Personal Possessions as Cues for Autobiographical Remembering

Annemarie Zijlema
Leslie Comrie Seminar

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Study and professional background

• Library and Information Science

• Work: Information & Communication

• Joint-PhD program Materialising Memories
  • teaching HCI and interaction design

• Haptic bracelets project at OU UK

• UoG since 1 September 2019
Joint PhD

Eindhoven University of Technology

University of Technology Sydney
Introduction to the topic
Approach - multidisciplinary

• Interaction design / Human Computer Interaction
• Cognitive psychology
• Consumer behaviour

• Qualitative research / thematic analysis
  • (Braun and Clarke 2006, 2012)
Autobiographical memories are significant long-term memories of events that occurred in a person’s life and relate to themselves

(Conway & Pleydell-Pearce 2000)
Long term memory

Figure 5.8 Page 212: Sternberg, R.J. & Sternberg, K. 2011, *Cognitive psychology*, 6th edn, Cengage Learning, Wadsworth.
Cuing is the process initiated by a cue that activates a mental response, for example a memory, an emotion, or a thought.
Possessions

• External cue: existing in the physical world
  (Berntsen, 2009)

• The presence of memorabilia correlates positively with better mood
  (Sherman, 1991)
Aim: gaining knowledge for designing for cued remembering

‘Jaap’ [P12 study 2]

‘4Photos’ Ten Bhömer et al. 2010
## PhD research: cuing memories

| Study 1: Home tour interviews |
| Study 2: questionnaire cards (longitudinal) |
| Study 3: interviews about repaired objects |

### Effects of use on cuing

### Main causes of changes in cuing over time

### Effects of traces and ageing on cuing

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Study 1: Cued responses and use

Cued responses

Cuing over time

Use

Material traces of ageing and use
Study 1 method: objects related to travels

- Home tour interviews
- Objects related to one holiday
- 71 items
wearables 17x

images 16x

decorative objects & souvenirs 15x

books, guides & papers 9x

notes & journals 3x

food & drinks 3x

body & shower creams 2x

other 6x
Study 1 findings: cued responses
Type: No-memory response

“The first thing that comes to mind, is what I would wear it with, when I would wear it.” [P05]

- Often items used by the participant, such as clothes, or food items
Type: Knowledge response

“[…] it's just, you know, Antarctica is a pretty cool place to visit.” [P06]

- Often items that were seen a lot after the holiday; e.g. a desktop image, or a key ring
Reflection response

“That I want to go again. [grin] [...] I guess it reminds you that life is not crap”. [P03]

- Items with visual qualities and sometimes consisting of multiple cues (composites)
Episodic memory response

“So when I smell this, [participant opens bottle] it reminds me of when I was in Barcelona in a hostel. And I was using this every day, and it reminds me, it takes me back to the shower. Right there. Straight away, in that hostel. And Barcelona and that street I was on”. [P01]

• All types of items, also all the digital photos and some of the clothes, fridge magnets and city guides
Study 1 Conclusions

• 4 types of cued responses

• Majority of memories centred around the moment the item was first seen

• Items cued multiple memories

• Different uses affect their potential as memory
Studies and finding

Study 2: longitudinal study
Study 2: Cuing over time
Study 2 method: item-memories relation over time

- Longitudinal - Questionnaire cards
- 20 participants
- App. 10 months
- 3 Personal possessions
- Post-interviews (4x)
1) Can you describe what came to mind when you selected the item? You may have jotted this down on a piece of paper when you selected the items. Please write down all the memories that are being cued by the item. Also write them in the order that they came to mind (a minimum of 2 memories are required for the item to be included in the study). Start each new memory at a different letter.

A: 

B: 

C: 

D: 

E: 

Perhaps some memories will come to mind after you have completed question 1. It is perhaps tempting to fill them in, but please do not include them. We are exclusively interested in the memories this item cued right away.

2) Do you think there is a reason why they came to mind in this order? If so, could you explain?

