

Before I Forget: From Personal Memory to Family History

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RUNNING HEAD: BEFORE I FORGET

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ABSTRACT

This paper presents findings from a field study of eight persons over the age of 50, who were undertaking a range of activities with the intention of ‘recording their memories for posterity’. We describe practices associated with dealing with inherited family archives; the creation of new artefacts, such as scrapbooks and collections of letters, out of repurposed archived materials; and the recording of one’s memoirs. Our analysis leads us to emphasise a distinction between ‘personal’ memory and memory ‘for family’, noting that while memory is used in the construction of a sense of one’s own history, and in enabling personal reflection on the past, the work that is bound up with processing archives and producing new artefacts is heavily influenced by a desire to make them accessible and relevant to children and grandchildren, both now and in the future. The tending to, and crafting of, these materials can be understood as a means of creating a ‘joint’ past and reinforcing a wider family narrative. We conclude that through these practices, memory was used as a resource for self, but also for future family life.

CONTENTS

Introduction.....	4
1. Background.....	4
1.1 Memory as Personal	4
1.2 Beyond ‘Personal’ Memories.....	6
1.3 Memories for ‘the Family’	6
1.4 Summary	7
2. Recording Memories for Posterity: A Field Study.....	8
2.1 Methods.....	8
2.2 Data Analyses.....	8
3. Findings: Dealing with Inherited Archives	9
4. Findings: Creating Records about the Past.....	11
5. Overarching Themes and Design Opportunities	14
5.1 Preserving Archives through the Process of Change	14
5.2 Memory as a Resource for Personal Action.....	16
5.3 Memory as a Resource for Family Action	17
5.4 Meaning in the Future: The Distinctive and the Mundane.....	19
6. Conclusion.....	20
Notes	21
References.....	22
Figure Captions.....	26
Figures.....	27

1. INTRODUCTION

The past is salient for all sorts of action. Workplaces need it; organisations act on it; legal institutions investigate it. For persons too the past is vital. The past is not simply something one has but is something one uses. It can be drawn upon in the construction of one's own history, and it can be shared with others, becoming a vehicle for family and friendship. It is no wonder then that the means by which the past is brought to life, *memory*, is at once a topic of great appeal to HCI (Human-Computer Interaction) and a source of huge interest to the social sciences. In this paper, we report findings from a study of persons who considered themselves to be 'recording their memories for posterity', focusing in particular on the "processing" of inherited family archives, the creation of new artefacts out of repurposed archived materials, and the recording of one's memoirs. In doing so, we consider a tension that emerges in the data between memory as 'personal' and memory 'for family', and highlight this in considering opportunities for design. First though, we consider literature related to this topic, including theories of memory as personal, studies that position it as a resource for action in a social context, research that shows how it is bound up with material practices at home, and the relationship between personal memories and family stories.

2. BACKGROUND

2.1 Memory as Personal

The notion of memory as 'personal' is well-established in the field of Psychology and, as the theme of this special issues attests, is also highly influential within HCI. Memories of one's own past are often referred to within Psychology as 'autobiographical' memory, and although approaches to this concept vary (see e.g. Rubin, 1999), one of the more prominent models is Conway and Pleydell-Pearce (2000)'s description of autobiographical memory as part of a 'self-memory system'. In this model, autobiographical memories are understood as transitory, dynamic mental constructions, which are generated from an underlying knowledge base. The knowledge base is proposed to be highly sensitive to cues, with the result that patterns of activation continuously arise and dissipate across it in response to prompts such as sights, sounds and smells. To prevent the constant intrusion of memories, they are only constructed and consciously experienced if they are consistent with the current goals of 'the self'. This notion of the self is central to Conway and Pleydell-Pearce's concept, and is used to explain a bias for memory of self-relevant and self-formative events. Indeed, several researchers have noted the privileged status in memory of 'self-defining moments' (Singer & Salovey, 1993) and events that matter to an evolving life story (Nelson, 1993). McAdams and Adler (2010) propose a life story model of adult identity, arguing that people draw on key events in working to transform the past into something they can make sense of today, and Pillemer (1998) suggests that salient and memorable episodes provide a framework for the narrative representation of a person's life. Drawing these arguments together, we can surmise that memories are not retrieved but are formed; narratives are actively reconstructed (and co-constructed with others); a life story is interpreted and retrospectively re-interpreted; and narrative truth (following Spence,

1982, cited in Pillemer, 1998) and belief, rather than objective truth, is bound up with identity.

This view of memory has been influential in informing the design of a number of prototype technologies in HCI. For example, van den Hoven and Eggen (2008) explicitly draw on Conway and Pleydell-Pearce's model in suggesting guidelines for an augmented memory system. They note the importance of cueing, and use this in the development of a Digital Photo Browser, in which souvenirs serve to cue recollections whilst also linking to digital photos. The notion of cueing memory is also drawn upon widely and implicitly in explorations of audio as a trigger for revisiting the past (Oleksik et al., 2008), the production of 'audiophotographs' (Frohlich, 2004), and the augmentation of objects with sound clips (Frohlich and Murphy, 2000). Interestingly, the effectiveness of technology in supporting recall tends to be assumed rather than evaluated, although Sellen et al. (2007) demonstrate that photos captured with a lifelogging device, SenseCam, often support a sense of *knowing* that something happened rather than a full *recollection* (or re-living) of the experience, and van den Hoven and Eggen (2009) show that a simple prompt to write down one's memories elicited more detailed accounts than audio, video, photography, objects, or odour-based cues. Sellen and Whittaker (2010) suggest that it is essential to avoid the assumption that memories can be 'captured' with technology, and to instead focus on the benefits that such technologies might provide. While their critique is of lifelogging technologies, their argument can be applied more broadly, raising the question of what we are designing for when we design to support 'personal memory'.

