

RESEARCH ARTICLE

## The repair shop of memory

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### Abstract

In the BBC show, *The Repair Shop*, members of the public bring their cherished but crumbling possessions into a workshop populated by expert craftspeople, who carry out restorations. These objects arrive as treasured possessions, which, despite their dilapidated state, still hold memories and meaning for their owners, albeit memories that may have faded as the object itself has aged. Something magical seems to take place after the objects are restored, however. The restored objects seem to reanimate and revive the memories that their owners have invested in them. How is it possible that this restoration can bring memories held by the objects back to life? What is special about *The Repair Shop* restoring objects to their former glory? We outline two ways in which objects can be evocative and embody emotion, memory, and meaning. We then outline the ways in which the restoration of these objects to something like their original form can improve scaffolded recall and bring memories back to life. For one class of evocative objects, the restoration enhances recall by reinstating details from the context in which the memories were encoded. For the second class of evocative objects, their restoration affords an imaginative connection to the past, which enables them to become powerful focal points of memory and shared narratives. In effect, *The Repair Shop* seems to work not only as a repair shop of objects but as a repair shop of memory too.

**Keywords:** Philosophy; Autobiographical memory; Evocative objects; Situated remembering; Encoding specificity principle; Imagination; Narrative

To an imaginative person, an inherited possession like a garden seat is not just an object, an antique, an item on an inventory; rather it becomes a point of entry into a common emotional ground of memory and belonging. It can transmit the climate of a lost world and keep alive in us a domestic intimacy with realities that might otherwise have vanished.

—Seamus Heaney, *The Sense of the Past*

### Introduction

Many objects that we interact with in life are not just inanimate things; they are more important than that – they are vibrant materials (Bennett 2010), holding memories

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deep within them (Sutton 2002). Or perhaps this is too quick. It is not quite right that the objects *themselves* are replete with memories, but that these objects, when standing in the right kind of connection with a human rememberer, can help scaffold memories held by the subject. Objects support the emotions, memories, and meaning that subjects have invested in them. Objects are, as Heaney notes, the emotional grounds of memory, conveying to particular individuals, perhaps at particular times, the climates of lost worlds.

Yet objects are also material things, subject to the whims of nature and the laws of thermodynamics. The ruins of Roman villas, faded photographs stored in the attic, and works of art in states of disrepair tell of the forces that dishevel, decompose, and degrade the objects we care deeply about. Time never stops, and both we and our objects are subject to the processes of ageing and entropy. If objects scaffold and support memories, then the deterioration and decay of objects may be detrimental to memory. Indeed, the manipulation of objects in our environments may be an important element in the process of forgetting (Caravà 2021). An immediate question then arises: what happens to our memories if the objects that scaffold them are brought back to their former glory? Does the restoration of the object help restore the memories that are scaffolded by or embedded within it?

A long-running series on the BBC speaks to this issue. In *The Repair Shop*, members of the public bring their cherished but crumbling possessions into a workshop populated by expert craftspeople, who carry out restorations. These objects arrive as treasured possessions, which, despite their dilapidated state, still hold memories and meaning for their owners, albeit memories that may have faded as the object itself has aged. Something magical seems to take place after the objects are restored, however. The restored objects seem to reanimate and revive the memories that their owners have invested in them. In this sense, and as the show itself proclaims, *The Repair Shop* brings “loved pieces of family history and the memories they hold back to life”.

How is it possible that restoration can bring memories held by objects back to life? What is special about *The Repair Shop* restoring objects to their former glory? In this paper, we explore this phenomenon and describe how *The Repair Shop* for objects seems to work as a repair shop of memory. There are two things that need to be explained here. First, the way in which objects can embody memory, emotion, and meaning. Second, the way in which restoration of the object to something like its original state can improve scaffolded recall and bring memories back to life.

To explain these issues, we first explore what is meant by “evocative object”: the variety of objects that fit this term and the mnemonic outcomes that are classed as evocative (Section “Defining evocative objects”). We then proceed to demonstrate that the restoration of certain evocative objects on *The Repair Shop* results in powerful effects on memory. Moreover, we note that the observed restorations and effects are indicative of at least two classes of mnemonic evocative objects. For one set, the evocative objects are directly autobiographical and scaffold recall that is replete with experiential qualities associated with the original event (Section “Direct evocative objects”). A second set of objects are more biographical than autobiographical, but they still have an effect on memory, by becoming powerful focal points of memory that afford a connection to the original owner of the object (Section “Indirect evocative objects”). Finally, we offer possible explanations of the mechanisms at play in these processes (Section “Restored objects and the context of the past”). For the first class of autobiographical evocative objects, their restoration seems to afford a quantitative and qualitative difference in autobiographical recall on the part of the subjects: memories appear to come flooding back, and they seem to be, in many cases,

overwhelmingly emotional.<sup>1</sup> We suggest that these restored objects enhance recall by reinstating details from the context in which the memories were encoded. For the second class of evocative objects, their restoration affords an imaginative connection to the past, which enables them to become powerful points of memory and shared narratives.

### Defining evocative objects

There are “No ideas but in things”. So wrote the poet polymath William Carlos Williams (1946, Book 1, 7). This idea is crucial to understanding how a particular class of objects can cradle memories within them. Expanding on Williams’ idea, Sherry Turkle describes how we “live our lives in the middle of things”, and suggests that this “material culture carries emotions and ideas of startling intensity” (2007, 6). Her claim relates to the notion of *evocative objects* – objects that Turkle describes as “physical objects which engender intimacy”, and which she extends to include digital and “cyborg” items in our lives.

