THE SCHOLAR AS SQUIRREL: EVERYDAY COLLECTING IN ACADEMIA

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Roland Barthes once asked if scholars always remain children, showing off their finds like the proud little boy walking over to his mother with a collection of stones in his hand. There are all kinds of collectors in the history of Academia, famous specialists who create their own specialised libraries, mini-museums and Wunderkammers of objects, artworks and books. These are not the collectors in focus here. I am interested in the everyday world of university life, where bookcases, office desks and filing cabinets are bursting with material, and hard discs are overloaded and calling for more memory space. Scholars often turn into hoarders, acquiring books they will never read but which seem ›good to have‹. They keep copying papers, saving links and documents from the Web. They may also find it hard to delete old versions of articles or book manuscripts and end up like squirrels, gathering stuff with vague notions that it may turn out to be useful in some near or distant future. Such ambitions turn scholars into their own archivists, with problems of organisation, storage and retrieval. I am interested in the routines and rituals connected to this ongoing accumulation of materials, an interest that is part of a wider ongoing research project on academic everyday life.[1]

How do scholars create their own order, collections or mini-archives in filing cabinets, bookcases, stacks of papers on the desk or a jungle of files on the hard disc? And how is this work carried out in constant interaction with the material world? These kind of mundane collecting practices are not easy to explore, for several reasons. First of all, many of these skills are embedded in everyday routines that have been naturalised into invisibility; they rest more in the body than in the mind and even if you can bring them into view, they are practices that may be hard to verbalise.[2]

Secondly, although Academia is a work setting with a strong emphasis on teaching and instruction, skills of collection and storage are rarely discussed in textbooks or manuals. They represent a kind of self-taught understanding, acquired by situated learning and often formed as tacit or at least implicit know-

1 Billy Ehn/Orvar Löfgren: Akademiska handlag (Summary: Academic Everyday Life). In: Kulturella perspektiv. Svensk etnologisk tidskrift Nr. 2 (2014), pp. 2–4.

2 See the discussion in Billy Ehn/Orvar Löfgren: The Secret World of Doing Nothing. Berkeley 2010 (German translation: Nichstun. Eine Kulturanalyse des Ereignislosen und Flüchtigen. Hamburg 2012), pp. 79 ff; Elisabeth Shove/Mika Pantzar/Matthew Watson: The Dynamics of Social Practice. London 2012; Richard Wilk: The Edge of Agency. Routines, Habits and Volition. In: Elisabeth Shove/Frank Trentmann/Richard Wilk (Ed.): Time, Consumption and Everyday Life. Practice, Materiality and Culture. Oxford 2009, pp. 143–156.

ledge[3], but although scholars often develop what they see as individual strategies, it is an intensely cultural field, shaped by local and current norms about what is relevant, important or necessary.

To explore these elusive materialities and sensibilities, I have found perspectives from research traditions that focus on pre-discursive or non-discursive aspects of everyday life helpful, from the post-phenomenological interest in mundane activities[4] to non representational theory[5] and actor-network theory, with its interest in the agency of objects.[6] These traditions share an interest in what people do rather than what they say, and also emphasise the need for understanding the intense interaction with the material world.

I will add an analytical dimension that is often lacking in the above traditions, that of a historical perspective, which I find useful in order to destabilise the often taken for granted nature of mundane routines. I have used a life history perspective for my interviews in order to map the short or long learning history of acquiring a skill, and the gradual routinisation of a new practice into an effortless activity. I also employ a genealogical approach in the Foucauldian tradition of exploring phenomena that are often seen as »without a history«.[7] When a new technology or practice emerges it is the focus of much experimentation, reflection and debate, and there is a high degree of visibility that later fades away. But it is also a question of seeing the formative situations when new routines or technologies are still open and moving in contradictory directions or have very different potentials. I will explore some periods when academic work has been reorganised drastically with the help of new technologies and skills. Many of these once revolutionary technologies are now taken as self-evident and are rarely thought of as ›technologies‹ or academic tools - the bookcase, the notebook and the footnote, for example.

My chapter is organised around a number of routines and technologies that deal with storage and order, retrieving and discarding. The main focus will be on scholars who have lived with both analogue and digital technologies. The generations born in the 1940s and 1950s faced several specific challenges. They started out in a world of analogue tools and techniques, hammering on typewriters, cutting and pasting manuscripts, producing stencils, writing letters, handling rolls of film and tape. Later, they became the generation called ›digital immigrants‹, exposed to a wide range of new digital forms of handling knowledge. The term ›immigrants‹ may represent a tendency to overdramatise this changeover in knowledge production, a sort of watershed idea of a drastically different ›before‹ and ›after‹. There have always been ›new media‹ calling for striking adjustments. Friedrich

3 Harry Collins: Tacit and explicit knowledge. Chicago 2010.

4 Peter-Paul Verbeek: What Things Do. Philosophical Reflections on Technology, Agency and Design. University Park 2005.

5 Phillip Vannini (Ed.): Non-Representational Theory and Methodologies. Re-envisioning Research. London 2015.

6 Bruno Latour: Pandora's hope. Essays on the reality of science studies. Cambridge 1999.

7 Michel Foucault: Nietzsche, Genealogy, History. In: Daniel Bouchard (Ed.): Language, Counter-Memory, Practice. Selected Essays and Interviews. Ithaca 1977, pp. 139–164.

