

Tracking Persons Over Time is Tracking What?

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Abstract

Tracking persons, that is, determining that a person now is or is not a specific earlier person, is extremely common and widespread in our way of life and extremely important. If so, figuring out what we are tracking, what it is to persist as a person over a period of time, is also important. Trying to figure this out will be the main focus of this paper. (This paper will introduce a theme on tracking persons in *Topics in Cognitive Science*.)

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I will begin with three preliminary points.

1. Philosophers call persisting as the person one is over time, i.e., what we are tracking when we track persons over time, *personal identity*. This is an unfortunate term, not least because the term ‘identity’ is now widely used to talk of features of personality, attitude to oneself, and the like. In this usage, it makes sense to talk of a strong identity, diffuse identity, identity crisis, etc., terms that make no sense in the philosophical context. For such reasons, I will generally speak of a person persisting or personal persistence.

2. Because of the possibility (in brain bisection operations, some say the actuality) of one person splitting into two people, by ‘personal persistence’ I do not mean a relationship that has to be one-to-one. (A charming depiction of one person becoming two is central to the film, *To Be*, by John Weldon (http://www.nfb.ca/film/to_be.) Likewise, it would appear that there can be degrees of persisting as oneself over time.

3. One might expect a paper on personal persistence to begin with at least a few comments on what a person is. That does not happen. The reason is that figuring out what we track or should track when we track persons also tells us a lot about what persons are.

1. Where tracking persons is central

Tracking persons is at the heart of a great many social institutions, including

- Criminal law and punishment. Hence the effort that goes into determining that the person under arrest is the person who committed the crime.
- Obligations. You are now responsible only for obligations (contracts, promises, and the like) that you took on in the past.
- Property. You are now entitled to what you earlier owned. Sometimes, as in the case of educational policies, the changes to the person in the meantime can be massive.
- Credit. You are entitled to use only credit cards and the like approved for your use earlier. Hence photo ID.
- Insurance and benefits. The only benefits that you have now are ones that were assigned to you earlier (a very large issue in medicine in the United States). Likewise, you are entitled to recompense for harm done only if the harm was done to you or what belongs to you.
- Compensation. You are paid only for services you rendered or caused to be rendered earlier.
- Rewards. For example, you get the grade that your work earlier earned.

And so on. There seem to be two general principles behind tracking in these situations:

- *Responsibility*. A person is responsible only for what s/he, the same person, did (or caused to be done) in the past (a central feature of all western legal systems).
- *Entitlement*. A person is entitled to praise, benefits (including property), and compensation only for what s/he did in the past.

Tracking persons is even central to

- Interpersonal relationships. If you have just lost someone dear to you, your grief will not exactly dissipate upon being told, ‘No problem. Your loved one had an identical twin who can do everything for you that s/he used to do.’

We even assume that we can track ourselves over time. Each of us, for example, has a:

- Special concern for one particular person's past. I might regret something you have done but I will not normally be ashamed of it (not normally because when I have a stake in your actions, by being your parent for example, I can feel ashamed of something you have done). And a,
- Special concern for one person's future, the person whom I believe will be me.

In short, tracking persons is central to much human social activity. (For further discussion of where we track persons in everyday life, see Shoemaker 2012.)

2. Current Tracking Practices

The importance of tracking persons in our way of life is not matched by excellence in our tracking practices. The most common tracking practice uses facial similarity, whether in the form of eye-witness testimony in court (a practice that is not entirely reliable) or photo identification almost everywhere else now. Since two different people can look a lot alike, even entirely like in the case of identical twins, especially at a distance, and a single person can look very different in widely separated periods of life, tracking by facial similarity has its limitations.

Nonetheless, prosopagnosia, the inability to recognize faces, demonstrates how large a role tracking by facial appearance in fact plays. People with prosopagnosia cannot recognize people by face, therefore cannot tell whether they know a person before them or not. The result is that their lives are endlessly and embarrassingly complicated. To figure out whether they know a person before them, for example, they might have to get the person to speak.