One area of research within HCI that does clearly aim to support what memory 'does' is the body of work on technologies for users with cognitive impairment. For example, Alm et al. (2004) explore the use of images and audio relating to local history as a way of triggering the long-term memories of persons with dementia, thus supporting interest and participation in conversations with their caregivers. A similar but more personalised approach is taken in Multimedia Biographies (Damianakis et al., 2009; Smith et al., 2009), in which 'video life stories' were developed by researchers, in conjunction with participants and family caregivers, for persons with Alzheimer's Disease and mild cognitive impairment. Again, the format is intended to provide a shared space for conversation although, in this project, the work of producing personalised biographies was additionally noted as providing a reflective experience and a sense of accomplishment (Smith et al., 2009). Relatedly, Biography Theatre (Massimi et al., 2008) presents a digital life history as an ambient slideshow. A deployment in the home of Mr H, a man with Alzheimer's Disease, did not result in any improvement in memory, but was noted as altering the way memory was factored into family life. Importantly, the system provided an occasion for remembering, enabled Mr H to talk about the past, and seemed to result in an improved sense of identity. Following Harper et al. (2008), Massimi et al. note that the Biography Theatre was a 'resource for action'. Indeed, in all of these projects, technology is used in service of memory. It provides a focus for conversation, the chance to reflect, and the opportunity to consider the past.

2.2 Beyond ‘Personal’ Memories

The work discussed above highlights the role that memory plays in social interaction with others and touches on the idea that memory has ramifications beyond the ‘personal’. Indeed, social interaction models, which highlight the interpersonal nature of memory, have been proposed. Hirst and Manier (1999) argue that memories emerge out of forms of discourse and cannot be understood as distinct from these, and Tversky (2004) has demonstrated that omissions and exaggerations, done in the spirit of telling a story, can become conflated with and distort memories of the event talked about. Further, it has been shown that the form that narratives take are shaped by interactions during childhood (Nelson, 1993), with children learning how to formulate their memories as narratives from their parents. The context of remembering also impacts the form that memory narratives take. Webster et al., (2010) suggest that reminiscing differs in personal and interpersonal contexts, and with respect to cultural and familial boundaries. This framing of memory as interpersonal and sociocultural is also bound up with theories of what memory ‘does’. Nelson (1993) suggests that the functional significance of autobiographical memory is that of sharing it with others, and Tannen (1990) theorises that the details that are conveyed in talk about the past are a way of conveying intimacy, especially among women. Fivish et al. (1999) argue that joint remembering creates interpersonal bonds based on a sense of shared history, and Bruner and Feldman (1999) contend that any group that wants to constitute itself has to develop shared stories that define identity and guide discovery of meaning.

In addition to this positioning of memory as beyond ‘personal’, objects that somehow represent memories, even if just for oneself, are also bound up with social relationships and the maintenance of intimacy. Research into family archiving practices demonstrates how mementos are integrated into living spaces and everyday life (Petrelli et al., 2008), and how objects, as vehicles of narrative excursion, are used not only to define the self and connect with the past, but also to honour others, frame the family, fulfil a duty, and enable forgetting (Kirk & Sellen, 2010). Kirk and Sellen argue that material practices make manifest the social relationships of the home, and this includes the ‘putting away’ and ‘keeping safe’ of objects. For example, a significant other could be honoured through display of a photograph or use of an artefact they once owned (ladles and recipe books are good examples of this), or through the deep and secure storage of an object that represents them in some way. These notions of putting away and safekeeping have also been highlighted by Odom et al. (in press), specifically in relation to heirlooms. Relatedly, Finch and Mason (2000) note that the ‘cherishing’ of inherited objects is what distinguishes ‘keepsakes’, which are treasured in the context of a relationship and enable those not present to be incorporated into family life, from ‘heirlooms’, which are ‘just kept’.

2.3 Memories for ‘the Family’

Central to Finch and Mason’s (2000) argument is that inheritance is relational; moral decisions are manifest in who inherits what, with the status of an object as a ‘keepsake’ being dependent on it being inherited by the ‘right’ person. This discussion of objects by which one can be remembered can be contrasted with the possibility to *document* one’s

memories, to be ‘passed on’ to others. In this section, we consider two guides that give advice on the writing (Spence, 1997) and recording (Rosenbluth, 1997) of memoirs and life stories. In both cases the anticipated audience is family, including unknown future family members, and the importance of doing this before it is ‘too late’ is noted. However, there are some interesting contrasts in these two texts. While Spence places control in the hands of the writer, advising that they reflect on their experiences and convey what they have learnt with age, Rosenbluth places the adult children in an ‘interviewer’ role, and positions interviewing a parent as a way of ‘honouring’ them. Interestingly, she also suggests that the interview format can enable the asking of ‘difficult’ questions by redefining the parent-child relationship, and addresses the question, “who has the right to tell a secret?” (p. 92). In Rosenbluth’s account, the tapes are implicitly owned by the family, and the account is explicitly co-constructed rather than ‘told’. If necessary, she advises that the tape can be re-wound and the interview backtracked.

There has been little attention in HCI to the deliberate crafting of legacy objects, although Sandhaus et al.’s (2010) ‘My Life Photo Book’ is designed for people at the end of their lives to collate photos and accompanying information. However, some of the work on home archiving does consider the notion of future audiences. Kirk and Sellen (2010) report instances of parents keeping items from their offspring’s childhood to be given to them once they are grown, and Stevens et al. (2003) designed the Living Memory Box with scenario of parents “preserving memories” of their children in mind. Petrelli et al. (2009) consider more broadly the ‘intentional capture of future memories’ through a study in which participants were asked to create time capsules to be opened in 25 years by grandchildren. Participants sought out and created a variety of items to offer a ‘sample of life’, taking photos of people or places that were not commonly recorded and even writing about memories that they wished to preserve. Perhaps the most striking aspect of Petrelli et al.’s findings was the nature of the time capsules as a communication to the future. Participants included family jokes, objects to make opening the time capsule more fun, and messages to their future selves (such as lists of things a 12 year old hoped to have done, which could then be checked off). The notion of opening the time capsule, with family, on some future occasion, clearly influenced what was included. Petrelli et al. conclude that technologies to support memory should support active selection, creativity and meaning making, rather than the passive capture that is typical of current lifelogging devices.

2.4 Summary

The above discussion highlights a number of tensions and blurring of the lines between ‘personal’ memories and memories ‘for family’. Firstly, we have seen that memories are ‘constructed’ rather than ‘retrieved’, and this construction is a resource in social interaction. Secondly, we have explored the role of memory in social interaction, noting that shared narratives influence how groups define themselves, play a role in reinforcing bonds, and serve as an expression of intimacy. Thirdly, we have seen that home archiving practices connect people with the past, but also serve as a way of honouring others in the present, and play a role in framing and constituting the family. Finally, we have explored the notion that personal memories can become ‘family stories’

or ‘future memories’, by being documented in a format that enables their passing on, or their opening up and ‘reconstruction’ at a later date.