Kittler talks of ›the analogue revolution‹ in the late 19th century, when new forms of recording and storage of materials, from sounds to images, developed, and new tools like the typewriter were invented.[8] There are, of course, even earlier technological revolutions in Academia. One should thus be wary of talking about a digital revolution, but I would like to use the concepts of analogue and digital in the following as a broad metaphor for generational experiences when it comes to handling overflows of academic knowledge. Is it possible to talk not only about analogue and digital skills for collecting and storing knowledge, but also, in a more playful manner, about analogue search routines or digital forgetting?

To investigate these generational differences, I began by interviewing scholars who entered Academia at various stages of the analogue/digital transformation, who were mainly from the humanities and the social sciences. I have also used material from an earlier ethnography of everyday life in Academia[9] as well as autobiographical accounts. For further contrast, I have also looked at the literature about earlier historical periods, when new strategies of organising information and storing knowledge were developed. But let me begin with the generation who started out analogue and ended up digital.

Learning to collect

The anthropologist Richard Wilk belongs to this generation and has discussed the transformation of his own research habits.[10] Wilk begins by describing his first major fieldwork, for his dissertation in the 1970s. For months, he worked among peasants in Belize and in his straw hut slowly created a research collection that is organised in distinct categories. Recording interviews on his cassette recorder, he saved the cassettes in a box but also typed up the interviews in the evenings. He had heard the horror stories of anthropologists losing their material in the field, so he kept mailing carbon copies back home to the USA as a backup. He made kinship diagrams on small cards and collected them in a box. He pinned maps on the walls and organised information on them. He took a lot of photos, storing the rolls of film; and he writed letters to his supervisor and colleagues back home and collected them, together with the replies, in a binder. In a bookcase he had a small research library. Step by step he created his own little archive out there in the jungle.

This is traditional ›jungle ethnography‹, using a very distinct set of analogue techniques and media to collect and organise his materials, which also do something to his research. The ethnographic material is, he argues, turned into a collection of ›excavated artefacts‹ – images, maps, texts – that are transformed into academic knowledge through a kind of scientific magic. The mode of production seems like industrial work, with distinct steps and categories. Raw material is transformed into ›research stuff‹, sorted into different categories and then processed into texts that can be offered on an academic market.

8 Friedrich Kittler: Gramophone, Film, Typewriter. Stanford 1999.

9 Billy Ehn/Orvar Löfgren: Hur blir man klok på universitetet? Lund 2004.

10 Richard Wilk: Reflections on orderly and disorderly ethnography. In: Ethnologia Europaea 2011/2, pp. 15–26.

Reading Wilk I am reminded of another study of jungle research. In the early 1990s, Bruno Latour followed a group of botanists and pedologists (soil researchers) in the Boa Vista forest in Brazil.[11] They collected materials to bring back to their laboratories in Paris. Latour was interested in the ways in which plants and soils were gathered and samples taken and turned into scientific collections. This is still a very analogue world of cabinets, boxes, tags, photographs, shovels, knives, poles and strings. On their journey from the jungle to Paris, the materials were transformed through a number of processes. They were selected, detached, preserved, classified, tagged and then reassembled, reunited and redistributed. Soil samples were sorted into the little cubes of the pedocomparator, which can be carried like a suitcase and creates a mobile »pedolibrary«. Another analogue tool was the Munsell booklet of universal colour samples, used to classify the soils. All these technologies demand bodily skills, often acquired over the years – sometimes called ›good lab fingers‹.

Returning to Wilk, the question is: which of his materials does he decide to keep and store back at home? Is there a Belizian mini-museum in his office or at home? What gets thrown away over the years? Forty years later, most of the material is still around, although photos and texts are slowly digitised and then thrown away. There are a few objects from the fieldwork, a basket for cassava, a rice mortar, a stack of hand-woven bags (the local handicraft), but there are other anthropologists whose offices look like regular mini-museums, full of artefacts as mementos and materials from fieldwork, signalling ›my field‹ to the visitor.

I can recognise Wilk's description in my own doctoral fieldwork back in the early 1970s. I started out as a historian, and as a student I learned about the sacredness of materials called ›sources‹. Most of these, I was told, were to be found in special, well-delineated spaces called archives. I spent my first student years doing archival research and my material consisted of ring binders of xerox copies and excerpt cards. It was a neat and tidy way of doing collecting. When I turned to European Ethnology (or Volkskunde as it was called back then) I was confronted with a more chaotic situation when it came to gathering materials. »Where are the sources?« I asked the professor. »You'll have to create them«, was his answer. Fieldwork was the preferred mode of collecting and I had to become a bricoleur, combining all kinds of materials, photos, recorded interviews, participant observation, archival documents and newspaper clippings. In field studies like this, the analogue world created a certain order and an often false sense of security. Research technologies created physical boundaries between the different kinds of materials we liked to call ›data‹, and as a scholar you learned to create your own mini-archives in boxes and filing cabinets. What did this very concrete handling and sorting of material do to the research process? Today, Wilk's and my own PhD materials could easily be hidden in a corner of the hard disc.

