightened the stigma about dementia is debatable (see Ballenger, 2006b), the lines had already been drawn connecting memory loss as a disease of the mind, pathology of the brain and detriment to selfhood.

My argument about the relevance of a historical account of memory is not meant to imply that we revive pre-scientific or pre-modern medical or cognitive models in order to soften our hard brain sciences or temper our impatience with medical treatments of dementia. Rather, I am suggesting something rather different, which is that we consider the value of enriching our sciences with an account of how the long history of memory became coupled to human meaning and identity in ways that eventually created our particular forms of cerebral subjectivity today. Such an account might help to dispel some of the problematic issues we face with regard to the treatment of people with dementia as persons with brains, rather than as brains alone. To pursue this goal further, I return to the beginning of the paper and ask again what we might learn from the past and apply to the future by allowing the lost art of memory and its unifying, psychosomatic vision to stir our imaginations about the place of the body in dementia care. In particular I suggest we consider incorporating the following five principles of the art of memory into our thinking about memory today. First, memory is an act of agency and imagination, not simply a passive and cognitive process of 'input' and 'output'. Our personal interpretations of traces and images of the past are expressed in variously creative ways that go beyond measurable recall. These also include the shaping of our aging memories through partial remembering and forgetting. Second, memory is a force that intersects individual, environmental and worldly forces, beyond and between individuals, across communal spaces and collective activities. Memory is integrative rather than divisive. Third, memory can be expressed on and through the body, our great symbolic resource for embedding and emplotting our lives even when our minds might fail us. Thus memory health is affected by health in general, by diet, exercise and well-being. Fourth, memory loss is not necessarily a disease but a contingent condition of growing older. The cognitive status of older people is part of the cognitive status of people at all ages because memory is adaptable at all ages. Reducing people to their brains and isolating them as sick and marginal in the name of cognitive care harms memory, which is continual, even when forgetful. Lastly, memory, as with other cognitive activities, is emotional as well as cerebral because our brains are centers of feeling as well as cognition; to separate the two means failing to understand memory as an 'art' as well as a 'science'.

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## Notes

1. With varying criticality, writers in the cognitive sciences have reflected on brain and memory models within their own fields; for example, psychologists Kurt Danziger (2008) and William R Uttal (2001), psychiatrist and literary scholar Iain McGilchrist (2009), and popular neuroscientists Antonio Damàso (1994, 2010) and Steven Rose (2005).
2. An example is the use of the angelic seraph figure by twelfth-century scholar Alan of Lille, who coded 30 memorable components of penance upon the figure's six feathered wings (Balint & Carruthers, 2002). Later medieval and early modern culture also used the hands to represent and convey computational, calendrical, musical and spatial systems of memory (Sherman & Lukehart, 2000).
3. The metaphor of 'rumination' was profound and commonplace because reading, meditating and regurgitating were related as a creative process. For Augustine, memory was 'the stomach of the mind' (Carruthers & Ziolkowski, 2002, p. 23).
4. Danziger (2008, p. 96) also notes that Renaissance memory culture produced the *ars oblivionis*, the art of forgetting, with advice treatises on eliminating negative and disturbing mental imagery.
5. The heritage of the Cartesian splitting of mind and body has created an important tradition of philosophical debate, but Ian Hacking's work seems to have revisited it with refreshing insight (Hacking, 1997, 2005). It is noteworthy that Descartes' theory of memory included what we now call 'muscle memory', which he observed from his own lute playing (Reiss, 1996, p. 598).

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