3. RECORDING MEMORIES FOR POSTERITY: A FIELD STUDY

In this paper, we examine some of the ways in which people attempt to ‘record their memories for posterity’, with the aim of understanding what this can entail, what motivates it, and what outcomes are hoped for. In doing so, we unpack a distinction between ‘personal’ memory and memory ‘for family’, and begin to explore what this could mean for design.

3.1 Method

Eight participants were recruited from a stall at an Age Concern (a UK age-related charity) event and from an advert placed in a newsletter aimed at people aged 50 and above in the local area. We specified no criteria other than that we were looking to interview people who were ‘recording their memories for posterity’, however, all participants were grandparents living in the South-East of England. They were engaging in a number of activities that they considered to fit the idea of recording memories for posterity, including managing family archives, creating new artefacts such as scrapbooks and edited collections of old letters, and writing their memoirs. Details are given in Figure 1. Pseudonyms are used throughout this paper to preserve anonymity.

[Figure 1 about here]

This is a small sample and was not intended to be representative. Instead, in-depth interviews and iterative data analyses were conducted to enable the reaching of a rich understanding of the practices that participants engaged in and the values that were bound up with this. Participants were interviewed at home so that archived materials and documents that had been created, such as memoirs, could be viewed and used to ground the discussion. The interviews were semi-structured and flexible in order to accommodate the different activities that were encountered and the role of technology within them. Questions were asked regarding what the different activities involved, the motivation behind them, the intended audiences for any artefacts that were produced, whether help had been solicited or provided, whether any barriers to the process had been encountered or overcome, and if any next steps were planned. The sessions were audio-recorded and transcribed, and artefacts such as archived materials and manuscripts that had been produced were photographed. A £20 gift voucher was offered for participation.

3.2 Data Analyses

Transcripts of the interviews were analysed using grounded theory techniques, as described by Strauss and Corbin (2008), so as to allow themes to emerge from the data in a bottom-up manner. This approach was adopted because of the broad and open-ended nature of the research questions. Initial data analyses comprised of ascribing open codes; iteration during this phase involved an exploration of the relationships between these (axial coding). Higher-level themes (categories) were then identified by examining

properties that were shared across codes. Further iterations were undertaken centring on the core concept of ‘narrative through time’; this ultimately resulted in the identification of four overarching themes. An example of how some of these data are interlinked is presented in Figure 2.

[Figure 2 about here]

In the following two sections, two sets of activities described by participants are detailed. The first, in Section 4, relates to dealing with inherited family archives, and the second, in Section 5, relates to creating new records about one’s personal memories. In Section 6, broader conceptual themes are used to position a discussion of opportunities for design.

4. FINDINGS: DEALING WITH INHERITED ARCHIVES

In this section we explore a set of activities that entailed looking after “the archive” (Lisa) or “the family archive” (Edward). These were collections of content, related in some way to the extended family (both past and present), and representing family history. Materials tended to be mixed, comprising, for example, photo albums, letters, family trees and funeral notices. The archives themselves were often described in terms that emphasised passivity, giving a sense that they could lie dormant (“there they lay”, Lisa)), be received rather than deliberately acquired (“it came to me”, Edward)), and simply needed to be “preserved” (Lisa) or kept safe. Perhaps most importantly, they were bound up with a sense of permanence; they were expected to outlast whoever was currently looking after them, being kept with the view that they would be eventually passed on to someone else. The role of archivist was therefore seen as temporary, adopted in the context of wider family and undertaken with the expectation that it would eventually be fulfilled by someone else. However, a deeper exploration of archiving revealed practices that were anything but passive and materials that were understood as being potentially vulnerable rather than permanent.

First of all, archives did not exist or ‘come to one’ as a neatly packaged set. They needed to be identified and stored, especially when obtained in the context of another family member having died, and this entailed making decisions about what to add, maintain and discard. The passing of a family member meant the incorporation of new material into the family archive, which would previously have been understood as ‘personal’. For example, a series of early love letters between the now deceased mother and father of Lisa, which had not been read by anyone else whilst they were alive, were now considered part of the family archive. The fact that “what I am referring to as the archive is what my parents decided not to chuck out” was viewed as an implicit form of consent for this change in status. Interestingly, ownership did not transfer to Lisa, who considered herself to be giving them “house room”. Instead, they were understood to be owned by ‘the family’, and this was clearly apparent in the permission she sought from her sisters before repurposing them (a topic we return to in section 5). Thus the role of family archivist was bound up with certain responsibilities but (and in contrast to the way one might view one’s own personal artefacts) did not entitle ownership. In what follows,

we highlight three of the activities associated with the role: guarding against loss, making artefacts accessible, and making new discoveries.

Guarding against loss. Having delineated the contents of the archive, many of the participants described a set of “processing” (Lisa) activities that came with it. For example, Brenda was engaged in the activity of taking photos out of albums with acidic pages, and Lisa was digitising photos. The duplication that is made possible through digitisation was seen to offer a safeguard against dangers such as fire, but in this case a further reason was offered: future generations may lose contact with one another:

“There will be some people who don’t know that it was in my cupboard that it all rested, I suppose in a sense that was the point of this, that these books will lie around in a lot of families, a lot of households, giving a clue to where they could find out more”
(Lisa)

Rosie also commented that a DVD would be more accessible to future generations because “it’s much more what they’re used to”. Thus guarding against loss pertained not only to *loss of the content* itself, but also the possibility of *losing touch with it*.

The notion of guarding against loss also motivated processing as a *reworking* of archived materials for the benefit of future generations, driven by the concern that materials would no longer be meaningful to the family in the future. For instance, in the case of photos, it was believed that future generations would not know who the people in them were. Supplementing the images with knowledge ‘in the head’ was therefore viewed as essential. As an example of this, Lisa was producing a word document to detail who was depicted in a selection of the family photos. Family trees were also kept up to date, there being no sense that archived materials should not be tampered with; the mix of biro and ink in Figure 3 illustrates this nicely. Thus, participants worked to avoid a *loss of meaningfulness* regarding the content they were housing.