Almost as common and equally limited is tracking by similarities in hand-writing, particularly signatures, a very common practice with contracts. In the legal system, similarity of fingerprints used to be the gold standard. It has been replaced by DNA sequencing, i.e., looking for similarities in the arrangement of molecule pairs in a particular stretch of DNA.

A common tracking practice with people we know but one that has received little attention is tracking by emotional reaction. We seem to have a distinctive emotional reaction to each person we know well. If a person before us triggers the distinctive reaction that we have to A and there are no countervailing factors (different gender, very different facial appearance and the like), this is a good reason for us to treat the person before us as A, the person to whom we have had the same reaction in the past.

One important piece of evidence for the importance of emotional reactions in tracking familiar people is the Capgras delusion. The Capgras delusion is the delusion that a person before one, a person whom one knows well and would normally care about, is an impostor. Despite the person before one looking like the familiar person, reacting

like the familiar person, expressing full and detailed memories of earlier events in the life of the familiar person – the person of course *is* the familiar person –, to someone in the throes of the delusion the familiar person is taken to be an impostor. (Capgras is usually accompanied by some form of major cognitive impairment such as severe schizophrenia.)

Neuroscience has not reached a settled view about what is going on the Capgras delusion but one widely held view is that, due probably to damage in the limbic system, the person suffering from the delusion has stopped reacting with the appropriate emotions to familiar, formerly liked or loved people. This is enough to convince the victim of the delusion that the person before him or her is not the person he or she knows and likes or loves. If this explanation is right, it would be evidence for the centrality of emotional reaction in reidentifying familiar people at a later time.

How well do our tracking practices relate to what matters in tracking persons? Not well. Return to fingerprints and DNA sequences. Let us suppose that the claims made for their uniqueness are right and the odds of two people having the same fingerprint or relevant DNA sequence are one in some billions. Would this tell us something valuable about what we want to track when we track a person? Even if fingerprints and DNA sequences were unique to each person, I don't think so.

The reason is that fingerprints and DNA are not what personal persistence *consists in*. They are merely features correlated with the person in question persisting. Again, suppose that the correlation is nearly perfect. Even here, knowing what a certain fingerprint is like or how a particular DNA sequence goes would tell us almost nothing about what being the *bearer* of that fingerprint or DNA sequence over time consists in. Indeed, knowing the fingerprint or sequence would tell us almost nothing about either their bearer in particular or what a person persisting in general consists in. Here is another way to put the same point: To know how well similarity of fingerprints or DNA correlate with the person before us being an earlier person, we need an answer to the question, correlate with what? What would it make the later person the earlier person?

3. Persons Over Time: What Interests Us?

In the philosophical literature, two approaches to what must persist for a person to persist have dominated, the psychological approach and the somatic or bodily approach. On the psychological approach, the most frequent appeal is to the later person remembering events in the life of the earlier person in a particular way. However, psychological continuity of personality, abilities, and dispositions has also played a role. On the somatic or bodily approach, persistence of a functioning body or sometimes just a functioning brain has been front and centre.

It seems fairly clear that when we judge a person before us to be some earlier person, what primarily interests us are psychological factors. Even when somatic factors such as

facial similarity drive the judgment, it is because we take the somatic factor/s to be a reliable indication that the psychological factors of interest are present.

That psychological factors are what interest us can be shown in a number of ways. When we judge a person before us to be an earlier person, in the absence of special factors such as a cognitive injury and dementia, we believe that the person before us will have a host of values, commitments, attachments, abilities, ways of viewing things, and so on so very similar to the same factors in the earlier person. Gaining this assurance is one of the reasons we track people. (We will return to this issue of psychological similarity.)

