

## MEMORY, PERSONS, AND DEMENTIA

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It's not uncommon to say that dementia destroys the person. We can see what is meant, but I suspect that most of us don't take such talk quite literally. We still go on caring for the person and loving them; and death, when it comes, is still a shock. So plausibly the talk is hyperbole: as when we say that it's a different person who comes out from some traumatic experience, the talk is meant to empathize just how much they have changed, how shockingly different things are now to how they once were.

But many philosophers have taken the talk completely seriously. If we think, following Locke, that memory provides the criterion of identity—that A and B are the same person if and only if there is a chain of memories connecting them—then, since dementia centrally involves the loss of memory, the person will quite literally be lost.

Michael Banner objects to such a picture. He points, amongst other things, to the social relations that remain in place despite the damage that dementia brings, and suggests that identity can be maintained by these even in the absence of memory. Many philosophers have also objected to applying the Lockean account to dementia on other grounds, stressing the importance of other psychological characteristics—one's likes and dislikes, one's values, one's character broadly construed—and the importance of the enduring body.<sup>1</sup>

I agree with all this. After all, why should we think that there is a single thing that is important for identity? Given the complex role it plays in our lives, isn't it likely to be a complex thing, constituted by many different factors? I will return to Banner's stress on the importance of social relationships at the end. My main concern here though is to say a little more about memory. If memory isn't the *only* thing that matters for personal identity, perhaps it is *one* of the things that matters. And whether or not that is true, the loss of memory that dementia brings can be devastating. Getting clearer on what is involved in this loss can help a great deal in understanding what happens in dementia, and, more practically, in understanding how we can maintain our relationships with those who have it.

So, one way or another, memory matters. But the conception of memory that lies behind much of the philosophical discussion fails to recognize what a complex phenomenon it is. Once we introduce something more realistic, dementia starts to look rather different. Even the proponent of the Lockean view should hesitate before saying that it destroys identity.

The simplistic picture treats memory like a set of index cards, each bearing some fact. To lose one's memory is either to lose the ability to make new cards, or to lose those that one already has. The evolution of the commonest forms of dementia (here I will be concerned mainly with Alzheimer's Dis-

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1. On the former, focussing on value, see Agnieszka Jaworska, 'Respecting the margins of agency: Alzheimer's patients and the capacity to value' *Philosophy and Public Affairs* 28 (1997) pp. 105–38; on the latter see the essays in J. Hughes, S. Louw, and S. Sabat, *Dementia: Mind, Meaning, and the Person* (Oxford: Oxford University Press, 2005).

ease, and Vascular and Lewy Body Dementias) can seem to confirm such a view. First the ability to create new memories, that is, to move things from working memory to long term memory, is lost: people will forget what they have just seen or done. Then the ability to recall what was once remembered starts to go, typically working backwards, decade by decade, until finally the person is left with only a few memories from childhood. And then even those go. It is easy to imagine the disease first stopping the production new index cards, and then shredding the existing cards box by box.

But there are signs, even for the fairly casual observer that that can't be quite right. For a start, there are skills than involve memory that are not lost at the same rate. Learning to play the piano puts a huge demand on memory, but famously some people can continue to play even when they show considerable memory loss.<sup>2</sup> Other procedural skills—the ability to use a knife and fork, for instance—can persist for much longer. So a first distinction needs to be made between *procedural memory*, as displayed in these tasks, and other kinds of memory. Psychologists further divide the remaining kinds into *episodic memory*, the memory one has for particular episodes, standardly those that have happened to oneself; and so-called *semantic memory*, which does, as one might expect, include knowledge of the meanings of words, but also what we think of as general knowledge: the kind of thing that is tested by asking for the date of the Battle of Hastings, or for the name of the Prime Minister. Clearly the two can interact—one's memory of some historical fact might be tied up with remembering witnessing it—but the distinction is reasonably robust: one can, after all, remember that one started school at a particular date, without being able to remember doing so. The evolution of dementia can then be described as typically starting with damage to episodic memory, progressing to semantic memory, and finally to procedural memory.<sup>3</sup> So if the Lockean wants to hold that the loss of memory in dementia brings the loss of personal identity, they will have to say which kind of these three kinds of memory they have in mind; if it is all three, then personhood may well endure until the final stages of the disease.

Still though we lack the distinctions we need, as reflection on another commonly observed phenomenon will show. Whilst dementia's overall effects are cumulative, the progress is not straightforward. Sufferers can fluctuate on a daily basis: up in the mornings, down as the day goes on. Or they can fluctuate on a longer term basis: a bad week followed by much better one. Such fluctuations are most common in Lewy body dementia, but it happens in Alzheimer's and vascular dementia too. And there are reports of sufferers showing occasional great lucidity.<sup>4</sup> In such cases, memories apparently lost are regained. How can that be possible if dementia destroys memory? Once it has ben destroyed it cannot be brought back.

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2. William Beatty *et al.* 'Piano playing in Alzheimer's disease: Longitudinal study of a single case' *Neurocase* 5 (1999), pp. 459–69. Note that the procedural memory involved isn't simply a memory of motor skills; the woman in this study could transfer the pieces to the xylophone, an instrument that she hadn't previously played.

3. On this progression see, for instance, J.R. Hodges *et al.* 'Semantic dementia: Progressive fluent aphasia with temporal lobe atrophy', *Brain*, 115 (1992), pp. 1783–1806.