[Figure 3 about here]

Making artifacts accessible. Archived materials could also be repurposed as a way of making them accessible to others within the family. Participants produced scrapbooks about specific family members, DVD “life stories” compiled out of photos and video clips, and edited collections of letters. These could be picked up and flicked through or, in the case of the DVD, played; this was not a collection of files, but a DVD that could be watched. Bound up with the finished nature of these artefacts was the fact that they told a story. To some extent the artefacts that were repurposed lent themselves to a narrative structure (as in the case of letters) but this was also predicated on the careful selection of content. As Brenda said of the scrapbook shown in Figure 4, “less is more”.

[Figure 4 about here]

In most cases, there was a sense that these artefacts were produced in honour of a person, most commonly a parent. Lisa’s collection of letters, sent between her parents, was described as a “tribute” to them, and Brenda was producing a DVD about her mother using video-editing tools, as a way of drawing together video clips and photos that she

had of her. In this case, the DVD was played to Brenda's granddaughter, as a way of underpinning a relationship between them. Relatedly, Lisa chose to self-publish her parents' letters, printing a limited number of editions and giving a personalised copy to each one of their descendants ("even the babies"). In these examples we see practices that turn archived materials into *accessible, standalone objects* that convey a *clear narrative*. Further, the repurposing of materials in this way was used as a way of continuing to incorporate great-grandparents, who had since passed away, into family life.

Making new discoveries. The final set of activities we encountered may be better described as a hobbyist activity than an obligation of family archiving, but it is sufficiently bound up with archived materials to be worth noting here. A number of participants were using materials within their archives to make new discoveries about their families. This was especially associated with family trees, which enabled the locating of 'new' family members, who could then provide further information about the family and, in some cases, deliver their own version of the family tree:

"Now this Catherine, I think it was, got in touch with me .. and so through her and her knowledge of her Aunt Penelope they produced an up-to-date tree ... I have just sort of written to these people If I had an address and asked .. can they tell me, you know, their later generations and their family trees" (Edward).

In a related example, Brenda had recently acquired a set of "cards" (see Figure 5) from an elderly relative whom she had come into contact with, which she was trying to date by undertaking research on fashions from the past. She noted, "it's quite exciting when I get a new find". However, it was important to retain control over one's 'own' content. Steven reported his frustration at being matched with a distant relative through the website 'Genes Reunited', whose family tree he felt to be incorrect, but which was merged with his own. He eventually disassociated himself from the match to preserve the integrity of his own tree, saying "I just deleted the lot".

[Figure 5 about here]

5. FINDINGS: CREATING RECORDS ABOUT THE PAST

Processing inherited archives and creating new artefacts out of them can be contrasted with another set of activities: recording a record of the past by drawing on memory. Attempts at this typically took the form of written accounts, although one couple (Rosie and Eugene) expressed the wish to create a spoken version of their memoirs. Like artefacts made from repurposed archived materials, memoirs were intended to be accessible and had relational qualities. However, their creation was bound up with a different set of values, described below, which highlight a tension between 'personal' memory and memory 'for family'.

Conveying a perspective on what is important. While participants had the option of drawing on source materials such as private journals in writing their memoirs, reliance on memory, or information "largely from my head" (Edward) was noted as being a natural

way of identifying important life events and expressing character. That this fed into a decision to rely on memory was in some cases explicitly articulated:

“I’ve done it all from memory, because one of the things I’ve put in the introduction is that memory actually decides who we think we are, and so by doing all from memory and not researching anything I have actually, hopefully put over some of my character and some of the reasons why I might have done certain things certain ways.” (Katie)

“You edit, don’t you? In your memory ... And that’s what’s interesting. If two people write an account of the same happening, it might be very different.” (Rosie)

Memoirs embody a unique perspective bound up with time and place. They were organized in terms of themes that participants deemed relevant, or life stages considered important when *looking back*, with an emphasis on “specific events and how they influenced me” (Katie), “huge marks” (Eugene), “the interesting bits” (Edward), “magical” experiences (Nicola) and the newsworthy (“This made the national papers”, Steven). Interestingly, reliance on memory was also noted as a valid reason for omitting certain topics (“I’ve got a total blank of quite a number of years as a child because of nasty things that were going on at the time” Katie). Writing from memory meant that things that are better ‘forgotten’, even if there remains some awareness of them, could justifiably be excluded.

Contributing to a wider family narrative. The above demonstrates an awareness that an account drawn from memory is bound up with a unique perspective, which may differ from that of other family members. Thus, a second, related, value associated with recording memoirs was the positioning of one’s own account within, or against, a wider ‘family’ narrative. As Rosie noted, “you know things you want your children to know”. Indeed, in one case, the writing of memoirs was partly motivated by a wish to put across one’s own version of events:

“My retirement party, my daughters did a quiz .. and they’d remembered things slightly different than I had, and I thought mmm, how important is this? Well it obviously was to me, so I decided to write down as much as I could remember.” (Katie)

More generally, recording memoirs was seen as a potential means of enriching children’s understandings of their early years, conveying the details of the family history, and helping them, and grandchildren, know “where they come from” (Edward):

“Because my son doesn’t live here; he lives in the Middle East – in Jordan. So mixed Arab-English parentage, so I wanted him to know more about my side of the family; he knows a lot about his father’s side of the family.” (Rosie)

“I thought it would be nice for the grandchildren because we have got quite a family history you know.” (Steven)

This topic was mentioned by participants with family abroad, but also surfaced for participants who had local family; it was a matter of changing times as well as changing places. As a way of aiding understanding of what was being written about, Steven sought

out images online of scenes relating to everyday life (such as old tractors, lorries and farms) with which to illustrate his memoirs, and Katie included mundane details to offer context and describe what was “normal”. Relatedly, talking about the past was seen as an opportunity to pass on “values” (Nicola) and continue family traditions, with the act of storytelling in itself being part of this. Nicola commented, *“I’m trying to do what my mother did for me. She told me the stories.”* Thus, recording memoirs was not just about recording memories; it was about creating a family narrative and *doing the ‘work’ of family*.

