

Holes of significance

The ring binder as an ordering device

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In June 1950, a conference of experts from all the Nordic countries was held in Helsinki to discuss standards for office technology and the graphic industry. One of the issues they debated was a common standard for filing holes. A resolution from the conference stated that ‘participants agreed on the need for a joint Nordic, and if possible international, standard for filing holes and the binder’s fastening mechanism. Because of the scope and significance of the problem, the conference recommended that a continued, unbiased investigation was necessary.’¹ It is not surprising that the placement of filing holes could occupy experts from both the public and private sectors, and be seen as an important and difficult problem. From late nineteenth century, when the ring binder was invented, this particular media technology spread quickly in the world of offices and beyond. It became an important ordering device for the ever-expanding amount of information in the increasingly larger and more complex administrations. Since its emergence in the office supply universe, binders have come in different forms, as ring binders, loose-leaf binders, lever arch files, and personal organizers. Even if they differ in a technical sense, they all share the basic function of gathering papers in a specific order, temporarily or permanently, holding them in place with a metal device, and protecting the content with a cover. In this, filing holes are significant, for they are a prerequisite for the media

technology as such. The mechanical device holding the papers in place could not work without papers punched with a hole puncher.

This chapter considers the ring binder as an ordering device and demonstrates its key role in the information infrastructure of the paper-based office, contributing to the historical research that has analysed media from a materialist perspective, and furthering knowledge about mundane information practices to the history of information. The chapter asks one question. What characterized the ring binder as media technology?

The different parts of the ring binder—the closing device, the cover, the index, and the filing holes—give the chapter its structure. By focusing on each of them in turn, different aspects of the ring binder as media technology are highlighted. Even if the focus is on media technologies on a material ‘micro’ level, the ring binder is found to be an important piece in a larger infrastructure. In many ways ring binders are ordering devices, from their use to organize information and their role in the modern office to the national level of communications infrastructure—levels that are intertwined. The analysis draws on digitized and analogue archive material from Sweden, including patents, standards, adverts, price lists, handbooks, and newspaper and trade journal articles. The chronological focus is the late nineteenth century to the mid-1990s, with an emphasis on the first half of the period. The terminology, descriptions of binders as technology, and negotiations about their proper use and promotion are all found in the source material. Swedish trade journals, such as *Affärsekonomi* (‘Business Economy’) and *Kontorsvärlden* (‘Office World’) discussed questions of office technology and organization in the first half of the twentieth century. They also raised the question of paper standardization and related techniques, as did periodicals connected to the typographical industry such as *Grafiskt Forum* (‘Graphic Forum’). All these publications have been studied to find material related to binders. Esselte, which manufactured and sold binders among many other office products, remains a key company

in the Swedish graphic industry, so the parts of the company archive that deal with its sales of office technology have been consulted (mainly price lists, catalogues, and instruction manuals). Articles and adverts in Swedish newspapers, located using the digitized newspaper collection in the National Library of Sweden, have been used to complement the more technical discussions of binders and standards.

Media as ordering devices

What makes a seemingly trivial artefact like the ring binder an interesting object of study for media historians? First, approaching ring binders and filing holes as media technologies can advance our knowledge of the historical importance of what John Durham Peters calls logistical media, which ‘have the job of ordering fundamental terms and units’. Logistical media work to ‘organize and orient, to arrange people and property, often into grids’, compared to media that compress time (recording media) or compress space (transmitting media). All media are infrastructures, writes Peters.² Binders are logistical media in that they are technologies that organize content, making it flexible, mobile, and storable. They are also an important part of a larger information infrastructure, which consists of other media devices, routines, plans, and structures—and people. Binders play a specific role in this infrastructure by organizing, mobilizing, and storing information. Peters suggests that media ‘are not only devices of information; they are also agencies of order’, promoting the study of media technology centred on the devices themselves and how they contribute to the organization of society.³ This perspective has proved fruitful as a means to capture the history of information, in that it brings forward the wide spectrum of technologies and practices that historically have been in use.