How is it that objects can help bridge the gap in memory between the past and present? Richard Heersmink (2018) observes that objects carry informational properties, but notes that in order to fully appreciate the causally relevant informational properties of objects to scaffold memory, it is helpful to draw a Peircean distinction between three types of representations: icons, which display an isomorphism with what they represent; indices, which have a direct causal connection with what they represent (e.g., thermometers); and symbols such as words or numbers, which come to represent certain objects through shared use and social agreement, for example (Peirce 1935). Evocative objects can evoke autobiographical memories in virtue of any of these three forms of representing. But, as Heersmink also notes, some of the power of objects to evoke memories stems not from the objects’ representational properties in the Peircean sense, but from the meaning the subjects give to them. On this understanding

Everyday objects become mementos by virtue of what the owner has invested in them, be it time or emotion. Thus, it is not usually the physical characteristics of the objects that make them biographical, but the meaning imputed to them as significant personal possessions. (Petrelli et al 2008, 56)

Evocative objects, then, seem to evoke memories through a complex mix of representational and non-representational properties. Heersmink defines evocative objects as “physical objects or structures that in virtue of representational or non-representational properties evoke autobiographical memories” (Heersmink 2018, 1836). Autobiographical (or episodic) memory involves the recall of events in one’s personal past, and can happen voluntarily, such as when one consciously forms the intention to remember a moment from one’s personal past, or involuntarily, when memories of specific events spontaneously come to mind (Berntsen 2009). Material objects can become connected to or associated with these specific episodes, and hence become evocative of these memories.<sup>2</sup>

<sup>1</sup> Of course, to provide clear proof of this quantitative and qualitative difference in the memories we would need to measure autobiographical recall both pre- and post-repair, and we do not have access to this type of data. Nonetheless, the responses that participants provide (see Section “Direct evocative objects”) strongly suggest this kind of change in autobiographical recall.

<sup>2</sup> There might be other ways of remembering objects that do not involve recalling events in which they featured (Openshaw 2022). Our concern in this paper is not with these forms of “objectual” recall, but rather the way in which objects can in fact scaffold memories of (specific) events or experiences that are associated with them.

Yet the term “evocative objects” remains vague, and seems to have narrowed in scope to mean those objects connected to past personal experiences, and which scaffold emotionally charged autobiographical memories. Heersmink’s definition by no means covers the same set of objects as Turkle, who collated the stories of scientists, humanists, artists, and designers describing the objects that matter to them. These are the simplest of everyday objects; they might seem mundane to others, but to these people they are objects imbued with memory and meaning. It is an eclectic mix: cellos, cars, a laptop computer, a rolling pin, apples. Nonetheless, these objects go beyond their primary functions, and are valued in grand part because of their ability to scaffold memory, emotion, or connections to events, people, or ideas.

However, the nature of the objects themselves, the relationship of the subject and object, and even the consequences of “evoking memory” is not uniform, and is suggestive of distinct classes of evocative object. Turkle acknowledges this variance early in her book, saying: “Most objects exert their holding power because of the particular moment and circumstance in which they come into the author’s life. Some, however, seem intrinsically evocative” (2017, 19).

Turkle’s contributors include a woman for whom a bracelet triggers memories of her family and heritage, unrelated to the bracelet itself. Another recalls a yellow raincoat with vivid memories of childhood, despite the raincoat now existing only in memory, no longer present as a physical object. Yet another describes seeing a child’s wooden toy radio, an object he never touched or owned, which produces memories of a life in design.<sup>3</sup> From these and more we can infer that to be evocative, an object need not exist in the present or even be, or have been, a “personal possession”. We also see that while the memories evoked are often directly related to the object, this is not necessarily so. Indeed, the memories evoked need not be of actual personal perceptual experiences, but can relate to wider aspects of the biographical self, such as family history. Nonetheless, for all the ways to remember, the objects support and scaffold memory.

We therefore see that “evocative object” is an extremely broad, and perhaps not very precise term. There is such variance in both object and mnemonic outcome that collecting all evocative objects under a single definition is unlikely to be satisfactory. In the following sections, we use examples from *The Repair Shop* to demonstrate the characteristics of objects that scaffold experiential autobiographical memory. We go on to contrast this class of object, akin to Pierce’s icons, with others that represent more as indices and elicit distinct outcomes. In this way, we move towards definitions of specific classes of evocative objects as they relate to memory.

### Direct evocative objects

*The Repair Shop* attracts participants who have invested significant meaning in specific objects which belong to them. The objects – broken, worn out, damaged in various ways – usually have little intrinsic financial value, and so would not normally be professionally repaired outside of this context. The value of the objects is in the meaning given to them, which has prevented the objects from being disposed of, despite their ill states of repair. Many have been broken, faded or non-functional for years or decades, yet have

<sup>3</sup> The importance of physicality in evocative objects is unclear, but seems important. One of Turkle’s participants describes in “The Archive” looking at and touching an original Le Corbusier design plan, which enabled her to feel close to, even connected to the famous architect. They are then shown a digital version they can access whenever they wish, but it does not act to evoke an imaginative connection in the same way, and they doubt the evocative nature of the object and the connection it affords can be maintained in this form of experience of the object. The participant here suggests that digitality may be anonymising for both object and subject.

been kept for some reason. They are often family heirlooms, bearers of the past: objects that have stories populated by people and places of the past, which link the current owners of these objects to those stories through invested meaning:

beautiful memories are carried in that chair. (Series 7, episode 11)  
that elephant is part of the identity that we had as a couple. (Series 7, episode 15)

*The Repair Shop* process allows us to observe not only the relationship of the subject and object, but also the effect of repairing the object on that relationship. As an example of the meaning given to objects, the history of a violin brought in by Natalie Cumming is queried by master restorer John Dilworth prior to restoration (series 2, episode 1). A remarkable story emerges, which shines a light on the meaning and value it has for her:

Well, the violin belonged to my grandfather and it was passed to my aunt, who was sent to Auschwitz in 1939. My Aunt Rosa is a very well-known violinist, and she was invited to play in the Berlin Philharmonic Orchestra in the mid-30s. Unfortunately, being Jewish, she was arrested, and they were all sent to Mauthausen Concentration Camp. And then, in 1939, Auschwitz was opened and she was immediately transported there. Because she played the violin and she played very well indeed, that was her lifeline.