Another indication that psychological factors dominate is the way in which many people respond to brain bisection patients when, in special laboratory conditions, the body in question simultaneously does and disavows doing certain actions, responds to and disavows having heard certain requests, and so on. Many people (including Roger Sperry, who won a Nobel Prize for his work with brain bisection patients) take that it that, temporarily, two 'centres of consciousness' have appeared in these patients. Since there is only one body and brain throughout (albeit a brain whose corpus callosum has been severed in part or in whole), we cannot be making this judgment on somatic or even brain evidence and have to be making it on psychological factors, specifically, performance/lack of performance pairs.

A third argument is similar. When we learn about the idea of teletransportation (in *Star Trek* episodes or whatever), the idea of a person being transported from one location to another without a single molecule of their body being transported makes instant sense to nearly everyone. For the idea to make sense, we have to be conceiving of the transfer as something psychological. (The same short film mentioned earlier, *To Be* by John Weldon, depicts teletransportation in a charming way.)

Finally, think of Kafka's *Metamorphosis*. In this story, the central character, Gregor Samsa, goes to sleep a human being and wakes up a 'monstrous vermin'. We have no trouble making sense of the idea that it is him, the very same person, who is now a bug. Yet the two bodies would not share any structure and not much if any matter.

Conclusion: What matters to us about personal persistence is something psychological. The next question is, what?

4. Memory

What connects a later person to an earlier person when the earlier person persists as the later? Memory has a property that makes it a prime candidate. Unlike all other factors whether somatic or psychological, memory *depicts* events in the life of the earlier person. Its intentionality, to use that term of art, is backward-looking.

What kind of memory? Clearly we are not interested in short-term or working memory and we are not interested in procedural memory, memory of how to do things. What interests us is long-term declarative memory of some kind,

memory over substantial periods of time of what was the case. In the literature, three kinds of long-term declarative memory are distinguished:

Semantic memory (memory of facts, whether or not you were there)

Episodic memory (memory of events, usually with a requirement that you had witnessed the event)

Autobiographical memory (memory of events in one's own life, which can be both semantic and episodic)

However, this tristinction is not fine-grained enough for our purposes. For there are at least two kinds of autobiographical memory:

1. Remembering events in one's life 'from the inside', i.e., from the same point of view as the events were originally experienced. Thus one not only remembers an experience, a thought, or whatever, one remembers *having* the experience, the thought, or whatever. One not only remembers an action, one remembers *doing the action*. One not only remembers a feeling, one remembers *having* the feeling. And so on.

2. The rest – all the memories of events in one's life that are not from the standpoint of having lived them.

If I remember *having had* an experience, thought, feeling, it will appear to me that *I* had that experience, etc. I will appear to myself *to be* that person. And when I remember having had the experiences of an earlier person, or a series of person-stages tied together by a string of such memories, the appearance of the earlier person being me will be correct. Continuities and similarities can run from one person to another (Shoemaker, 2012, p. 12). However, I do not remember *having others'* experiences, etc.¹ Absent some countervailing factor (such as reason to think that, for example, a memory transfer has taken place), if I have *autobiographical memory* 'from the inside' of having, doing, feeling a single earlier person's thoughts, experiences, actions and feelings, I am that person. That person has persisted as me.

Moreover, this suggestion about autobiographical memory 'from the inside' has more than intuitive appeal going for it, considerable though that is. We can use it to generate a nice theory of why we are responsible for earlier things we did and why we have a special concern for the future person who will be oneself.

Ask, why am I responsible for what I am doing *right now*?

Answer: Because I am the agent of the action – I experience myself from the standpoint of *originating and doing* the action.

And ask, why do I feel a special concern for me *right now*?

Answer: Because I will *feel* my pleasures and pains and other experiences – *I experience them 'from the inside'*. Likewise with plans and intentions. I put my plan in place, I act on my intentions. I merely observe the experiences, plans, and intentions of others

This suggests that I am responsible for an action of an earlier agent if I *remember* doing it and similarly for thinking, perceiving and feeling. Similarly, when I project my hopes and plans for my life onto a specific future person, when I feel special concern for a specific future person, I project onto and feel concern for the future person who *will remember* me as I am now ‘from the inside’. A nice account. It flows directly from my account of remembering ‘from the inside’.