Connecting with family in the present. This emphasis on storytelling placed writing about the past firmly in the present for some participants: it was a resource for now. Lisa was writing a series of ‘letters to my grandchildren’, which would form her memoirs but that were also sent to them on a monthly basis, and Edward had produced a bound manuscript of extracts from letters, sketches and maps about his time in India:

“Part of the motivation .. was this daughter.. she took all her family, her husband and four children to India and they travelled around India by train .. part of the idea was that they might compare their experiences of travel in India with mine.” (Edward)

In both cases, participants aimed to create engaging and accessible accounts for a specific audience, to be read in the present. This influenced content as well as form; Edward noted that “I really picked out the travel” in forming his manuscript, and Lisa spoke of the need to keep the letters short enough for a child to read, and selected topics explicitly with children in mind:

“I started by writing about the war because at a certain stage in key stage two they do a project about the war, and the older girls had asked me, they had sort of interviewed me on the phone to help with their homework project questions, so I knew that the younger ones would at some stage be doing something about the war, so I wrote first of all my memories of the war.” (Lisa)

Thus memoirs were created on the one hand as a way of leaving a personal legacy, but on the other hand were *shaped by the perceived wishes and needs of their intended audience*.

Leaving a legacy. Thus we find a blurring between conveying what is personally important, the need to pass on what is important in the context of family, and the wish to forge and enrich current family relationships. These three non-mutually exclusive values tie into the fact that memoirs were expected to be a vehicle for ‘passing on’ memories that would otherwise be lost, and doing the work of parenting and grandparenting when this could no longer be done. If children or grandchildren were not presently interested in the history of their family or the formative experiences of their grandparents, recording these could preserve them for later. Indeed, in some cases, the need to write was explicitly linked to a sense of mortality and the notion of *being remembered in a particular way*. Nicola described how “I wasn’t always fat like this, you know”, and noted that she wanted “to edit it, I want to be in control of it, don’t I?”. The motivation to write was associated with a clear sense of “leaving something” (Rosie). Nicola also commented:

“Because I’ll probably have another stroke. I’ve had strokes, so this is on the cards, whatever I do. You know? I’m two things, one blindness and one strokes. Both in the family, my mother’s side of the family. So I feel I have to get something down before that happens.”

Evidently though, being remembered requires someone to do the remembering. For the participants we interviewed, memoirs were written with family in mind (Steven had also called his documents ‘Granddad’s Memoirs’) and were created as a way of engaging that audience. We have already noted Lisa’s tailoring of the content of her memoirs to her grandchildren, and this was seen widely; for example, Eugene and Rosie (who were married to one another) were open to the idea of creating a spoken record in the form of an interview with their children, so as to allow their offspring to select the topics of interest. Eugene commented, “the important thing is to find out what your offspring wants from it all .. it’s no use to ourselves so much. We might occasionally look at it but it’s something, as it were, for posterity”. These records were *documents to engage, and sustain a relationship with, one’s children and grandchildren.*

6. OVERARCHING THEMES AND DESIGN OPPORTUNITIES

In this section, we consider four broad themes that emerged in the grounded theory analysis of accounts of the practices described above, and use them as a starting point to consider opportunities for design. We consider how memory was used as a resource for both personal and family action, and how meaning making in the future may be built upon a sense of identifying the characteristics of *this* family from a wider body of information. First, we explore in more depth the process of alteration that was bound up with preservation of archives.

6.1 Preserving Archives through the Process of Change

Implicit in participants’ accounts of their archiving practices was the notion of a ‘core’, singular archive, which was understood as a constant and passed from family member to family member. However, as we have noted, archives were not held constant. The obligations of the family archivist were tied to the alteration of content, in order to keep it accessible and relevant to future generations who would not otherwise find it meaningful. This included digitising archived materials and adding semantic metadata known only to older generations of the family. Thus, a view of archiving in the context of extended family needs to position preservation as bound up with change, rather than through the fixing of content. This suggests that *there is considerable value in designing malleability into archived materials.* Indeed, Odom et al. (in press) suggest that ‘tending’ to digital heirlooms could form part of the moral work of ensuring their safekeeping, and Banks (2011) notes that layering annotations onto digital content over time could be a means of enriching heirlooms. There is good reason to suppose that, in the context of an archive for extended family, associating these annotations with particular family members could add further meaning to the archive. Kirk and Sellen (2010) provide examples of the evocative nature of handwritten notes that augment inherited artefacts (e.g. in the case of a recipe book), and digital materials could be designed to support prominent and personal annotations, allowing family members to leave their (digital)

mark. Indeed, Odom et al. (2011) suggest that media on social networking sites acquire a ‘digital patina’ through the comments and tags that they acquire, and such a model could also be applied in an archiving context, allowing family members to tag and comment on content, resulting in a richer tapestry of information.

While alteration of content to support meaningfulness was part of the ‘work’ of the family archivist, repurposing archived materials in personal projects was not necessarily permissible. Housing an archive did not imply the right to do as one wished with it, and this was made explicit when aspects of an archive were to be modified or used in some creative project. For example, when Lisa planned to create an edited collection of her parents’ letters, she “consulted my sisters”. This contrasts with Edward’s creation of a manuscript from his own letters, and the importance of control over one’s *own* legacy that was expressed in relation to writing one’s own memoirs. There is a distinction here between ‘family’ and ‘personal’ content; indeed, memories were talked about as things that one ‘had’, owned, and could pass on to others (“I have some actual memories of the war”, Lisa). We argue against explicating ‘permissions’ in relation to archived digital materials; it seems that this is best negotiated between family members. However, a means of undoing actions and demarcating boundaries does seem essential. Kirk et al. (2010) note tensions regarding who had the right, and competence, to manage content within their Family Archive systems during a field deployment, and in this study we saw Steven disassociate himself from an extended family member to preserve the perceived accuracy of his family tree. *We suggest that the possibility to demarcate boundaries and retain control over one’s own content becomes increasingly important in an extended family context, as materials spread wider and become less meaningful.*