3) Sometimes a memory pops up that is not cued by the item, but cued by the previous memory. If you look at the memories you described, are all the memories cued by the item? Or are some cued by the previous memory? Please circle your answer for each memory:

A: Item / memory / do not know
B: Item / memory / do not know
C: Item / memory / do not know
D: Item / memory / do not know
E: Item / memory / do not know

4) Some memories may involve more mental effort than others to be retrieved. How easy do the memories you just described come to mind? Please indicate with a letter (corresponding to the memory in question 1) on the scale where each memory is placed. If they are all the same, please write the letters on top of each other.

low effort


high effort

5) How specific was the memory that came to mind? Please write down the letter from question 1 at the description where it fits best. Pick one description for each memory. It is ok if multiple memories (or all) fit in the same description. What I wrote down refers to:

- One specific moment or a particular time: 
- A repeated activity or a category of similar events without the specification of a particular time: 
- An extended period of time which lasted longer than a day: 
- A person, animal or thing without remembering a specific moment or a particular time: 
- A feeling, thought or reflection based on a memory: 
- None of the above fit for what I wrote down:
6) Below you will find a timeline. Could you please point on the timeline when the remembered event took place? You can use the letters from question 1 and use the upper row to fill them in. If the memory is not from an event (for example to a person) or you do not know when it took place, you can leave out the letter.

7) We are interested in when the item started cueing this memory. Do you have any idea when this connection was established? If so, please fill in the letters in the second row.

8) Did any other relevant events happen related to the item/remembered events? If so, please fill them in in the third row.


6) remembered events (A, B, C, etc.)

7) item began to cue the memories (A, B, C, etc.)

8) relevant events related to the item/events

----------- (please fill in)

now

Check: did you fill in a point of time at the start of the timeline? For example, year 2002 till now.

9) It could be that the memory that came to mind was cued by a specific aspect of the item. For each memory (A, B, C etc.), could you please pinpoint what aspect of the item cued the memory? For example something specific: namely ..., something generic: ..., everything or perhaps you do not know. Feel free to draw the item to illustrate what triggered the memory.

What in the item cued the memory?

A: __________________________________________
B: __________________________________________
C: __________________________________________
D: __________________________________________
E: __________________________________________

10) Can you give a (short) description of the item?

11) Could you describe the place where the item normally is located? If the item does not have a fixed location, or the location has changed recently, I would also be glad to hear more about that.

12) Can you describe what you normally do with this item? For example, how often do you encounter it, in what activities is it involved, is it a private item or available for anyone else to see, etc.

Please continue interacting with the item as if the item was not part of this study.

13) Could you please take a photo of the item on its original location? Take the photo from a little distance, so the environment of the item is in the picture too.

Thank you very much, you completed all the questions for this item! You can now continue with the next item. If you are done, you can put the cards in the envelope and return it to us.
6) Below you will find a timeline. Could you please point on the timeline when the remembered event took place? You can use the letters from question 1 and use the upper row to fill them in. If the memory is not from an event (for example to a person) or you do not know when it took place, you can leave out the letter.

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8) Did any other relevant events happen related to the item/remembered events? If so, please fill them in in the third row.

6) Remembers events (A, B, C, etc.)

7) Item began to cue the memories (A, B, C, etc.)

8) Relevant events related to the item/events

(please fill in) now

Check: did you fill in at a point of time at the start of the timeline? For example, year 2002 till now.

9) It could be that the memory that came to mind was cued by a specific aspect of the item. For each memory (A, B, C, etc.), could you please pinpoint what aspect of the item cued the memory? For example, something specific: namely ..., something generic: ..., everything or perhaps you do not know. Feel free to draw the item to illustrate what triggered the memory.

A: ____________________________________________
B: ____________________________________________
C: ____________________________________________
D: ____________________________________________
E: ____________________________________________

What in the item cued the memory?

After you have completed the first 9 questions, you can open the red envelope with the name of this item on it and compare your memories from 5 months ago to your current memories in question 1. It could be that you gave exactly the same answers as the previous time. It could also be that the memories changed, or the order of the memories changed. Both situations are ok.

10) Do you see any changes in your memories compared to the previous session? Can you think of anything that could explain the difference? If you do not know, that is ok too.


11) Five months ago you said this was the location of the item: “In my wardrobe.” Is the location still the same for this item? If the location has changed in the mean time, we would be glad to hear more about that.


12) Five months ago you told us that this is what you normally do with this item: “I sometimes see it when looking for something in the wardrobe. I wear it once a year, at Christmas.” Is this still the case? If not, please explain what has changed.


13) The previous time you sent us a photo of the item on its original location. We would like to ask you to do this again. Also if the item did not change in its appearance and it is still at the same location. So, could you please take a photo of the item on its original location? Take the photo from a little distance, so the environment of the item is in the picture too. You can email it to me on enmemarie.fultzma@student.uts.edu.au. If the item is digital, please include a print screen, a photo, or a description of the folder location if possible.