11 Latour, as fn. 6.

In his discussions of natural science projects, Latour points out that there is always a tendency to collect too much.[12] Researchers and lab workers are always stressed by trying to catch up with organising incoming materials. In my interviews with colleagues they often describe the PhD years as the period when as scholars they learned to hoard, collecting too much material. It is a strategy of stockpiling. One of them put it like this: »I developed a special file for ideas and materials ›good to have‹. Everything that I couldn't use for my thesis was there, waiting for later.«

When Wilk looks at his present research situation he notices that borders have become much more fluid and elusive – in many different ways. Increasingly, his research activities are centred around the cell phone. He uses his ›iPhone‹ - i. e. his smartphone - for surfing on the internet to find a reference or some comparative material, for taking photos, writing texts and recording sounds. If he comes upon a useful quotation in a newspaper or a book he brings out his scanning pen. The cell phone is the tool that organises his ideas, impressions and potential materials. He has always been an ethnographer in constant search of new materials in everyday life situations, but now he carries his tool chest in his pocket and this makes it possible to turn any situation into a research activity. The blurring of boundaries also occurs on other levels. On the hard disc, research and private life may be constantly mixed or confronted, not least among all the unorganised e-mails and photo files.

If you looked at what was crammed into a university office in 2014, there would be a mix of analogue and digital stuff. USB sticks, bookcases, post-it notes, stacks of printouts, filing cabinets. Although they might be seen as trivialities ›without a history‹, they all have a special past; once they were new and exciting tools, but slowly they were taken for granted and rendered invisible.

Academic bookworms

»In our time the multitude of books becomes an immensity«, complains a scholar, speculating about ways to navigate through a new and threatening overflow of knowledge. Another scholar urgently calls for new routines of selection and deselection: »What books must we throw away or leave in oblivion, and how can we know what is useful or not among those that we decide to read?«

The quotes in the previous paragraph come not from stressed 21st century academics, but from 17th century debates, at a time when ›the print revolution‹ had created an unprecedented expansion in knowledge production and circulation, or as one scholar noted in 1630, what earlier took ten people a whole year to write by quill, was now printed by four men in a day.[13] These statements came from scholars who saw opportunities in this situation of overflow and who were engaged in new forms of information management, such as the rapidly growing genres of compilations, reference books and guides to selecting books.

12 Ibid., p. 39.

13 The quotes are taken from Ann M. Blair: Too much to know. Managing scholarly information before the modern age. New Haven 2010, p. 47, p. 57.

As a new medium, the printed texts of books and pamphlets colonised the scholarly world of the 16th and 17th centuries, and an entire infrastructure of tools and routines developed around the consumption and collection of knowledge. But as Ann Blair points out, this revolution was not the simple result of technological change.[14] There were parallel processes at work: the discovery of new worlds, the recovery of ancient texts and the quest for more and more information – what Blair has called »infolust« – but also a more critical and reflexive stance towards knowledge. The new and lucrative trade in books produced a great deal of shoddy work, plagiarism and badly edited texts, increasing the need for a critical eye.

Scholars now became bookworms and began to create their own research libraries. To handle the abundance, new routines and tools of information management were developed, or medieval ones made more sophisticated. There were search methods like pagination and indexing, genres of encyclopedias, book abstracts, reading guides, as well as the hiring of research and library assistants and new means for circulating information in the form of group note-taking, learned journals, book reviews, etc.

As available texts grew rapidly, skills of highlighting, summarising and excerpting had to be cultivated. Over the centuries scholars developed their own routines to mark useful knowledge. The medieval bookmark, sometimes made of a bead with many threads that could mark many pages in the same book, was one such important innovation.[15] As books became cheaper new forms of marking developed, from torn out or dog-eared pages to underlining passages or writing comments in the margins, as well as various systems for note-taking. Intricate forms of lists and diagrams were constructed in order to organise an overview of knowledge, as well as indexing technologies, some of which developed very slowly - like the alphabet-based one.[16] New tools for underlining emerged, from the revolutionary innovation of the pencil in the late 18th century, to the colour felt pen and the electronic marker of the late 20th century.

Already in the 16th century, scholars were investing in new equipment that would improve reading and information management. One of these was the book wheel that was placed on a table and made it possible to turn quickly from book to book, and swivel chairs that enabled working at several desk spaces. For the scholar such investments produced research advantages, but also a feeling of superiority to colleagues less versed in the new technologies.[17]

Collecting and storing

The abundance of books and texts called for a daily work of organising: sorting, stacking, bundling together, separating, classifying, labelling and cataloguing.

14 Ibid., p. 11.

15 Ellen Gruber Garvey: Scrapbooks. In: Lisa Gitelman/Geoffry B. Pingree (Ed.): New Media 1740-1965. Cambridge 2003, pp. 207–220, p. 209.