Second, media technologies such as binders may be understood as an expression of what Fuller and Goffey call ‘grey media’, that

is, the media forms of ‘the world of work and administration’. Grey media include such things as lists, databases, and project-planning methods, and other digital infrastructure ‘affecting the habits of government, business, and culture, yet rarely recognized or explored as media in their own right’.⁴ Like Peters, Fuller and Goffey share the idea that mundane devices used in information handling could have wide consequences for administration and ultimately for society, an idea that is applicable in a historical context. One example is the work of Cornelia Vismann, whose study of law and media technology suggested that the ring binder was ‘as consequential to modern bureaucracy as was the plough and the stirrup to the Middle Ages’.⁵ The study presented here sheds further light on the ordering function of ring binders in the information landscape predating the personal computer. Institutions, techniques, and media technologies have been developed throughout history to organize the ever-expanding human accumulation of information: from bureaucracies and libraries, paratexts, classification systems, and excerpting technologies to search engines, bookshelves, and databases. These can all be understood as ordering devices for the collecting, sorting, producing, circulating, and preserving of data, information, knowledge, and culture. Ring binders are here understood as devices or media technologies that significantly affected the ways information could be organized, and thus how it was encountered and shared—practices that arguably formed the basis of how societies were organized and cultures expressed. As Lisa Gitelman points out, information, even if often seen as something immaterial or abstract, ‘cannot be considered “free of” or separated from the media that help to define it’.⁶

A third, empirically oriented reason why media historians should direct their attention towards binders is the important role this particular media technology has played for information management since the late nineteenth century. Binders were instrumental in the rise of the modern office, and contributed to the conceptual



Figure 5.1. Binders in use in an office in 1984. Photo: Lennart Bergqvist, Naval Museum Karlskrona, Sweden (CC BY 4.0).

transformation of information into discrete units that can be stored, circulated, modified, and destroyed.⁷ A study of binders can teach us about everyday information practices and low-tech information technologies, adding new perspectives to an information history that tends to dwell on larger structures and information systems.⁸

The beginnings of the binder

Markus Krajewski proposes that the ‘history of innovation demonstrates that most “new” inventions or ideas are modifications of an older insight or a fusion of two or three existing ideas’.⁹ The most famous example of this is Gutenberg’s movable-type printing press, but it also holds true for the ring binder. First, it had the shape of the codex, which evolved in ancient Rome. Second, the practice of filing—gathering loose sheets of paper by threading them on a wire or string—has a long history that dates back to at least the fifteenth century.¹⁰ The innovation that situated the binder to the late nineteenth century was the invention of a mechanical closing device that held the papers in place. The idea and the technological solution appeared at much the same time in different national contexts, where versions of the binder were patented and put on the market. Therefore, the innovation cannot be attributed to the work of a single originator, but should rather be perceived as the outcome of half a century of innovation and use in different institutions (notably libraries and the business sector). It should be noted that many technological solutions for similar devices were patented at the time.¹¹ The Leitz version of the ring binder, the *biblorhapte* (1871), was a combination of an old French patent and elements of the Shannon registrar.¹² Alongside the *biblorhapte* were early examples of commercial products based on various patents of the same basic idea: Baker-Vawter’s spring binder, the Tengwall Trio binder, the Page–McCleery Order System, and the Library Bureau’s loose-leaf ledger.¹³ In the Swedish case, the Trio binder was the leading brand and is still the most common on the market today.

The closing mechanism came to define the binder as storage technology, but it also had a wood or cardboard cover and a spine covered in cloth, leather, or metal. Binders were initially marketed as letter organizers in Sweden (*brefordnare*) and Germany (*Briefordner*). The idea was to store letters or other documents vertically instead



Figure 5.2. A Tengwall letter file, c.1900. The inside of the cover has instructions for use in Swedish, English, French, and Spanish. Photo: Helena Haage, Umeå University Library, Sweden.

of piling them horizontally on shelves. This made the archiving and retrieval of information more efficient and flexible. The closing device held the letters—or any kind of document—securely in place, while they could still be removed at will. Although simple, it opened possibilities for information management practices that both answered the demands of the time and helped create new ways of managing and understanding information. The ring binder was one answer to the rapid spread of the typewriter, the more far-reaching division of labour, and the growth in the number of loose papers that circulated in offices. In one example, an Esselte catalogue published in the 1950s promoted binders as a storage technology that minimized the risk of losing papers. The biggest advantage, according to the catalogue, was that documents were easy to organize and retrieve, and that binders were durable and had a high storage capacity. All in all, this meant that the cost of information storage was low. Binders were marketed

as a flexible storage solution, suited for both the large corporation and the small company.¹⁴