Folder location: ____________________________________________

Please continue interacting with the item as if the item was not part of this study.

Thank you very much, you completed all the questions for this item! You can now continue with the next item. If you are done, you can put the cards and the piece of paper with your memory description from the previous session in the envelope, and return it to us.
Study 2 findings: changes over time

- Current events on people’s mind
- Emotional state
- New connections to recent events
- The item was involved in new events
- Thoughts about the person or situation changed
- The item revealed other characteristics
Conclusion

• Most objects cued at least one memory consistently over the period of 10 months

• factors causing the cued responses to change relate to:
  • the item,
  • new or altered memories,
  • the current state of mind

• Most often the item as a whole was responsible for the cue – sometimes a specific part of the item
Studies and finding

Study 3: Repair and material traces of ageing and use
Study 3: Traces of ageing and use
Study 3 method: traces of ageing and use

- Interviews with repair professionals
  - Professionals who repair or renovate people’s personal possessions
  - In the workshop

- Interviews with object owners
  - Personal objects that are renovated, repaired, self-repaired, repurposed
  - Participant brings in one or more photos
# Participants and objects

<table>
<thead>
<tr>
<th>Experts</th>
<th>Object owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clock maker</td>
<td>Chest of drawers</td>
</tr>
<tr>
<td>Furniture restorer</td>
<td>Porcelain bowl</td>
</tr>
<tr>
<td>Doll and bear repairer</td>
<td>Antique desk</td>
</tr>
<tr>
<td>Metalware renovator (gold, silver, copper, brass)</td>
<td>Cabinet</td>
</tr>
<tr>
<td>Ceramic restorer</td>
<td>Necklace</td>
</tr>
<tr>
<td></td>
<td>Porcelain doll</td>
</tr>
<tr>
<td></td>
<td>Baby cot and changing table (repurposed from old furniture)</td>
</tr>
</tbody>
</table>
Findings: types of traces

- **Traces of use**
  - mark on the top where grandmother used to put the vase with flowers
  - ink stains on a desk

- **Traces of ageing**
  - crazing of the porcelain
  - discoloration/yellowing of the doll’s dress

- **Traces of repair**
  - parts of the brand label sanded away during repair
  - stiffness of a necklace compared to before the repair

- **Traces of accidents**
  - crack from breakage in the porcelain (mended)
  - missing foot of a doll

- **Alterations**
  - shiny handles that do not belong on the chest of drawers
"I had a Burmese cat. The cat jumped from another piece of furniture, I can’t remember what, and landed on that, and then the thing went boing – boing – boing. And it landed on the ground. “

“I only have to look at it and it comes to mind. Warm memories of the cat. It is kind of funny. “
Findings: motivations for repair

Repair professionals
• State of the object
• Passing on ownership

Object owners
• State of the object
• Knowing someone who could repair
• Desire to display and maintain the object

“I was dating, I met a man who was a cabinet maker. So we had a date, and the date did not go very well. I wasn’t even thinking about the cabinet when I had a date with him. But a few weeks later, I thought, I wonder if he could actually make my cabinet.”
Desire to display and maintain the object

“It is something that is useful, it is something my daughter values, and her husband values it too, it is a bit of a heirloom. It is something I know will stay in the family.”
Effects of repair

- Additional or stronger meaning
- Lost qualities
- Recovered or renewed its functionality

“I didn’t realise quite what the desk would have been used for. And now I see it, you know, as a money desk, [...] it has given me a little window into history that I didn’t have.”
Reasons for not repairing traces/damage

• Improvements do not outweigh costs or effort
• Ageing or damage is aesthetically appreciated
• Reminder of the past
• It is how the object is remembered

“It has never had it like that”
Study 3 Findings: material traces of ageing and use

• Different types of traces
• Traces cue associations to the USE in the past, and also to the (imagined) history of the object
• People want to preserve the object in the way they remember it
• Restorers tend to repair new damage, rather than old damage
10 design considerations
Example

Consideration 5:

*Current use and exposure of the item influences cued remembering*
Conclusions

• Cuing with personal possessions can result in a variety of outcomes – not always episodic memories

• Changes in cuing over time are caused by new or current events, the owner’s state of mind, and changes in the item itself

• Traces of ageing and use that are aesthetically pleasing could increase the cuing of memories, while damage and unsightly marks can hinder cuing
Publications