16 Ibid.; Blair, as fn. 13, p. 142.

17 Anthony Grafton: The humanist as reader. In: Guglielmo Cavallo/Roger Chartier (Ed.): A history of reading in the west. Amherst 1999, pp. 179–212.

There was a great need for container technologies – from boxes and shelves, to desks and cabinets. Lewis Mumford has pointed out that these kinds of items have been among the most unappreciated (and understudied) technologies[18], a theme which Zoë Sofia has developed further.[19] Containers have often been seen as low-status, passive and ›feminine‹ technologies, but they play a crucial role in storage: protecting, separating and organising materials. Many of the mundane routines scholars use today to collect and store information were actually developed during the era of the print revolution of the 16th and 17th centuries, but also in the expansion of office technologies in the industrialisation of 19th century.

The author Jenny Diski remembers visiting her parents' offices as a child in the 1950s. She loved this world of ordering stuff with all its exciting container technologies:

> »Filing cabinets of drawers running on metal sliders, inside, hanging folders on metal struts and plastic labels. Photocopiers. A swivel chair with a silent but compelling gas lift. A desk with drawers into which you might spend hours placing and rearranging the requirements of a convenient office life… Trays. Holders. Stands. Sorters. Desk accessories. Containers for which you have to buy the things you hadn't thought of until you saw a holder for them.«[20]

Container technologies are often slow to change. Take the history of the bookcase. Henry Petroski has shown how book collecting included a number of routines that developed very slowly.[21] How should a bookcase be constructed and placed? For a long time books were usually stacked on top of each other, spine inwards. Book collecting became much easier with vertical placement and spines with titles that were turned outwards. How should a bookcase be read? Gradually a consensus emerged: from left to right, every shelf a new line, like a newspaper with columns.

As books became more affordable, there was also a new availability of paper. Scholars could organise note-taking and excerpting on a bigger scale. Workspaces began to fill up with bundles of paper or slips with excerpts, which had to be managed somehow. The ribbon became an important tool in this bundling of information, the stacks of bundles were held together by the often colourful red ribbons in the work spaces of scholars. Later they were replaced by new innovations: the folder, the ring binder, the paper clip or the staple – all container technologies doing the crucial job of joining or separating research materials, creating physical categories.

As materials grew writing desks became bigger and more complex, with shelves, pigeon-holes, and large and small drawers for organising stuff. By the 19th century there were highbacked desks with foldout wings:

18 Lewis Mumford: Technics and Civilization. New York 1934.

19 Zoë Sofia: Container Technologies. In: Hypatia 15/2 (2000), pp. 181–201.

20 Jenny Diski: Post-its, push pins, pencils. London Review of Books 36/15 (2014), pp. 3–7, here p. 3.

21 Henry Petroski: The Book on the Bookshelf. New York 2000.

> »This was a desk you could burrow into, a desk to lose yourself in – one that truly signified a home. And at the end of the day, you could shut it up and lock it closed. All your papers would be waiting there expectantly for you next morning.«[22]

The desk was still based upon storage systems that were difficult to navigate. Papers, manuscripts and slips were crammed into cubby-holes, or stacked in drawers or on shelves. Already in the 17th century there were experiments in developing filing cabinets which could organise notes, but before that the notebook became an important tool for collecting quotes, comments and ideas. The bound notebook or the bundle of commentaries had their limitations, however. Techniques of cutting and pasting to rearrange notes systematically were developed. A radical breakthrough was the use of the paper slip, making it possible to rearrange knowledge in different ways. One example of this was the development of the scrapbook[23], where the texts of others were transformed into a personal selection through cutting, pasting and writing. Note collections turned into a new resource, sometimes jealously guarded, sometimes transformed into a market commodity or a collector's item.

In a similar manner, the 17th and 18th century experiments with filing cabinets resulted in the birth of the cabinet or box for index cards. The seemingly simple idea of paper slips, and later cards, opened up a new world of research possibilities in which materials were confronted in novel ways as the cards could be sorted and selected in different ways. More sophisticated mixing and indexing came with systems like the late 19th century office filing cabinet, the carbon copy and the 20th century punch card, and other such forerunners to computerised data handling.[24] But the simple card index box remained a powerful research tool for centuries into present times (and was also transformed into new digital forms). One of the scholars who could not work without a box was Claude Levi-Strauss:

> »I get by when I work by accumulating notes – a bit about everything, ideas captured on the fly, summaries of what I have read, references, quotations… And when I want to start a project, I pull a packet of notes out of their pigeonhole and deal them like a deck of cards. This kind of operation, where chance plays a role, helps me revive my failing memory.«[25]

Roland Barthes was another researcher for whom the mixing and dealing of index cards was an important research technology. During his career he collected more than 12,000 cards, which were constantly reorganised. To »shuffle and deal« became an important activity in finding new ideas and combining findings, so important that Barthes argued that his index card collection should

22 Nikil Saval: Cubed. A Secret History of the Workplace. New York 2014, p. 42.

23 Garvey, as fn. 15.

24 Peter Burke: From the Encyclopédie to Wikipedia: A social history of knowledge. Oxford 2012.

25 Citation following Peter Krapp: Hypertext avant la lettre. In: Wendy Hiui Kyong Chun/Thomas Chun/ Thomas W. Keenan (Ed.): New media, old media. A history and theory reader. New York 2006, pp. 359–374, here p. 361.

appear as a co-writer in his texts.[26]

The point here is what Jenni Diski noted: container technologies invite action. Binders, folders, boxes, cabinets and hard disks that have to be filled. There is a changing aesthetic at work here with ideas of symmetry, harmony, balance. One of them is the classic horror vacui of the collector.