Indeed, this remarkable story continues. After the war and the liberation of Auschwitz, Natalie's aunt returned home to Leeds, but passed away in 1947. The violin was then handed down to Natalie's father, also a musician, which further embedded the violin in the family history. Natalie tells us what the violin meant to her father:

He didn't just use the violin as a means to making a living, he lived the violin. That was his life. And, fortunately, I've got those memories. That's what the violin represents to me.

This violin, even in its pre-repair state, is not just a musical instrument to Natalie. The violin is a gateway to the past, to the stories of her family. It is something in which Natalie has invested emotion, memory, and meaning. The violin hence transcends its primary function and serves as an evocative object.

John, the master restorer, subsequently makes efforts to get the violin looking and sounding as it did previously. Upon seeing and hearing the restored instrument, Natalie is transported back mentally in time in a flood of memory. In Natalie's words,

I just feel overwhelmed. I didn't realise it would be restored to how I remember it being played 30 years ago, and it was just beautiful – the melody, the tone. I was suddenly transported back. I could see my father playing. It was beautiful, beautiful.

Natalie's response to the repaired violin is full of affective autobiographical content. She, like many other participants, uses the word "overwhelmed" (meaning: causing sudden strong emotion), and tells us that the object has transported her to the past. All these phenomena strongly support the concept of the repaired violin evoking object-specific autobiographical memories.

The relationship here, post-repair, involves just two things: Natalie and the violin. The memories evoked are internal, yet somehow shared between her and the object. Natalie could have had this response to the violin at any time pre-repair. Yet at that stage her evoked memories, as expressed above, were personal but rather semanticised, seemingly

lacking some experiential details; the affective content clearly associated with the object was not triggered. Thus, we may infer that repair of the object has altered the relationship between Natalie and the violin.

*The Repair Shop* is full of examples of repaired objects that cue autobiographical memory, in ways that often involve rich, emotional, and meaningful experiences. The restored object affords a multisensory connection to the personal past. Here are some descriptions of the memory work that the repair of evocative objects brings about:

When I saw it, it brought back a flood of memories. And those memories are so vivid. It was emotional.<sup>4</sup>

All these emotions come back. It was just like the day I got it from my Aunt.<sup>5</sup>

First time I seen the fireman's helmet I just wanted to cry. It just took me back to my father, when I remember seeing him wearing it. It just brought it back to life for me. I just felt all the emotions flooding back and all my memories coming back of Dad. It was overwhelming. (Series 7, episode 16)

That sweet mellow sound really rekindled memories of my dad.<sup>6</sup>

I'm overwhelmed. To see it like it is, it's like the first day I ever saw it. It's not just a boat, it's part of me that's been brought back to life again.<sup>7</sup>

These memories are multisensory representations of the past, replete with emotional and episodic content (Debus 2007; Devitt et al 2017; Trakas 2021). Indeed, it is the emotional reliving of a past experience that the restored object seems to afford. "Overwhelmed" is a very commonly used word by many of the participants, clearly indicating emotional responses linked to recalled memories.

One metaphor used to describe episodic memory is that it facilitates a form of mental time travel enabling us travel back to a past episode in which we were involved (Michaelian 2016; Schacter and Addis 2007; Suddendorf and Corballis 2007; Tulving 1985). The sense that these restored objects function as (mental) time machines is palpable. The way in which the restored objects scaffold memories enables subjects to return to (specific) moments in their personal pasts (see also Section "Restored objects and the context of the past"):

you've brought a bit of my dad back today. When I flicked the switch [ ... ] it took me right back. I could almost hear myself giggling and chasing after it. Happy memories. Brought my dad back.<sup>8</sup>

These and many other cases observed on *The Repair Shop* demonstrate certain similarities relating to both the object and the response evoked post-repair. We consistently observe subject-object relationships with the following characteristics:

- The object is directly related to personal experience.
- The memories evoked are directly related to the experiential perception of the object.
- The response involves affective content.
- The response involves mental time travel.

<sup>4</sup> Series 7, episode 4. The object is a toy caravan.

<sup>5</sup> Series 7, episode 6. The object is a purse.

<sup>6</sup> From Series 7, episode 17. The object is a ukelele, which has not been played for 60 years.

<sup>7</sup> Series 7, episode 23. The object is a toy yacht.

<sup>8</sup> Series 7, episode 14. The object is a toy car.

For their striking personal connections and first-hand relationships, we suggest that objects exhibiting these characteristics form a distinct class of Direct Evocative Objects. However, this class does not describe every object brought to *The Repair Shop*. Indeed, the majority do not trigger such strongly emotive and mnemonic responses, but instead exhibit their own distinct set of identifying characteristics. It is to a discussion of this class of objects that we now turn.