Being a book, escaping the book

The late nineteenth century saw many innovations in office information technology. The typewriter, carbon paper, and the vertical filing cabinet are singled out by the business historian JoAnne Yates as three crucial technological advances in the expansion of the office. Yates argues they contributed to the development of new methods of management at corporations and government departments, and to the expansion of communication in office work.¹⁵ Another important innovation dating to the late nineteenth century was the punch-card technology used to manage large amounts of census data.¹⁶ One thing all these media technologies had in common was that they replaced books as an ordering device and storage medium. Since the late Roman Empire, the codex form had been the dominant information technology in producing, organizing, and storing information, whether handwritten or printed. As the complexity and size of institutional and commercial bureaucracy grew, the shortcomings of the bound book became apparent. Accounting as done in bound books meant that only one person at a time could work on the volume, and no new entries could be added while the ledger was circulating.¹⁷ The new administrative landscape with its slew of clerks, accountants, typists, and managers needed more dynamic media technologies if it were to function. 'In the late 1800s', as Wootton and Wolk argue, 'loose-leaf accounting began to fundamentally change the way that accounting information was recorded and processed'.¹⁸ In organizations increasingly dependent on written information and communication by a growing number of office workers, the bound book was a problem. The binder was one solution, and at the same time one of the reasons for the changes in organizational form and information management.

Lisa Conrad terms this relation between media technology and organization a process of mutual moulding and mutual organizing. Companies synchronized their products and services to the available technological capabilities, and at the same time information technology was developed to match the corporate context.¹⁹ Conrad's case is computer technology, but her argument also applies to paper-based information technologies. Unlike the bound book, loose-leaf accounting freed the pages from their spine, creating more flexible information circulation. Documents could be worked on simultaneously, papers reorganized, and information collated in different ways. The temporal fixedness of paper, at the same time firmly in place and possible to rearrange, is the main characteristic of the binder, one which as media technology it shares with index cards.

Still, the binder had to be imagined in line with the book medium. An example of the close relation between binder and book was the Stockholm Exhibition of 1897, where the Trio binder was displayed in a shared space with bookbinders and printers. The official newspaper for the exhibition stated that the ring binder seemed practical and was probably 'the world's best letter organizer'.²⁰ In another example from a newspaper advert in 1891 the relationship is again apparent, with the Trio binder characterized as an 'easily handled book format' that 'looks like a bound book', and the advantage that though 'papers are read as easily as the pages of a bound book' they could be removed and reordered.²¹ The close connection between new and old media was evident; a relationship commonly understood as remediation, a concept which captures how new media technologies relate to older forms.²² Binders introduced a new flexibility for individual pages, letters, or documents, but retained other book-based practices such as storing items on shelves, browsing to search for information, and the critical hard cover to protect the contents.

The problem of managing data stored in bound books had of course been identified earlier. Staffan Müller-Wille and Isabelle Charmantier have discussed the different paper technologies that Carl Linnaeus

used in his work classifying nature. These technologies included various paper-based tools for the processing of the multitude of data about natural history—diagrams, lists, tables, notebooks, index cards, and files. Linnaeus used them to collect, arrange, visualize, and update information as he created his classification system.²³ The idea of replacing the bound book as an information management tool was thus not new in the late nineteenth century. The difference was in the scale of implementation, from individual scientists in Linnaeus' time to a whole professional sector at the end of the following century.

A market for perpetual updating

The example of Linnaeus suggests the main problem with the book was its inability to handle updated information. A medium that supported updates had to store information differently to the codex's format of continuous entry. As Robertson notes of the manilla folder and the practice of vertical filing, such technologies were an expression of 'a distinctly modern conception of information as a thing that existed in the world, as something that was impersonal, discrete, and therefore easily extracted'.²⁴ Kittler similarly argues that the typewriter introduced 'Spatially designated and discrete signs', as opposed to handwriting, where the text could be seen as a 'continuous transition from nature to culture'.²⁵ Accordingly, Kittler, Robertson, and others locate the emergence of a modern understanding of information in the use of media technologies such as these.