Academic thermodynamics – ordering and retrieving
As scholarly collections of materials expand, systems of ordering and retrieving information become important. Collecting in Academia is based upon intricate and often personal systems of ordering and retrieving Fig. 1:

> »According to thermodynamics there are many more ways for things to be chaotic than organized. Muddle has near infinite versions, tidiness only a very few […]. Order is rare, mess is common. And order is also often idiosyncratic to the user. My order can be your muddle. What looks like a messy desk to you is a storehouse of secret order to me. In a few seconds I can find a document that would take hours of rifling for you.«[27]

Fig. 1: Notice boards have a long history in the offices of scholars. They are a place where stuff slowly accumulates over time, producing strange mixes of notes and objects. To the left a notice board from 1672 painted by Cornelius Norbertus Grijsbrechts (now in Statens Museum for Kunst, Copenhagen, www.smk.dk). To the right a notice board from 2014. Photo by the author.

26 Ibid., p. 363.

27 John Durham Peters: Proliferation and Obsolence of the Historical Record in the Digital Era. In: Bärbel Tischleder/Sarah Wasserman (Ed.): Cultures of Obsolence. History, Materiality, and the Digital Age. London 2015, p. 14.

Compare this contemporary example to one from a 17th century French scholar, Nicolas Fabri de Peirese, a famous compiler and note-taker. His books and papers flooded the house, competing for space on shelves, tables and floors, but as a colleague remarked:

> »For though he would frequently excuse himself that all in his House was nothing but a confused and indigested Masse, or heap, yet he was never long in seeking anything in so great an heap, provided that no one meddled with his rarities, Books or Papers but himself.«[28]

There is an abundant literature on archives as an institution[29], but I am mainly interested here in the informal ways every scholar tends to be her or his own archivist with their individual systems for organising and remembering materials. There are many examples of starting ambitious projects of ordering material that slowly peter out. The 17th century philosopher Leibniz was one of them:

> »After having done something, I forget it almost entirely within a few months, and rather than searching for it amid a chaos of jottings that I do not have the leisure to arrange and mark with headings I am obliged to do the work all over again.«[30]

These are the kind of half-hearted or unfinished ordering projects I am interested in and they surface in the interviews, where many informal strategies of keeping track of one's collections of materials are mentioned. People create personal memory crutches and routines, ranging from post-it notes lining the computer screen to stacks of books placed the night before on the staircase to be remembered to take to work next morning. Or, as one scholar reflected, »I remember books by their colours« – thus echoing the medieval technique of colouring letters or parts of the manuscripts to help the memory. In his classic text on book collecting, Walter Benjamin discusses the crucial role that memory plays in the organisation of personal libraries:

> »Every passion borders on the chaotic, but the collector's passion borders on the chaos of memories. More than that: the chance, the fate, that suffuse the past before my eyes are conspicuously present in the accustomed confusion of these books. For what else is this collection but a disorder to which habit has accommodated itself to such an extent that it can appear as order?«[31]

Scholars develop their own tactics and strategies of remembering. Look at any office desk. Stacks of loose paper are arranged in various ways, plastic folders in different colours, books arranged in certain ways - a landscape that is constantly being choreographed and rearranged to attract attention and create hierarchies of important or non-important, urgent or not. Different strategies and

28 Citation following Blair, as fn. 13, p. 87.

29 Geoffrey C. Bowker: Memory practices in the sciences. Cambridge 2008.

30 Citation following Blair, as fn. 13, p. 88.

31 Walter Benjamin: Illuminations. New York 1969, p. 60.

aesthetics organise this work, as Abrahamson and Freedman have discussed in their book »The Perfect Mess«.[32]

Another theme that some of the scholars in my interviews stressed was the importance of early training. Reflecting on her own skills and priorities, a media researcher in her forties remembers her archival training during her teenage years:

> »My parents were office workers and I loved to hang around their work places, getting familiar with office routines and new technologies. During my early teens I created my own personal archives, I had ring binders on the shelves of my room for every hobby: horses, flowers. I loved creating this kind of order and became a very well organised person. I guess those skills have been important in my later academic career […]. I was like a sponge, sucking up all kinds of information, collecting everything, reading everything. And I guess I am still sponge-like, having my tentacles sticking out in all directions. Always looking for new stuff.«