4. H. Normann *et al.* 'People with severe dementia exhibit episodes of lucidity', *Journal of Clinical Nursing* 15 (2006), pp. 1413–17.

The answer comes in distinguishing between destruction of the memory itself, and disruption of access to it. Keeping the index card analogy for now, the cards remain, but the filing system is destroyed. There is very good evidence that, for Alzheimer's at least, this is one of the main effects. The evidence comes from priming studies. Priming is a method which uses a prior stimulus to increase the speed with which a subject responds to some later related thing. So, for instance, flashing the word 'robin' before a subject so fast that they cannot consciously see it, will make them considerably faster at identifying a robin when shown a picture of one, or identifying the word 'robin' from amongst a list of words. The prior subconscious stimulus 'primes' the subject's cognitive system so that it is ready to perform the task more quickly. Moreover, such a method can be used to show the working of subjects' semantic memory: priming with the word 'robin' will make them faster at identifying the word 'bird'. Achieving a priming effect like this shows that the subject has the semantic information to connect 'bird' and 'robin'; in short, they can remember the connection. Crucially, this can show us whether the effects of dementia stem from damage to the semantic representations themselves, or whether they stem from an inability to effectively access those representations. Take a subject with dementia who is now very slow at explicitly linking the terms 'bird' and 'robin'. If the priming is just as effective as in a normal subject, then the problem lies in the ability to access the representations; if priming is no longer effective, it lies in damage to the representations.

There are forms of dementia for which semantic priming is not effective: this is the case for those with semantic dementia. But semantic dementia is rare, fewer than 2% of dementia cases. In contrast those with moderate Alzheimer's, who show a greatly reduced ability to perform explicit semantic tasks, nevertheless maintain most of their susceptibility to priming. It seems very likely then that, at least in cases of moderate Alzheimer's, the problem is primarily one of access to memory, rather than the loss of the memory itself.<sup>5</sup>

This explains how lucid moments can be possible: something can trigger access to a memory that is not normally explicitly accessible, just as priming can trigger it. It has huge implications for those who hold to a Lockean view of personal identity. For what is crucial to identity: the memories themselves, or access to them? Presumably the former, since they wouldn't want to think that people lose their identity when they are asleep. But then, even in cases of fairly advanced Alzheimer's, they should be very careful in denying continued identity, since it remains very likely that the primary problem is still that of access.

For those of us who reject the simple Lockean view, the consideration is equally important. For the explicit asking of questions ('Do you remember who I am?') may be a terrible guide to the memories that a person still has. It may be that access to them can be gained in other ways. According to carers' reports, the lucid moments of residents in care home tend to occur when they are treated 'as valuable human beings' and are prompted by activities like walking outside.<sup>6</sup> Less dramatically, the simple act of talking with a loved one may bring genuine familiarity, even if they are remain unable to explicitly access their interlocutor's name or their relationship to them.

There is a further aspect to memory, which has been little explored in the context of dementia, but which complicates the picture still more. Up till now we have been assuming the index card view. But

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5. For the most comprehensive recent study see S. Rogers and R. Friedman 'The underlying mechanisms of semantic memory loss in Alzheimer's disease and semantic dementia' *Neuropsychologia* 46 (2008), pp. 12–21.

6. Normann, 'Episodes of Lucidity'.

that (or anything like it—snapshots, videos) is looking increasingly implausible, especially for episodic memory. By using small triggers—showing people pictures, getting them to imagine things—it is frighteningly easy to get them to ‘remember’ doing things they demonstratively didn’t do. It is still highly controversial quite how memory is working here, but a plausible view is that rather than being observed from some memory store, long-term episodic memories are constructed from the various clues available (semantic memories, perception, emotional reactions etc.) in a way that makes for a coherent story. Our episodic memories are much more like interpretations than like raw data. And since this then feeds back into our semantic memories for facts (we remember *that* she was there because we remember *seeing* her there), these too are influenced by the process.<sup>7</sup>

What does this mean for our understanding of the memory loss that is involved in dementia? There has been little explicit work addressing the question, but a few things stand out. First, the kind of confabulation that occurs in dementia can seem very alien. These findings suggest that it is not; a creative process akin to it is something we all do all the time. What is different about dementia is not the process, but the paucity of the cues upon which it is based. And even here, if what was said before is right, we should be careful about concluding that those cues are lost. It may well be that the subject is just finding it difficult to access them explicitly, and there may be ways that they can be helped to find them. Second, the question again arises for the Lockean: if loss of memory is supposed to signal loss of self, which aspects of memory does this apply to? For if it is the process of memory construction, this may be alive and well even in fairly advanced dementia. Third, if memory the construction of memory works by the taking up of various cues, then it is far from clear that those cues have to be generated from within the subject. Here we have a very concrete way in which those around can help to keep memory going: not simply by reminding, with the rather passive overtones that that has, but by contributing some of the materials from which memory is built.

This last point takes us back to one of Michael Banner’s concerns, so let me end there. The simple Lockean perspective is apt to take personal identity as an intrinsic feature of the person: it is constituted by the internal psychological connections between them at different times. But as the case of dementia shows, even if we focus just on memory, the social will inevitably intrude. Keeping a personality going in dementia, demanding as that is, is a job for us all.

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7. For an influential piece suggesting such an account see Martin A. Conway, ‘Memory and the self’ *Journal of Memory and Language* 53 (2005) 594–628. For an engaging popular presentation see Charles Fernyhough *Pieces of Light: The New Science of Memory* (London: Profile, 2012).