### Indirect evocative objects

As we have seen, objects from our personal experiences can evoke particularly strong emotionally laden responses. However, the majority of items brought to *The Repair Shop* do not fit into this class of evocative object. In comparison, these objects have stories which are almost always less autobiographical. They are frequently not part of the direct personal past of the participant, but might, say, have belonged to a family member who has since passed away. This distinction in the directness of the relationship between the subject and object leads to a different use of the object in scaffolding memory.

In one episode, Dan Bartram brings in a nose-cone from a 1960s motorbike, which was hand-painted by his father and uncle. Dan says his father died before he could fit it to a new bike, and the nose-cone “was on the garage floor for decades”. He explains what he would hope for from the restoration:

This is something that I think links so well to (my Dad); five days ago I had a son [...] and I'd really love him to have a link to his grandad, to see this, wonder what it was, and for us to be able to talk to him and tell him about all the stories we've discovered.

Dan is very explicit about how he views the object and its use in relation to his family history.

I see it as an ornament, almost like a sculpture. I'd love to see it back to its glory days – high gloss, shining, British racing green, but having a little nod to my Dad and my Uncle, and the handpainting and all the things that make it so personal to them.

Dan has no experiential memory of the object either in use or in the context of his father, but seems to know what kind of restoration will help the object better support his memories. He returns to collect it post-repair with his younger brother, Andy, who says before the show reveals the object, and with obvious emotion:

I was only 11 when he passed away. It'll just be nice to have something to remember him by.

They go on to describe how they view the restored object:

Andy: It's a living memory of Dad, really.

Dan: Yeah, it's ... a tangible memory, something physical to look at.

Despite the emotion of recalling their father prior to seeing the repaired object for the first time, the reveal does not evoke autobiographical memories, mental time travel, or any particular affective response. The discussion is, instead, of admiration of the object and the “life” the repair has brought back into it – a state of the object that neither brother has ever seen before. Yet they are explicit about the effect of restoration:

Yeah, it's a real connection, to see it as it would have been.

The memories associated with this, and many objects with similar biographical backgrounds, may be likened to second-hand, once-removed memories, such as “This was my grandmother’s favourite watch. She used it every day at work, so it reminds me of her”. In these cases, there is no obvious direct link between the object and autobiographical memory for the person involved. That is in contrast to, for example, the fireman’s helmet (see above), about which the daughter had clear and very affective memories of her father wearing it, whereas in this case, the person has no memories based on their own direct experience of their grandmother wearing the watch. Instead, they simply associate the watch with their grandmother based on semantic first- or second-hand knowledge. As a consequence, the revealed object does not evoke autobiographical memories and associated affect.<sup>9</sup>

Instead of the closed subject–object relationship we describe for Direct Evocative Objects, here there are three aspects: object, subject, and the target of the evoked memories. Dan and Andy have no memories linked to the object, yet use it to support both personally perceived and received memories of their father, and to scaffold these memories for other people (e.g., their own children). This class of object can therefore be used to support memories for multiple subjects.

This power to serve as a focal point of memory is brought to the fore in the example of a toy horse (Garibaldi) made by a family’s deceased father, which is now restored:

Garibaldi will be sitting out in the house somewhere so that everybody who comes in can see him. That will be a reference point to talk to the grandchildren about what their great grandfather did, and what a great man he was. (S7 Ep 5)

There is a feeling of creating a memorial in many of these cases, yet one to which new memories can be added: a more socially employed object, perhaps. These objects function as the focal point of shared memory and narrative.

These objects are far more common on *The Repair Shop* than Direct Evocative Objects, and their associated characteristics differ markedly from the former, such that:

- The object is not related to direct personal experience.
- The memories evoked are not related to the experiential perception of the object.
- The relationship is triangular (as opposed to linear).
- Any affective content is directed more towards the third party than the object.
- Any mental time travel is related to experiences not associated with the object.
- The object can function as an evocative object for more than one subject.

As an obvious contrast to our first class of object, and to highlight the presence of a third party in the relationship and use of the object, we suggest that this class is Indirect Evocative Objects.

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<sup>9</sup> The participants may have experienced these Indirect Evocative Objects at various points in the past. For example, the nose-cone was “on the garage floor for decades”, so presumably it could have been seen by the sons. Nonetheless, there seems to be an important difference between these cases and Direct Evocative Objects. These Indirect objects do not seem to have been part of the subjects’ autobiographical memories. The participants may have experienced them, in some way, but they have not incorporated them into their autobiographical narratives. Any meaning that has been imparted to the objects is not in any important way related to personal experience of the object. This again shows the importance of what the subject gives to the object (meaning, emotion, and memory) in the subject–object relation. It’s not just about seeing or experiencing an object, but it is about the way in which the object means something such that it becomes part of one’s autobiographical memories and narrative.



Both Direct and Indirect Evocative Objects are subject to changed or enhanced mnemonic roles as a consequence of repair.<sup>10</sup> Such objects could, theoretically, have played this mnemonic role in their states of disrepair, but in such dilapidated states they did not seem to have the same power to evoke memory and meaning. *The Repair Shop* changes that. For example, despite Dan and Andy never having seen their father's nose-cone in its "original" condition, its capacity to act as an evocative object for them is immeasurably increased once it has been restored. How does the process of restoration change the relationship these subjects have with these objects? What is so special about *The Repair Shop* and restoring objects to their former glory?