Later, she became less obsessed with organising her personal research materials, relying more and more on access to the internet, but also finding short cuts to archiving. Getting a new computer meant a time-consuming procedure of deciding which files from the old computer should be transferred to the new one. »I stopped doing that, now I never delete anything, I just use my old computers as archives where I can search for old stuff.«

In a world of mixed analogue and digital materials, some scholars favour the screen. One of them put it like this: »Papers just float around in my office, I can never keep track of them, digitised stuff is much easier to keep track of«. Others need printouts. In an ethnographic study of a university office, Yli-Kauhaluoma and Pantzar analysed such informal routines and personal skills of remembering and forgetting, storing and retrieving knowledge.[33] Their focus was on the mundane material of paper, which turned out to have a crucial and often creative role in organising memory in a heavily digitised workplace. In this hectic work setting, where the staff often felt an overflow of incoming tasks and documents, the researchers found three dominant remembering practices based upon paper: reminding, verifying and back-up practices. There were short-term memory devices such as post-it notes, printouts and paper piles with special mnemonic qualities. People kept making printouts of e-mails and e-documents: »It is much better to have it on paper, because it stays here«, one of them argued. In the e-mail-inbox, it was soon drowned by all other incoming mails and lost, »slowly sinking down to the bottom« as she described it.

A skilful use of positioning post-it notes, printouts and stacks made matters visible. Long-term memory techniques were also based on printouts of electro-

32 Eric Abrahamson/David H. Freedman: The perfect mess. The hidden benefits of disorder. New York 2007.

33 Sari Yli-Kauhaluoma/Mika Pantzar: Remembering as a sociomaterial practice in back-office work. Paper presented at the 7th Organization Studies Summer Workshop, Rhodes, Greece, 24.–26. Mai 2012. Mscr.

nic documents, often in order to remember that the work had been done. In the same way, various strategies of piling stuff on desks and shelves often turned out to be more effective than the use of binders or filing cabinets. To begin more systematic archiving was often felt to be too time-consuming.

Similar practices are discussed in the classic study »The Myth of the Paperless Office«.[34] The authors' motto is: Do you want to know if an organisation works well? Check the wastepaper baskets – they should be full. They visited a computer research lab, where the researchers were ordered to hide all the piles of paper and printouts when visitors arrived. This was meant to be a workplace of the future, paper was obsolete. Before a such visit, there was a frantic hiding of paper stacks in boxes and cabinets, until with a sigh of relief the masses of papers could be returned to the desks again and effective research could continue. In both these studies it is important to note the haptic dimension, which Walter Benjamin also stresses: remembering by handling a book or a document is a way of using your hands and not just your eyes to remember. For some, sorting through a pile can be quicker than scrolling through a library catalogue on the screen. Yet many digital immigrants have described the euphoric feelings of entering cyberspace, with a new world of knowledge and possibilities opening up; but behind the screen is, of course, a world of software that organises knowledge production in subtle and often opaque ways.[35] Software programmes create their own routines for searching, storing and retrieving information.

When documents were bound or written in volumes in chronological order – as, for example, in outgoing and incoming correspondence – the temporal structure became specific. Innovations like the paper slip and note box, the folder and the filing cabinet made it possible to rearrange materials in new combinations. This was furthered by the production of several copies by hand, or, later, the important innovations of the carbon copy followed by xeroxing, thus forestalling digital ways of non-linear ordering. Old archival narratives gave way to new ones, as materials could be arranged in several ways.

With the domesticating of new digital technologies came radically new habits for storage and retrieval. Retrieval was made easy through new kinds of software, but it is important to remember that many of the digital innovations rested firmly on old analogue and well-established ways of organising knowledge. Googling, for example, is based upon the very special way of organising knowledge that list-making represents.[36]

Storing, deleting, discarding

> »I have sold my books. Not all of them, but most of them… The books that sustained my professional life for 50 years […] are gone […]. In the hours and days following the exodus of books I monitored myself for a post-

34 Abigail J. Sellen/Richard H.P. Harper: The myth of the paperless office. Cambridge 2003.

35 Wanda J. Orlikowski: Sociomaterial practices. Exploring technology at work. In: Organization Studies 28 (2007), pp. 1435–1448.

36 Robert E. Belknap: The list. The uses and pleasures of cataloguing. New Haven 2004.

> mortem [...]. Would I feel regret? Nostalgia? Panic? Relief? I felt nothing. […] I was reminded of what a colleague who had left a university after 23 years replied when I asked him if it was difficult to do. He said, ›It was like checking out of a motel‹.«[37]

This is the scholar Stanley Fish describing ridding himself of his library in a light-hearted way that Walter Benjamin and most other scholars would have found rather difficult. Collectors face the constant problem of getting rid of things, but it is a challenge that has taken new forms in the digital era.