It is tempting to build on the metaphor of a core archive expressed above, and suggest that digital archives should follow the model of a container for heterogeneous materials. Indeed, the idea of a single, standalone system underpins various family archiving systems within HCI, including the Living Memory Box (Stevens et al., 2003) and the Family Archive (Kirk et al., 2010). However, a second characteristic of ‘the archives’ we encountered here was the blurriness of their boundaries. They were added to when family members passed away or ‘new’ family members discovered, and new content could be incorporated and also rejected if it was felt to be inaccurate. Further, archives were interleaved with other content, including that hosted online such as on genealogy websites, and that dispersed within the home. Finally, efforts were made to duplicate them, as a way of making content accessible to multiple future branches of the family. This suggests that *creating digital links between an array of artefacts might better support the idea of a “family archive”* than a standalone system that serves as some form of container. Further, *these links might be sustained across a family network*; for example, multiple CDs containing scanned pictures could all be linked to the photo album from which they came. Duplication and annotation would then support the development of unique family narratives for each branch of the family, but also allow these to be drawn back together and potentially enable the making of new discoveries in the future, in the same way that family trees allowed participants to find ‘new’ family members. Banks (2011) points to Tales of Things (a means of linking objects directly to ‘video memories’ stored online) and BookCrossing (a service that allows people to

follow the location of books that are ‘released’, as they change hands from reader to reader) as examples of how such digital links might be used in practice.

6.2 Memory as a Resource for Personal Action

Findings from this study suggest that the past is, on the one hand, bound up with individuality; talking about personal memories conveys character and allows a focus on formative events. On the other hand, the past is a resource for social action; it is drawn upon to underpin bonds with family, both in the present and in the future. We might then conceptualise memory as a resource for both personal and family action and, following Sellen and Whittaker (2010) and van den Hoven and Eggen (2008), consider the ‘benefits’ or ‘functions’ that technology could provide in either case. In this section we consider memory as a resource for personal action, in terms of firstly, allowing one to construct a sense of one’s own history, and secondly, underpinning reflection on personal experience.

Where memory was explicitly noted as being ‘personal’ was in the writing of memoirs. Here there was a sense that reliance on memory, as opposed to use of source material, could enable one to construct a personal history, focusing on what is understood to be interesting or formative with hindsight, and allowing one to put across one’s own account. This type of reminiscing resonates with accounts of personal memory that position memory as constructed in relation to ‘the self’ (Conway and Pleydell-Pearce, 2000), and momentous events as being retrospectively causal (Pillemer, 1998). If one is expressing an account of the past, *support for the formation of narrative, rather than specific attempts to cue memory, may be of most benefit*. Indeed, van den Hoven and Eggen (2009) note that providing cues to memory can restrict narratives about the past, rather than encourage detailed accounts. However, in the same way that CIRCA (Alm et al., 2004), Multimedia Biographies (Damianakis et al. 2009, Smith et al., 2009) and Biography Theatre (Massimi et al., 2008) enable persons with cognitive impairments to draw on the past by creating a space to do so, so might technologies be designed to *create a space for remembering and reflection*. Spence’s (1997) guide to writing one’s personal history presents general questions as prompts to writing (such as ‘Tell about a time when someone was there for you when you needed them’, p. 56), and in this study, Katie wrote a ‘reflection’ chapter as part of her memoirs. This approach has some similarities with the notion of engaging in a life review, a more structured form of reminiscing that has been argued to be associated with older age (Butler, 1963). Technologies to support writing, or simply reminiscing about the past, could take a related approach, encouraging recall of formative and memorable experiences, rather than cueing specific memories. This might be combined with templates that help underpin a narrative, in a manner akin to offering scrapbooking templates.

The idea that memories are constructed rather than retrieved, coupled with the fact that remembering is guided by present ways of understanding (Robinson, 1999), has previously been noted as potentially problematic in the design of memory technologies. van den Hoven and Eggen (2008) have suggested that it may be disadvantageous to present information that contrasts with how events are remembered, and have argued that systems should not position records as offering a sole or ‘correct’ account of events.

However, here we posit that this difference between events as recorded and events as remembered could provide an interesting set of opportunities to design for reflection. Work by Harper et al. (2008) and Lindley et al. (2011) has shown that viewing photos taken whilst wearing a SenseCam provides a different perspective on the past, and in so doing can underpin reflection on personal experience. In this study, we also saw examples of how memoir writing and dealing with archived materials enabled the reaching of new understandings of the past. Lisa noted that reading her parents' letters had helped her know the younger people they had been, as well as refreshing her own memory of what they had been like when she was younger, and Katie highlighted the iteration associated with writing her memoirs as allowing her to reach new understandings of herself:

“Then I started looking through from a more scholarly, grammatical point of view, and trying to get some structure out of it. And so I was reading it more objectively then, and that's when I started to see, ah that's why I do that. [laughs] That's why I've always wanted to do that, and it all started to, well not all started to fit into place, but a lot of things started to fit in place then because I could see where they'd come from.”

Technologies such as cameras place an emphasis on capturing what is felt to be important, or photoworthy (Van House et al., 2005) at the time, and 'conversational' photos (Frohlich, 2004) offer a means of revisiting the meanings previously associated with photos, by capturing the conversations that have unfolded around them. Technologies like these this provide a way of revisiting past understandings, which may contrast in interesting ways to one's current perspective. Thus, we suggest that *ways of revisiting the past from different perspectives, if done sensitively, can underpin reflection and enable new understandings to be reached.*

6.3 Memory as a Resource for Family Action

The above points to the role of memory in underpinning the construction of one's own personal history and reflection on past experience. However, in this study we have also seen how archives, memoirs and artefacts created from archived materials have relational qualities. They are produced to be shared with specific others, namely family members, and their form and content is shaped with that audience in mind. This tailoring to one's audience resonates with the idea of memory as co-constructed and mediated by family (e.g. Hirst and Manier, 1999; Webster et al., 2010). Morgan (1996) has argued that “Part of what family living means is the sharing, not necessarily harmoniously or consensually, of memories ... they .. constitute or reconstitute themselves in the process.” (p. 144). We can build on this argument here, noting that through recording their memoirs and repurposing archived materials, participants were contributing to a wider family narrative.

Finch and Mason (2000) take this argument further, suggesting that inheritance is a means through which family is *constituted*, providing an opportunity for 'active parenting' (e.g. by dividing money equally between children), and for the enactment of relationships by bequeathing keepsakes to the 'right' people. Combining these ideas with findings from this study suggests an opportunity to design for 'active grandparenting'.