### Restored objects and the context of the past

Many of the objects that appear on *The Repair Shop* share the characteristic of having special histories, with the power to evoke memories of particular people, places, or past times. But these objects appear on the show to undergo a process of repair and restoration. As we just saw, an immediate question arises at this point: what effect does this restoration have on the memories these objects hold? In fact, given that there seem to be at least two different classes of evocative objects – ones with a direct link to personal experiences, and others linked to another person and *their* experiences of the object – there are different ways that repaired objects produce effects on memory. There is a clear sense that, for Direct Evocative Objects, restoration and repair helps further scaffold and support the memories and emotions associated with the object. The restoration of Indirect Evocative Objects appears to scaffold imaginative engagement with the object, facilitating their function as focal points for future memories. *The Repair Shop* is not only a place for the restoration of objects, but also a place in which memories are repaired.

*The Repair Shop* is full of examples of repaired objects which help cue autobiographical memories in a multisensory way.<sup>11</sup> In many cases, it is the visual appearance of the object, but other senses can be involved in the modulation of memory: sound, touch, and smell. Natalie's violin seems to scaffold memories through sound, such that its tone transports her back to the past through memories of her father's playing.

In another case involving sound, Rosie Gorman brings in an old smoker's music box, which had been in her family for as long as she could remember, but which no longer played a tune. Rosie wanted the repaired object to be a surprise for her mum, Siobhan – one which could evocatively link her back to the past. As Siobhan explains, the repaired object had the desired effect:

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<sup>10</sup> Given the link between Direct Evocative Objects and memory for episodes in one's personal past, and between Indirect Evocative Objects and semantic memory, the different classes of evocative objects may be related to the remember/know distinction – Direct objects are "remembered" and Indirect objects are "known" to have been associated with someone or something important but have no personal memories associated with them (Gardiner 1988; Tulving 1985). We have avoided being too explicit in the broad-term usage of "episodic" and "semantic" memory as being associated with each class of object, as it is not a clear-cut distinction. For example, most Indirect Objects will have a wealth of episodic memories attached to them – even if those episodic memories are about the previous owner and not about the object itself. Similarly, there is much semantic memory associated with a Direct Object, despite episodic memories being the more prominent and important for the subject. Nonetheless, this relation between the different types of objects and different types of conscious access to information might help explain some of the differences in affect in memories associated with the different objects.

<sup>11</sup> For further examples demonstrating the way in which memory is restored in *The Repair Shop*, see Hyland (2021).

When Rosie switched it on and the music came, it just evoked so many memories. Because it was such a lovely tune and so melodious. That...Well, I was speechless. (Series 1, episode 4)

After the restoration of a chair that had been in the family for many years, the owner Neville Reid sits on it for the first time in more than 50 years, and this tactile experience triggers something in him:

My goodness, that brings back memories. The last time I sat on this, I was breaking the rules of the house ... (Series 1, episode 5)

Sometimes the change in memory, and the way in which the restored objects better scaffold recall, is obvious, even if not fully understood, to the participants of *The Repair Shop* themselves:

it's the smell as well – when I opened the box, the smell just reminded me of when I was younger. The box is seeped with memories. When it was broken something was definitely missing, and as ridiculous as it might sound, getting the box repaired has filled that gap. (Series 7, episode 14)

What is it about having an object repaired that fills such gaps in memory, and brings memories associated with them back to life and scaffolds emotional reconnections to the past?

Memory is a process that involves various stages, typically divided into three operations: encoding, storage, and retrieval (McDermott and Roediger 2022). Encoding is the process in which there is an initial exposure to and learning of information; storage occurs when information is maintained over time; and retrieval is the ability to access or recall information. Of course, this tripartite model is complicated somewhat by processes of consolidation and reconsolidation, questions of how in fact memories are integrated and stored for later retrieval (Andonovski 2021; Aronowitz 2019), and theories that recognise the constructive nature of remembering and the importance of retrieval over other stages of the memory process (Addis 2020; Michaelian 2016). Nonetheless, the model is still widely accepted.

Importantly, the processes are interconnected, and “any successful act of remembering requires that all three stages be intact” (McDermott and Roediger 2022). Given the importance of retrieval cues in the present, the act of remembering is regarded as “the joint product of information encoded and stored in the past and information present in the immediate cognitive environment of the rememberer” (Tulving and Thomson 1973, 352). This link between retrieval cues in the present and information that was encoded in the past might be one of the keys, we suggest, for understanding the powerful effect that restored objects have for evoking memories.

The encoding specificity principle (Tulving and Thomson 1973) underlies the effectiveness of retrieval cues, stating in general that the more a retrieval cue matches or overlaps with stored information about a past experience, the more effective that cue will be in evoking the memory of that experience.<sup>12</sup> Memories are connected to the context in which they are created and the more overlap between the past and present context, the easier it is to retrieve specific memories (Godden and Baddeley 1975). For example, a particular song playing during a party that you attended becomes part of the complex

<sup>12</sup> In order to be effective, however, the cue should not match too many experiences (Nairne 2002; Watkins 1975).

encoded experience. Even if you have not recalled that event for many years, as you hear this song in the present, “the whole experience rushes back to you” (McDermott and Roediger 2022).

In other words, the encoding specificity principle shows that matches between the past (encoding) environment, and the present (recall) environment facilitate the process of remembering. For determining recall, there is an important link between matching the present environment and its retrieval cues with “conditions of the prior perception” (Bartlett 1932, 188). According to the encoding specificity principle, then, a “complex interaction between stored information and certain features of the retrieval environment seems to be involved in converting a potential memory into conscious awareness” (Tulving and Thomson 1973, 352–353).