Rebecca Solnit has pointed out that the social sciences have been focusing much more on all the new that is constantly in the making, rather than on what has to disappear to make room for the new.[38] In my interviews, scholars often found it difficult to capture the ways in which old knowledge was continuously being cleared away to make room for new. Many talked about how the digital revolution had changed attitudes to storage and archiving. By having access to endlessly expanding storage space through the utilisation of more powerful hard discs or online servers, the problem of getting rid of things could be ignored - or at least postponed. Viktor Mayer-Schönberger discusses the hoarding of digital information on personal hard disks and on the servers of universities, governments and corporations.[39] It is easier in this new world to store information than to delete it. A click downloads every photograph from a camera, eliminating the cumbersome job of deciding which ones to keep. »Forgetting – the three seconds it takes to choose – has become too expensive«, he argues.[40] As the computer asks sternly: ›Do you really want to delete this?‹

What kinds of deleting and discarding processes are open to scholars in a given social and historical context, and how is a body, and mind, set on action to dispose of different kinds of knowledge, a memory, a text or an idea?

I had a chance to observe these processes at close hand as my department was about to move to a new building and colleagues had to start sorting out the stuff that had amassed in their offices. The new setting would have much less space. As I began to sift through years of accumulated research stuff myself, like my colleagues I had to decide what to keep and what to dispose of. So much was rediscovered, so many things that had become invisible although (or because) they had been staring directly at me for years. In a sense, the cleaning out process made me aware of my own history of storage and discarding. I constantly found myself sitting with a stack of paper or a book in my hand trying to decide what to do with it. Get rid of it or save it – and where and how and why?

Books turned out to be a tricky issue. The university library made it clear they were not accepting any more book donations. Antiquarian booksellers were

37 Stanley Fish: Moving On. In: The New York Times, 27.5.2013.

38 Rebecca Solnit: A Field Guide to Getting Lost. New York 2005.

39 Viktor Mayer-Schönberger: Delete. The virtue of forgetting in the digital age. Princeton 2009, p. 50.

40 Ibid., p. 68.

equally uninterested. Improvised table spaces were organised in the corridors, and students were invited to pick up literature that the researchers wanted to offload. Day by day, one could follow which books found new owners and which ones were ignored. Flea market dealers started to visit these collections to see if there was something that could be put on the market again. The final destination for many books, however, turned out to be containers placed outside the entrance. Thousands of volumes were swallowed by them to go for recycling. But for many it was a tough decision to throw their books into the container; bookworms are not supposed to do that.

Myself, I felt like an archaeologist excavating the ruins of my old analogue times, from carbon copies of letters (at the time a great innovation), old stencils and loads of xeroxed stuff, video cassettes, interviews recorded on tapes, typewritten manuscripts with lots of cutting and pasting to save retyping, notes done by hand, a box of punch cards, boxes of slides and diskettes, bunches of overhead sheets, and, of course, loads of computer printouts and stacks of offprints. All this stuff represents technologies calling for different storage techniques. The bookshelves and the filing cabinets carry traces of my earlier and often half-hearted attempts at organising and classifying. Other scholars I interviewed often mentioned this situation of moving office as a crucial moment of collector's angst. An anthropologist in her thirties reflected on her strategies for getting rid of things:

> »When I changed office I started to throw away things - for example, all my lecture notes from my student days – but I found it hard to get rid of books and papers. Earlier, I was very good at organising everything in binders and folders, but now my hard disc stuff is much more neatly organised than my desk. I find it hard to delete stuff from the computer, apart from some emails. I keep my texts in myriads of versions, cannot throw them away, although I know I will never read them. But then I have all the memory space I want. I am good at keeping computer files under control, when I am too tired to do other work I often sit down and organise materials on the hard disc.«

A historian complained that after moving office and organising her stuff in perfect order, with rows of binders in the bookcase and a clean desk, she found that her research creativity had disappeared with the old disorder. »I just couldn't work in this new well-organised setting.«

Others use the strategy of having double work places and thus also double archives. As one sociologist said: »Important stuff and books I keep in my study at home – that's where I really work. In the office are just books, journals and papers that I never use, but find it hard to throw away.« A neurologist made a sweeping gesture across the bookshelves in his office containing medical journals, many still in their plastic covers. »I never even open them, I just read the abstracts online.«

This is similar to the strategy of double burials in Kevin Hetherington's dis-

cussion of disposing of things.[41] There are, he argues, the »first burial places« of a discarded object – the basement or the digital »wastepaper basket« of the computer – stations that give people a chance to adapt to the transformation or loss. An unread memo must rest in the filing cabinet or be stacked in the corner of the desk for a suitable period of time before it can be thrown away.

John Durham Peters reflects on discarding things when trying to clean out his garage, where old analogue stuff has been piling up (from audiotapes to VHS cassettes).[42] »Why is it so hard to throw those comatose collections away?«, he asks, and is reminded of the mortuary metaphor of geniza, the Jewish term for a last resting place for sacred texts, that must not be thrown away. »We all have our genizot, stashes or caches of records haunting the nether region of our spaces and lives that we can neither use nor can bear to throw away.«[43]

Cleaning up and reshuffling research stuff is also about producing new knowledge by finding surprising combinations. That old book one has forgotten about, the lost file, the hidden offprint – and all of a sudden something happens. The reshuffling of research materials is also a way of reshuffling ideas; in a sense it can be the remaking of both the past and the present.