We have discussed how passing on family stories, and even enacting the tradition of storytelling, is bound up with grandparenting. Further, guides such as *The Long Distance Grandmother* (Wasserman, 2001) point to a general interest in remote grandparenting, and the creation of artefacts to be read in the future seems similarly motivated; in both cases the aim is to build a relationship when this cannot be done in the here and now. Wasserman suggests that by conveying the traditions of the past, a grandparent is weaving generations together, and providing not only stories, but also offering an expression of love. Guides to recording life stories also highlight the fact that some readers may not have known you (Rosenbluth, 1997), and suggest that the records that are created may provide the “next best thing to having a wise grandparent on call” (p. 83, Spence, 1997). In this study, Lisa’s plan to turn her letters to her grandchildren into a book that could be used in the future is a nice example of how grandparenting might be done across space as well as time:

“I’m not really doing it for them now, but I’m putting it on record .. I’m relating it to them now because I won’t be alive in the future, when there might be some more grandchildren and they won’t know me, but they can have the letters as well.”

Petrelli and Whittaker (2010) have suggested that digital conversations may provide a compelling means of revisiting the past, and Lisa’s efforts suggest that this can be successful in the context of grandparenting. However, the real opportunity here may be in achieving what participants in this study spent considerable time doing: *producing standalone, accessible artefacts that convey a clear narrative*. Drawing these out of digital archives automatically represents a considerable challenge, which is likely to require the involvement of a family member.

As a final observation, memoirs occasionally highlighted a tension between one’s own version of events and that of others. This echoes Smith et al.’s (2009) description of the creation of video life stories (also noted to feature ‘rose-tinted glasses’), and also Rosenbluth’s (1997) addressing of the question, ‘who has the right to tell a secret?’ However, our study does demonstrate that participants wanted to be able to tell their own version of events, and exercise control over their legacy. Memoirs were often produced in limited numbers, in printed form, and given to specific individuals; their content, as well as their distribution, was carefully managed. Further, and in contrast to Finch and Mason (2000), who report that grandchildren were rarely considered in matters of inheritance, here we see grandchildren cited as the intended recipients for memoirs, scrapbooks and collections of letters. By specifically publishing enough copies for the grandchildren, and naming memoirs with grandchildren specifically in mind, participants were demarcating the boundaries of ‘family’ as they saw it and exercising some control over their audience (interestingly, friends were never cited as a potential audience for the artefacts that were created). In passing these artefacts on, the opportunity arises for that version of events to be incorporated into the wider ‘family history’, or not. As Katie said of her memoirs, “the ownership is my daughters’ and I hope that they’ll pass them on to their partners and children, but that’s entirely up to them.” We suggest that *the production of digital memoirs and family artefacts might have similar rights ascribed as physical versions; ownership can be passed on, but content cannot be easily edited or duplicated*.

6.4 Meaning in the Future: The Distinctive and the Mundane

From their study of time capsules, Petrelli et al. (2009) conclude that supporting meaning-making is a central tenet in design for ‘future memories’, and note that participants focused on providing a ‘sample of life’, to support this at a later time. Content relating to the mundane was also found to be valuable in this study, with participants detailing everyday life in their memoirs as a way of offering context, and searching for photos of typical scenes to illustrate them. These participants, like Petrelli et al.’s, were aiming to communicate with a future audience. In this context, designing for understanding, rather than memory, is key, and so detailing the mundane is important. As we have also noted, writing about one’s own memories often entailed an emphasis on the distinctive and formative:

“It’s getting across how special it was .. I stayed up all night .. I went home, took off the red dress .. and worked all day .. I mean now it probably is a sort of in-thing to do.”
(Nicola)

This example illustrates how what was then ‘normal’ is essential for the distinctive to be understood. Some participants deliberately included details of the mundane, for example Katie wrote about the games that she played, stating “I think that’s quite important for grandchildren today, because they don’t play the same games we did”. We suggest that, when designing technologies to support meaning making by a future audience, *knowing what is ‘normal’ can serve as a backdrop to what is distinctive, and so support understanding.*

Interestingly though, distinctive patterns can also be seen when dealing with large volumes of information about mundane details. For example, occupations that different generations had in common were made evident through family trees (“All her side seem to work on the railways”, Steven) and participants noted family resemblances in photos (“he is just like his Dad, his Dad whenever his photo taken would put his hand up in the air”, Steven). Such abstractions seem to underscore a sense of the qualities that characterise *this* family. The possibility to abstract across large volumes of data could become increasingly important as technologies that capture details of the everyday become adopted. Shifts in technologies have had huge ramifications for what is considered photoworthy (Van House et al., 2005), with people taking increasing numbers of digital photos. Further, and as discussed by Banks (2011), a range of other services that support social networking and location tracking could potentially produce information that could be looked back on. Creating meaning out of such large collections may well rely on abstracting across them. *Drawing out high-level patterns, emphasising family resemblances, and highlighting information that pertains to the present day (e.g. known places or shops that are still in business), could enable meaning to be made out of such collections.* This might be done by applying pattern recognition technologies to sets of family photos, matching location tags to places that current generations are familiar with, or using content found online to illustrate how places have changed over time.

7. CONCLUSION

Researchers in HCI have explored the topic of memory through avenues as diverse as how it is called upon in the telling of stories, how it can be triggered by objects ranging from the mundane to the poignant, and how it is associated with reflection and reminiscing with others. Implicit in much of this work is the notion that memories are personal, precious and worthy of preservation, but little has been done to explore what it means to ‘capture’ memories for the future (although we have noted contributions by Petrelli et al. (2000) and Sandhaus et al. (2010)). In this paper we have explored various activities that people undertake with the intention of ‘recording their memories for posterity’, focusing in particular on dealing with inherited family archives, the creation of new artefacts out of repurposed archived materials, and recording memoirs. We have seen that memory can be considered a resource for ‘personal’ action in the context of these activities; events as remembered are drawn upon in constructing a sense of one’s history, and revisiting the past from a different perspective can underpin personal reflection and the making of new meanings. However, we have also noted a tension between memory as ‘personal’ and memory ‘for family’. The activities that our participants reported, although drawing on personal memory, were heavily influenced by a desire to make their accounts accessible and relevant to a specific audience: family. The tending to, and crafting of, these materials can be understood as a means of creating a ‘joint’ past and reinforcing a wider family narrative. In conclusion, while this practice drew heavily on a ‘personal’ past, it was future-facing. It was a means of making the past a resource for action in future family life.