We suggest that the encoding specificity principle can help explain the power of restored Direct Evocative Objects to evoke memories of the past. Many restored objects on *The Repair Shop* express their original forms – the ways they used to look, sound feel, and so forth – such that they more effectively match the context in which they were first encountered. The restored objects function as cues from the original context of the experience and help reinstate memories from that time. Prior to repair the objects still held memories for these subjects, but their unrepaired forms are less effective retrieval cues because there is a lower degree of match between the contexts of encoding and retrieval. Restored objects on *The Repair Shop* become more effective retrieval cues in the present, evoking a wide range of memories associated with these objects and the contexts in which they were encountered in the past. The restored objects provide a bridge between past and present, facilitating the seeming quantitative and qualitative difference in autobiographical recall.

This is not to suggest that the Direct Evocative Objects function *merely* as retrieval cues in their restored states. They do not support the recall of such emotional memories of the personal past solely by providing a more effective cue. The objects still need to be evocative; it is the relation between the subject and object that is important. What we want to emphasise, however, is that there are two sides to this important relationship. The subjects invest meaning (including memory and emotion) in the objects in the first place, so even the degraded objects will always hold memories for these people; it is the subject who gives the object its evocative character. Nonetheless, once the object is restored it can, through reinstating some of the multisensory cues that match information that was encoded in the past, better scaffold the memories that the subject has instilled in them:

It’s amazing how an object such as that can evoke such feeling. It’s exactly as I remember it. It just transported me back – memories of my nan, my mum. In my mind’s eye that’s exactly how it looked all those years ago.<sup>13</sup>

By (re)forming a link between the present and past contexts of the memory process, between retrieval cues and encoded information, *The Repair Shop* becomes a place not only for the restoration of objects, but also for the restoration of recall.

Importantly, the events that these restored objects transport people back to may not always be *specific* moments in time, those individual episodes that are supposed to be what episodic memories are about. Autobiographical memories may vary along a continuum of specificity (e.g., Andonovski 2020; Conway 2001; Neisser 1986; Trakas 2019), with some memories being about specific moments in time, while others are of summarised events (Barsalou 1988), and refer to two or more events of a particular kind,

<sup>13</sup> Series 7, episode 18. The object is a music box.

or to lifetime periods. One may remember long summer evenings on a trip to France, where the memory is a single summary of that recurring event (Goldie 2012).

Restored Direct Evocative Objects on *The Repair Shop* may scaffold memories of these repeated or generalised events too. A restored table evokes memories of summarised events lacking a single temporal location: memories from a certain *period* of one's life, rather than from one particular moment:

Takes me back 50 years ... Transports you back to that time, with people around you that you love. You see the faces, hear the laughter, and the fun associated with that little table all those years ago. (Series 7, episode 8)

Is there a worry here about our employment of the encoding specificity principle to explain such scaffolding? The encoding specificity principle is typically considered to be about episodic memories of *single* events, where episodic memory is more or less operationalised as *processing a specific item in context* (Tulving and Thomson 1973). Does the fact that the restored objects may elicit memories of summarised and repeated events challenge our explanation of this effect via the encoding specificity principle? We do not think so. It's important to note that encoding specificity is not really about episodicity, in the sense of getting back to a single event. Rather, it's about matching the contexts of encoding and retrieval, and there may be multiple moments of encoding that are summarised in one general memory.

Consider the case of music. We saw earlier that songs are important demonstrations of the encoding specificity principle. A specific song may be playing when one is having a particular experience, and when one hears this song in a different context one may nonetheless be transported back to the past moment (McDermott and Roediger 2022). Songs have the power to reinstate some aspects of the context of encoding and powerfully evoke memory. Yet, songs may not only transport us back to single, specific moments. Songs may bring back precisely these sorts of memories of repeated or summarised events. In a study conducted by Catherine Loveday, Amy Woy, and Martin Conway, which probed the selection of songs by famous guests for the programme *Desert Island Discs*, these researchers found that particular songs could also bring back memories of general events.<sup>14</sup> Participants on the programme “may have explained that a song reminded them generally of a period of their life, place they often visited, or person they knew” (Loveday et al 2020, 1971).<sup>15</sup>

Just as songs may transport us back to memories of general or extended events by reinstating some of the features that were salient during the contexts of encoding, so too can the Direct Evocative Objects of *The Repair Shop*. The encoding specificity principle extends to memories of general or repeated events.

What about the case of Indirect Evocative Objects? What effect does this class of restored objects have on memory? Here the answer is somewhat different. For a start, these objects were not elements that were played with, acted upon, or looked at during an experience (or experiences) in the past. The objects were not part of the context of encoding, and so the restoration of the objects does not scaffold memories of events in line with the encoding specificity principle. Nonetheless, the restoration of these objects

<sup>14</sup> This programme is a long-standing UK radio show that asks guests to choose eight pieces of music that they would like to keep with them if they had to spend time in the isolation of a desert island.

<sup>15</sup> Loveday et al (2020, 1971) provide some nice examples of the way in which songs can scaffold these general memories: “Well this would really just remind me of my childhood ... I just remember playing this at home over and over again ...”; “We always used to have holidays with our three children – we would go every year to Devon ... and on the way we'd be playing Summer Holiday.”

still relates powerfully to memory and to the past. Here, we outline two ways in which this appears to be the case.