5. Memory ‘From the Inside’ and Unified Consciousness

There is a certain artificiality in what we have said about memory up to now. Contrary to the way I have written so far, we seldom remember having or doing or feeling individual experiences or actions. Usually what we remember about ourselves is far ‘bigger’ than that. Memories ‘from the inside’ are usually a kind of global representation:

Global representation – representing many objects as a single complex object.

What characterizes a global representation is that the representation of the elements of its object is united: One is aware of all the elements together, in a single conscious act, and one is aware of them not just as individual items but as a group.

To see how this works, consider representation of items that could be expressed by these sentences:

1. I am reading the words on the screen in front of me,
2. I am puzzled by your comments
3. I am enjoying the music I hear outside
4. I believe our agreement was to meet at 6:00
5. I thought I understood Kant's notion of the object
6. I wish the world were a fairer place

Here there are three different elements that could be united in a single global representation, (a) what I am representing, (b) the acts (act when unified) of representing them, and (c) myself as the subject doing the representing.

Similarly with memory. When I remember, for example, doing something, I nearly always also remember how I felt at the time, what I experienced at the time, the outcome of the action and how I felt about that, and so on. If so, my memory is a *global representation* that represents a *unified group* of earlier experiences and actions (see Raymond and Brook 2006)..

With this fuller description of memory, we can now give a fuller description of the relationship of memory to personal persistence. When we know the contents of a person’s current global memory ‘from the inside’ of earlier experiences had, actions done, etc., and we track back and discover who had the global experience that is depicted in

the global memory, we know which earlier person the current person was.

Unified global experience and unified global memory ‘from the inside’ are a central part of what it is to be a (normal, cognitively intact) person. A persisting person is a series of global representations, each of which contains or contained memories of having thoughts and experiences, doing actions, feeling feelings ‘from the inside’, i.e., from the standpoint of having, doing and feeling them. Similarly, *mutatis mutandis*, for anticipating a future person as oneself. (This paragraph is my response to the wish discussed earlier for an account of what a person is.)

6. Problems with Memory

So far, so good. But so far is not far enough. We do not ground judgments of personal persistence entirely on global autobiographical memory ‘from the inside’ and there are at least three challenges to the idea that we should do so.

1. In some cases, it appears that such memory is not necessary for personal persistence.
2. Some pressure can be put on the idea that it is always sufficient.
3. The kind of memory in question could in principle branch, go back to two or more earlier persons, or merge, two streams of memory becoming one.

Is memory necessary? Consider the most famous case in neuropsychology, Mr. H.M. (Henry Molaison, recently deceased). In the 1960s, to block epilepsy spreading from one hemisphere of his brain to the other, surgeons severed not just his corpus callosum but also the two halves of his hippocampus (and removed some other structures). This made it impossible for him to lay down new memories lasting more than about twenty minutes. Yet he was still taken to be a single, persisting person. No one questioned, for example, whether it was appropriate to continue to call ‘him’ by the same name or suggest that he was not the beneficiary of a pension plan created during the working life of the earlier person who had his name. Sacks (1970) discusses two cases with similar memory deficits.

To be sure, this attitude can be questioned. From the moment of the operation, HM was very different from people with normal memory. Post-operation, he never again entered a significant human relationship. (Even his care staff had to introduce themselves to him every morning.) He had no idea where he was and could not travel or even take a walk on his own. He had no knowledge of having had a life since the operation and so in one sense did not know who he was. If he had ever done anything that created entitlements or responsibility, he would have had no knowledge of having done so (so what would be the point of holding him responsible?). Thus he had no sense of accomplishment or failure, no pride in himself or guilt or shame, no sense of the trajectory of his life, no ... no ... no And he could not plan a future for himself; his life did not have a planned or

desired trajectory. People with radical amnesia are very different from people with intact autobiographical memory.