NOTES

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FIGURE CAPTIONS

Figure 1. Details of participants.

Figure 2. Example of codes and coding structure for the conceptual theme of 'maintaining relevance'.

Figure 3. Scrapbook showing 'cards' inherited from an elderly relative.

Figure 4. Family tree inherited from a sibling and embellished with extra details.

Figure 5. Scrapbook created by Brenda, showing school photos and report cards, and with a decorative school thematic.

FIGURES

Figure 1. Codes for participants and the activities they were engaged in.

Code	Activities:
Brenda	Scrapbooking, creating DVDs of video clips
Rosie (married to Eugene)	Planning to record memoirs orally
Eugene (married to Rosie)	Planning to record memoirs orally
Katie	Has written memoirs
Edward	Archiving, family tree, has written memoirs
Nicola	Writing memoirs (third attempt)
Steven	Family tree, writing memoirs
Lisa	Archiving, book of letters, writing memoirs

Figure 2. Example of codes and coding structure for the conceptual theme of ‘maintaining relevance’.

Data	Open code	Category	Theme
“the ones [photo albums] with the sticky stuff, I think I’ve got rid of those, they’ve all gone, well actually that’s not too bad but some of them take all the stuff off the picture.” [Brenda]	Preservation	The work of housing an archive	Maintaining relevance
“he put them onto this disc which at the moment needs more work doing because he may have worked out the date but he hasn’t listed who the people are and we all know that for longevity people are not going to know that was Roslyn in 1941; we know that but it doesn’t say on the labeling of each thing that he’s put on there.” [Lisa]	Add information currently ‘in the head’		
“But this is the line of the ancestors which could be any of these, so I decided to find out a little bit more about the cards and how you date them.” [Brenda]	Make sense of newly discovered information		
“I wrote a letter which I put in the front which said ‘You may not be interested in this now, but I want you to have it, because when you are fifty, if you are five now and you are fifty, you might like to look back to it sort of thing.’ [Lisa]	Personalisation of materials	Recipient design	
“Part of the motivation for this travels interview was this daughter who is here today, she took all her family, her husband and four children to India and they travelled around India by train and so on, and I don’t know whether they have read them but part of the idea was that they might compare their experiences of travel in India with mine.” [Edward]	Directing of topics		
“I mean I think children would like that [a DVD] because it’s much more what they’re used to. You know? Rather than a book.” [Rosie]	Approachability of format		

Figure 3. Scrapbook showing 'cards' inherited from an elderly relative.



Figure 4. Scrapbook created by Brenda, showing school photos and report cards, and with a decorative school thematic.

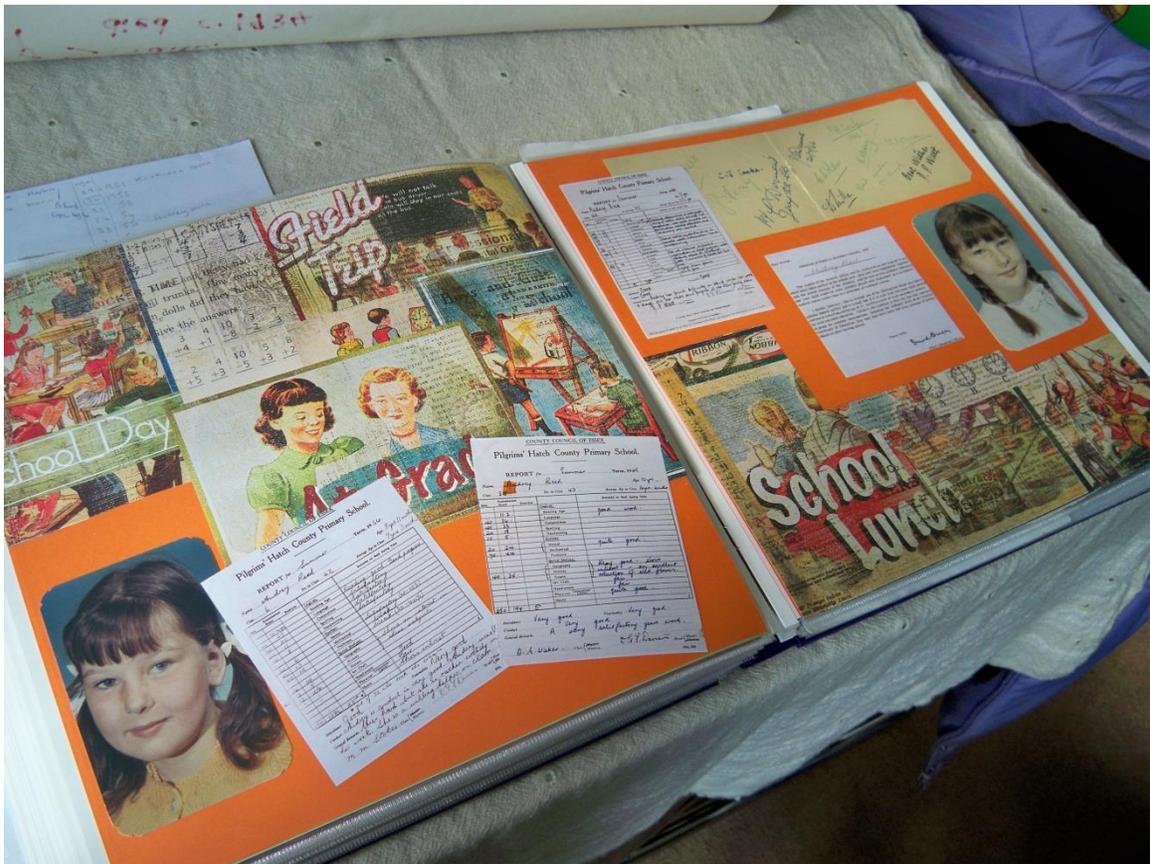


Figure 5. Family tree inherited from a sibling and embellished with extra details.