First, for Indirect Evocative Objects, restoration seems to create a focal point of memory. While there are no (or very few) direct links to specific autobiographical memories, the restoration brings the object back to something like the condition in which the *original* owner would have encountered it. This helps the subject create a point of encounter with the object such that it becomes a site of memory, a focal point to elicit memories about the original owner and share these memories with others. For example, consider the case of one person who brought in his grandfather's pilot jacket. This is not an object that directly scaffolds autobiographical memories, but upon return to the show, and before seeing the restored object, the grandson says, "the whole family has been talking about grandpa and our memories of him since we dropped it off, really, so it's really brought the memories back to life" (Series 7, Episode 6). The emphasis here is on the subjects and their relation to the object and the meaning that they put into it. There appears to be an important role for a physical object in anchoring the affective content of various unrelated memories, especially when they stem from multiple sources. The whole process of interacting with the object through *The Repair Shop* process has given it new life as a focal point on which to hang memories and share stories.<sup>16</sup>

It is clear, particularly from the explicit example of the flying jacket, that the whole process of bringing the object into the show for repair, and talking about this process, exerts some influence on the relationship between memories of the object's previous owner and the evocative use of the object. We expect that this influence is likely to be commonplace, although it is hard to be certain without access to more of the subjects involved in *The Repair Shop*. The process appears to trigger the positive association of wide-ranging memories about the previous owner, perhaps in connection to the repaired object, and focuses attention on these various memories. It is easy to imagine this as the start of a process which will continue once the repaired object is taken home. The object is a focal point for sharing memories, but the whole experience of *The Repair Shop* becomes a focal point too.

In contrast, we do not expect the process to significantly influence responses to Direct Evocative Objects until the restored object is revealed. While we cannot completely exclude a similar influence when bringing Direct Evocative Objects for repair, we saw no evidence of this. Moreover, the very nature of the memories evoked by the restoration – being object-specific, and object embedded – seems to preclude such a mechanism. Both the presence and restoration of the object appear to be necessary to elicit the restored autobiographical memories. The recall of the embedded, object-specific, autobiographical memories appears to require the presence of the restored object as the trigger for the observed (and verbally expressed) mnemonic responses. The reactions between the responses of those with Direct Evocative Objects and those with Indirect Evocative Objects seems to show that the whole experience of bringing the object into the show, and the excitement and conversations this creates, is more important to the latter class of objects, especially as they work as mnemonic focal points.<sup>17</sup>

<sup>16</sup> Like Indirect objects, there are stories too that people pass down through generations, tell and talk about, and hold onto as part of their own life stories, even though they did not experience the events themselves. It is interesting to think that these stories themselves might function as evocative "objects". See, for example, work on "vicarious memories" (e.g., Pillemer et al 2015), and "intergenerational transmission" (e.g., Cordonnier et al 2021).

<sup>17</sup> It would be interesting to explore in future work the separate components that might give rise to the affective responses to restored Direct Evocative Objects. It might turn out that even in these cases the whole experience involved in *The Repair Shop* does spark conversations and shared stories about the object, which themselves

There is often a sense of obligation involved in these cases, a duty to bring the object back to life and honour the memory of the original owner. There is a beautiful scene in one episode, which features sculptures made by a woman's brother who died at a young age. The woman discusses the pieces being broken as "a feeling of guilt and sadness that we didn't take care of him and his memory" (Series 7, Episode 5). There is much affective meaning invested in these sculptures; the content is not directly autobiographical, however, but rather biographical. It feels like these sculptures stand, in a sense, for the woman's brother, where he, or his memory, is personified in them. The woman goes on to say "You have brought a part of my brother back to us". This sense of the object standing in for someone is also poignant in the case of the toy horse, Garibaldi, which, the family explains, is "one of the few things we've got left that my dad actually made, everything else has gone really". This little horse "reminds us of my dad, and how much we loved him" (Series 7, Episode 5). These objects are physical scaffolds that maintain and create memories by creating a stronger sense of a link to the previous owner.

Second, and relatedly, these Indirect Evocative Objects also help provide a link to the past, but one that is imaginatively accessed (see Heersmink and McCarroll 2019). The restoration of these objects is once-removed, in the sense that it does not bring the object back to how the *participant* originally experienced it, but to how the *original* owner would have experienced it. It is then more powerfully evocative because it somehow strengthens the imaginative connection with that person. Objects in this class can be used to imaginatively and vicariously experience how they would have been encountered through the eyes (or other sensory modalities) of the original owner. Consider again the example of the grandson who brought in his grandfather's pilot jacket. On seeing the restored object, he says "you can just imagine him wearing it, walking down the airfield, people calling out his name". This restored object does not evoke first-personal memories of some event, but allows the young man the chance to imaginatively revisit the past that his grandfather was involved in.

We see a similar scaffolding of imaginative engagement with the past in the example of the motorcycle nose-cone that Dan and Andy brought in as a reminder of their dad. When they perceive the restored object, they say "you can imagine everything behind it", which seems to mean something like the entire motorbike, with their dad racing on it, as well as the care and attention that he put into it. For Indirect Evocative Objects, restoration still scaffolds memory and a connection to the past but in different ways to Direct Evocative Objects. These indirect restored objects are biographical bases, providing focal points of memory and story-telling, as well as imaginative connections to the past and the people behind the original objects.

### Concluding remarks

Writing in a book detailing some of the moving stories from *The Repair Shop*, master restorer and presenter of the programme, Jay Blades, says the following:

Everyone has a story to tell. For those who can link their family history to a symbolic object, we at *The Repair Shop* can play a role in its retelling. (Farrington 2020, 11)

We have shown in this paper how objects seem to become symbolic in different ways: some are directly autobiographical, scaffolding memories of the personal past; others are more biographical, standing in for particular people. We have also shown how the restoration of these objects repairs memory. For Direct Evocative Objects, the restoration

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might also scaffold memory. In this way, it might slightly complicate – or add to – the mechanism that we describe. We thank an anonymous reviewer for this important point.

reinstates some of the multisensory information that was originally encoded and affords a richer and emotional recall of the personal past, which can be explained by appealing to the encoding specificity principle. For Indirect Evocative Objects, the restoration allows the objects to become focal points of memory and they afford an imaginative connection to the past. These two sets of restored evocative objects provide a tangible link to the past in such a way that the objects further scaffold memory and imaginative engagement with the past.<sup>18</sup> In this way, *The Repair Shop* is not just a repair shop of objects, but a repair shop of memory too.