Still, radical amnesia is not death. What makes memories ‘from the inside’ especially pertinent to personal persistence is that such memories *depict, refer back to*, earlier experiences and actions (and do so from the point of view of the person who had the original experience or did the original action). They do not, as we said, share this feature with any other kind of psychological state. However, they do share something else. Memories were *caused by* earlier experiences and actions.

Thus, memories are one kind of psychological continuity. When memory is missing, we can back off to other kinds of psychological continuity, ones that do not have backward intentionality. These can include continuity-carried similarities – HM, for example, had the same linguistic and arithmetic skills, the same knowledge of the world, the same manual abilities, and so on after the operation as before and the causes were primarily earlier events in the same body. Because HM is causally continuous with the body on whom the disastrous operation was performed, tracking his current causal continuities would lead us back to that body. We continue to find personal persistence even when memory is absent, I think, because we back off to these other kinds of causal continuity.

One very important non-memory causal continuity is continuity of plans, projects, and intentions. Usually I will have or have acted on much the same plans, life projects, etc., as I laid down for myself earlier and usually the main cause of having those plans, etc., now is that I laid them down for myself earlier. As we will see, continuity and discontinuity of such plans can make a difference in certain cases. I said that continuity of plans, etc., is a non-memory continuity and that is correct. However, they are usually carried from the past into the present in memories. Thus Mr. HM could not form any such plans, any that required him to remember them for more than half an hour at any rate. This is another and highly significant way in which he was radically unlike a person with normal memory.

Now our second question: Is global autobiographical memory ‘from the inside’ always sufficient for personal persistence? Cases where there has been massive personal change over time put some pressure on the idea. Let me sketch two real cases that certainly give one pause.

In 1941, one of Hitler’s lieutenants, Rudolph Hess, flew to Scotland to try to negotiate a non-aggression treaty with England. (This would have left Hitler free to invade eastern Europe and the Soviet Union.) Hess was arrested as soon as he landed – and never lived outside a prison again. For many years, he was the sole inhabitant of last prison of the Allies in Germany, Spandau Prison in Berlin (the Soviet Union would not agree to his release), and so was effectively in solitary confinement. He died a very old man of 92 in 1987 (of either murder or suicide, theories vary). By the end, he was an embittered, cognitively-impaired shadow of his former self.

More recently, in 1998 Karla Faye Tucker was executed in Texas. She had taken part in a drug-fuelled murder at the age of 24 in 1983, so was in prison for close to 40% of her life and nearly all her adult life. During her time in prison, she converted to Christianity and was not just a model prisoner but a counselor and mentor to other inmates. She even married the prison chaplain. In short, by the time she was killed, she could hardly have been more different than the out-of-control drug addict who took part in the murder.

Yet in both cases there was autobiographical memory and also psychological continuity and a single history, both psychologically and biologically. So all the tracking mechanisms that we normally use would lead us back to the same earlier person in both cases.

The trouble is, both cases raise the following question. Even though both people retained autobiographical memory and the usual continuities to the end, was there a sound basis at the time they died for taking the earlier person who bore their name, etc., at the time of their arrest, say, to have persisted as them? More directly, was there any justification for holding either of them responsible for what had been done by someone with the same name so many long years before?

Here is a basis for caution about how to answer these questions. Normally personal persistence carries with it persistence of character, life projects, and the like, so that if these things had been vicious earlier, they will be vicious now. And memory ‘from the inside’ will ensure that the later person knows about the earlier character – or at least the actions to which it gave rise. When character is no longer vicious, projects no longer malign, especially if accompanied by remorse or regret, the fact that the person nonetheless remembers his/her earlier character, projects, and actions ‘from the inside’ does not seem to matter as much.