Conclusion

> »[…] files pile up on desks, accumulate in offices and fill attics and basements. Though registered, their order collapses time and again; though collected, quashed, dispatched, sold, shredded, or destroyed in some other way, they keep mushrooming. Their incessant proliferation seems a natural phenomenon. Masses of paper rise and merge into mountains that join together to form entire mountain ranges. Floods of paper empty into oceans […].«[44]

This is how Cornelia Vismann, in the introduction to her book on the workings of filing systems, points to the ways in which files take on a life of their own. I have argued for a closer attention to the materialities, technologies and skills that organise everyday collecting in different academic settings, with a focus on container technologies. It is a research territory still waiting to be developed. I have pointed to the importance of a skill perspective in order to avoid technological determinism. Why? Because skills are created at the intersection of technologies, personal habits and specific socio-cultural contexts. People create their own strategies for collecting and handling ›more‹ and in this way they also acquire new skills, like navigating through potential material and making quick nanosecond decisions about what seems worth noticing or keeping. A slowly accumulated competence of cutting corners, skimming and skipping, knowing what e-mails to save, what memos to read, judging a book by holding it in one's

41 Kevin Hetherington: Secondhandedness. Consumption, disposal, and absent presence. In: Environment and Planning D: Society and Space 22 (2004), pp. 157–173.

42 Durham Peters, as fn. 27, p. 12.

43 Ibid., p. 13.

44 Cornelia Vismann: Files. Law and media technologies. Stanford 2008, p. xi.

hand. Many of the skills I have discussed may not even be recognised as skills by the actors themselves, but rather as part of survival techniques in situations of overload, overwhelmed as they are by tasks and information.

How are such competences acquired? The skill perspective means a focus on processes of learning and unlearning, which brings a cultural and social dimension into practices that may at first seem very individual but are actually based upon local academic norms, conventions and understandings. Some of these skills have a long history, which makes a historical perspective helpful in two ways. A generational perspective underlines the importance of how new skills are learned and old ones abandoned or adapted. Historical contrasts are also helpful in making patterns emerge, illuminating similarities as well as striking differences. To avoid getting trapped in a watershed model of a before and after – as in debates about ›the digital divide‹ – such comparisons need to be put into perspective by looking at earlier and similar discussions of radical adjustment, for example among the first generations after the print revolution. Any such historical comparison must avoid viewing developments through the lens of nostalgia (such as the loss of sensuality or authenticity). Every generation will tend to experience its own life as one of dramatic changes in the ways of handling and collecting knowledge, and in this process new sensibilities are developed.

Container technologies are crucial in the making of collections. Already the stones contained in the hand of the proud young boy constitute a collection, with distinct borders. It becomes a community of materials, which began to interact, like the books that find themselves sharing the same shelf. Talking of the cabinet system into which plant samples are sorted, Latour says: »This piece of furniture is a theory«.[45] Containers are active facilitators and in a similar vein Wilken argues that the box of index cards is, in a sense, »a quintessential structuralist tool, in that it simultaneously combines the paradigmatic (selection) with the syntagmatic (combination) in one mechanism«.[46]

In Wilk's and Latour's examples of collections from the jungle, digitisation has also meant that traditional analogue materials have later been computerised, again changing forms. Reversely, the analogue world is still present in, for example, the world of computer architecture, with its terminologies of bins, files, libraries, bookmarks, wastepaper baskets and scissors. Texts are ›scrolled‹ on the screen - as they were once in the libraries of Antiquity.

Among older scholars especially there is also a need to transform digital materials into analogue forms. They create their own analogue database by cutting and pasting from the screen and ending up with stacks of printouts in order to be able to shuffle texts, mark, underline and circle them on paper. This transformation from digital to analogue form in a sense transforms the material, freezes the blog flow. It becomes a pale and one-dimensional reflection of the more lively and colourful screen activities.

45 Latour, as fn. 6, p. 34.

46 Rowan Wilken: The card index as creativity machine. In: Culture Machine 11 (2010), pp. 7–30, here p. 12.

Container technologies are used to create order, but also to ignore and overlook. Any archival system is also a system of forgetting, as Bowker has put it.[47] Latour points to the important double meaning of oversight: materials spread out on a table, separated in a filing cabinet, create a possibility of overview, but oversight also means losing or ignoring…[48]

Scholars are squirrel-like in their abilities to search for and collect stuff, organising different kinds of stashes. They cannot, however, be accused of a squirrel mentality of constant disorganisation and lack of decision-making. Rather, they develop their own often personalised systems for organising knowledge, ideas and excerpts. They learn to deftly move stuff around, to sort things out, to discard and overlook, but behind such routines are often academic norms and routines, many with a striking continuity. This also goes for the tools used: some, like the notebook, the excerpt and the list, have a long tradition. In this long process they have often become objects without a history, and like so many other everyday routines they are taken for granted, hiding methodological and theoretical frameworks behind a shrug of the shoulder: ›this is just the way we do things here‹.

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47 Bowker, as fn. 29.

48 Latour, as fn. 6, p. 38.