*The Repair Shop* is obviously a very specific set of circumstances and the demand characteristics of the situation – the inherently personal nature of the objects, and a programme specifically designed to speak to the restoration of such objects – may play a role in the evocation of memory and emotion. This makes speculation about other contexts in which the restoration of Direct Evocative Objects restores memory difficult. Nonetheless, we might see these processes play out in other contexts. And, in fact, there might be varieties of objects that may require related but distinct explanations of how they scaffold and support memory. Take the *House of Memories* (Overgaard 2016), for example. Trying to tap into the reminiscence bump memory period of elderly people with dementia, this museum recreates typical homes of 1950s Denmark, populated with everyday objects from that period.<sup>19</sup> These objects scaffold memories in the elderly people who visit the house, precisely because they are well-preserved *replicas* of objects that these people would have regularly interacted with in their personal pasts. According to the curator of the house, Tove Engelhardt Mathiassen, “It’s a totality of sights and touch and smell which, in our experience, brings out their own memories” (see Overgaard 2016). It is thought that these objects work as “associative triggers”, scaffolding memory. In such cases, these objects are not Direct Evocative Objects, as we have described them. Indeed, the objects do not belong to the people who visit the house. Yet the idea that these objects latch onto a similar mechanism to scaffold memory is certainly plausible. The objects in this museum are pristine examples of objects that the people who visit would typically have encountered in their personal pasts. By reinstating the multisensory cues in which such objects were first encountered, and experiences of them encoded, they help to bring memories to mind, which may have been forgotten or inaccessible.

Objects such as those found in the *House of Memories* may belong to a class of *Generic Autobiographical Evocative Objects*. Such objects, while not in the personal possession of individuals, may nonetheless scaffold direct autobiographical memories of experiences that individuals had of those types of objects in their personal pasts. In such cases, it is not the particular *token* object that is doing the work in supporting memory, but rather the generic *type* of object. This is the way some comedians (Peter Kay, the British comedian, for example) work their audiences – “Do you remember Chopper bikes / Spangles sweets / Bullseye on telly”. Such objects tap into something personal even though they

<sup>18</sup> Of course, there might be people who do not want objects restored because that would lessen their evocative potential. In the case of Direct Evocative Objects, this is fairly easy to explain in terms of memories of significant interactions with the object in its unrestored condition (e.g., Tsai and van den Hoven 2018). In Indirect cases, it raises somewhat different questions. Consider material objects such as ancient ruins or mosaics. Some people find restoration to interfere with the kind of connection to the past that the actual objects hold. The Palace of Knossos is one well-known example where some level of restoration is considered to have significantly detracted from the evocative nature of the site (German 2018). We believe such sites would be a further category of evocative objects, perhaps *Historical Evocative Objects*, which may work through engaging imagination and cultural, rather than personal memory. We thank an anonymous reviewer for raising this important point.

<sup>19</sup> The reminiscence bump refers to the tendency for older adults to remember more events that occurred during their late teenage years and early adulthood, which are thought to be typically formative years (Rubin et al 1986).

are generic. In a sense, these objects may not be initially consciously valued by subjects (i.e., they are not evocative in the sense of the subjects having imparted meaning to them), but they are *accidentally evocative*, when the context (e.g., a visit to a museum, or comedy show) brings them to mind and allows people to revisit the past in a new light. This allows one object to function as evocative for many people, without having to identify a uniquely evocative object for each person. Without this, the *House of Memories* would be impossible to construct. What our study of *The Repair Shop* lets us better understand is one particular way in which this might function, and this could lead to ways of creating better scaffolding environments for memory.

In the case of Indirect Evocative Objects, we can see the same type of process play out in, for example, the restoration of family heirlooms. There are a number of interesting projects devoted to this kind of restorative work and scaffolding of memory. Take the restoration of heirloom sarees in India (Desai 2022). These objects have memory and meaning for the families who own them, precisely because of their connection to a family member in the past. It is for their emotional rather than financial value that they are heirlooms. Such objects may be in states of disrepair, but through their restoration they again scaffold memory and connections to the past and to the people who first used them: “Heirloom objects, while just objects, hold all kinds of memories and emotions within them. They represent a family’s history, tracing the journey to where they are now. And for many, these objects become the key to unlocking information about its owner that they may never have had before”. Again, these objects are focal points of narratives, things to weave a family history around, and a means of keeping these stories and the memory of the original owner alive.

What we see then is that there may be a variety of evocative objects, from the very personal and Direct (e.g., one’s own childhood toy), to the Generic Autobiographical (e.g., a type of toy, such as a Chopper bicycle), to the Indirect (e.g., an heirloom saree), right through to the Historic/Cultural (e.g., Greek antiquities; see note 18). In this way, we find evocative objects scaffolding everything from our personal narrative memories right through to our memory of how we got to where we are now collectively and culturally.

How all these diverse objects precisely relate to repair and restoration is a question for future work. What we can say is that repair, or perhaps the maintenance of objects in general – to properly look after the “things” in our lives – is to take care of our personal, family, and cultural memories. To return to the quotation from Heaney with which we began this study, repairing and maintaining the objects of our lives may allow us to enter into a “domestic intimacy with realities that might otherwise have vanished”. Looking after the objects of our lives may help keep memories alive over time. When we mend these objects, we may also mend the memories that are tied to them.

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