And here the two cases differ. Tucker clearly fit the description of the paragraph above – but Hess did not. Tucker’s character, life projects, and the like had been transformed. Hess, however, merely lost the power to act on his; he remained an unrepentant Nazi to his death. Thus, there would seem to be a better basis for continuing to hold Hess responsible for the actions of the triumphant young Nazi of old than for continuing to hold Tucker responsible for the actions of the earlier person who bore her name. (If so, it is a source of regret that Gov. Bush, as he was then, did not see things this way. Cases such as Hess and Tucker illustrate vividly that tracking persons can have profound ethical implications.)

Now the third question. What if a memories ‘from the inside’ lead back to two or more different people? Here there are two kinds of case, one where most of the memories originated in one person but a few originated in another, and one where the split is roughly equal.

In the first case, we could just ignore the aberrant memories, maybe by treating them as transferred somehow from another person. As to the second case, where

memories ‘from the inside’ originated in two different people about equally, we have grounds to hold that both people have persisted as the single current person with the memories. Because memories have a substructure of causal continuities and in our world the preponderant causal path carrying memory and other psychological continuities is within a body, memory transfer would take some very special technology.

7. ... And When There Is Little Or No Psychological Continuity Of Any Kind?

There are also cases in which there is not just no memory but little or no psychological continuity of any kind, where nonetheless we take there to be a persisting person. Vegetative state patients are one kind of case. Newborns are a second. The relationship between me now as an adult and the newborn who was given my name decades ago is a third. (In the first two kinds of case, there is no psychological continuity. In the third, psychological continuity eventually developed but there is little or no psychological continuity running all the way back to the newborn.) How do we track persons in these cases?

Well, psychological continuities are causal continuities and some causal continuities exist in all three kinds of case. If materialism is correct, moreover, psychological continuities are one kind of bodily continuity. So we can, and do, fall back on other causal and bodily continuities such as looking alike, similarity of DNA, and a continuous causal history.

In summary, the pattern is this. When we have memory ‘from the inside’ and there are no countervailing factors, we stop there. When memories don’t exist or have taken an unhelpful form, we back off to other psychological continuities. When psychological continuities are absent, we back off further, to non-psychological bodily continuities.

8. Practicalities

Suppose that the story that we have told of what personal persistence consists in is at least roughly right. How would it connect to the tracking practices that we actually use, the ones that we laid out earlier? The answer is: At a conceptual level at least, not very tidily.

The problem is that in real life, it is often hard to gain knowledge of memories and other psychological continuities. To identify someone’s memories, we need sophisticated skills in ‘mind-reading’ (assignment of psychological states to others) and considerable co-operation from the person in question. Such co-operation can, of course, be in short supply when you are trying to track people in the context of the criminal law, fraud, and

the like. So we resort to such things as facial appearance, fingerprints, and DNA pattern.

It may appear to be remarkable that such purely somatic factors work as well as they do for tracking what is, except in the rare special cases that we delineated in Stn. 7, a matter of psychological continuities. In fact, it is not. All the continuities we considered are underpinned by substantial causal continuities. Such continuities do not have to run though a single persisting body, as the very intelligibility of teletransportation shows. But in our world, they invariably do. For this reason, the rule, One persisting person per persisting body, works pretty well – and finding a reliable way to track persisting bodies over time is usually a pretty good way to track persisting persons. So facial similarity, fingerprints, and DNA sequences usually work pretty well. (For an excellent discussion of the relationships between cognition and the body, see Ismael 2007, Chapter 11, especially Section 5.)²

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Endnotes

¹ Bishop Joseph Butler claimed in the 17th century that we cannot by definition remember having an experience had by another. If so, being the same person is a requirement of the kind of memory we are discussing – and, of course, cannot be used to define or analyze it. Here I will just assume that we can define a form of memory that does not presuppose personal persistence.

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