One expression of this understanding of information as a discrete, concrete element was the practice (and market) of loose-leafing. To keep pace with the modern information explosion, what was needed was media technology that better could manage updated information. The printing of new editions or the distribution of supplements did not suffice in sectors where new information was added at a pace, and where having the latest information was crucial. Information had to be circulated in shorter time spans. Howard Senzel, who

has written about the market for loose-leafing in the context of the law, describes how the distribution of smaller sections with updated information was sold as a service and distributed by mail. Instead of sweeping revisions, smaller sections could be updated separately by inserting new pages in books composed of loose leaves, and individual passages could be changed without disturbing the overall order, thus keeping information updated by a constant cycle of minor changes.²⁶ In North America, the practice of loose-leafing grew from the binder's mechanical device to evolve into a separate part of the publishing industry specialized in law and taxation and in reporting on the work of Congress. According to Wootton and Wolk, the English term 'loose-leaf' had two related meanings in the context of administration. In one sense it simply means a book with removable pages. However, it also refers to the variety of complex removable-leaf systems on offer in the early twentieth century such as billing systems, indexes, and other detachable documents.²⁷ Users included engineers, accountants, manufacturers, and schoolchildren; as Senzel writes, 'everybody' was 'taking notes and arranging them loosely'.²⁸ Several competing companies offered subscriptions for revised sections, supplements, and indexes. In 1905, an encyclopaedia compiled entirely of loose leaves, *Nelson's Perpetual Loose Leaf Encyclopaedia*, was launched, and it continued to receive updates for three decades.²⁹

The loose-leaf business commercialized information updates, and binder technologies were the containers for these packs of paper. Rather than being the end station for information, the ring binder was a medium for its circulation. It was an active tool for the organization, reorganization, and replacement of old information with new, and thus responded to—and fed into—the new demands of the emerging information society around 1900. Early twentieth-century offices were equipped with various new technologies to produce, organize, and store information, all with a shared reliance on paper as the basic storage medium. Typewriters, accounting machines, sorting devices,

copying technologies, and furniture were all deployed to gain control over information flows in both private companies and government institutions. In contributing to this more complex communications environment, the ring binder also aligned with the existing information infrastructure, both culturally and technologically. Adding to the new practices of updating and circulation, it also preserved old book-based practices such as arranging binders on shelves, reading, and browsing, and—as is discussed below—information management by alphabetization. Although an updatable medium, it retained the durability and stability of the book medium.

Ring binder information retrieval

‘As a rule, a binder is only complete when it is provided with an index’, a price list for office supplies stated in 1947.³⁰ A binder is limited as an ordering device without indexes to structure its contents, visible as tabs, or dividers, displayed by numbers or letters. These indexes were a preprinted product sold by the same companies that distributed the binders. Even if the mechanical closing device was the innovation that gave rise to the binder, the index was the main technology for sorting and retrieving documents. Vismann suggests that the ring binder, complete with index, meant that two worlds coincided: ‘the mechanical world of the ordering apparatus and the alphabetical world of letters’.³¹ As we have seen, to be sortable and flexible in adding and discarding individual documents made the ring binder an effective ordering device. The index—alphabetic, numerical, topical, or temporal—was essential for creating order and preventing chaos. The metal mechanism might hold the papers firmly in place, but the index was the technique that put them in the right spot. Once again, older techniques, long known in the paper-based information world, were deployed and given new functions. Ring binders did not just replace codex-based information technologies, they also replaced the old practice of gathering loose papers in

boxes. What the index brought to the table was a predefined sorting that ‘automatically’ gave a paper its place, and at the same time a system to search the material. Hence, the binder could be seen as a mechanical information retrieval device.

In 1932, the Swedish trade journal *Affärsekonomi* compared two systems for handling documents in a company: vertical filing cabinets and binders. They chose to highlight different aspects, comparing the cost of purchase, use of space, and cost of use.³² Being light and mobile, binders were seen as a good choice if records management was decentralized—compared to the heavy, immobile filing cabinets made of steel. Regardless of the choice of technology, both required a separate department or specialized staff for the registration and organization of the company’s documents. Company information infrastructure in this period required a great many binders, and they all had to be structured in a system. Different kinds of content had to be assigned to different places, staff had to be put to work sorting, filing, and shelving, and the spatial arrangement had to be planned. Following Robertson, this systemization was an example of ‘more centralized and impersonal organizations’ that were developed in the first half of the twentieth century and where filing was established as a specialized task. This development, Robertson suggests, was an expression of a ‘distinctly modern form of information work’.³³

The medium-specific practices of the binder, as evident in the source material, indicate it was more than an archival medium. The preprinted indices on the market had tabs that—according to the adverts—could withstand wear and tear. It was usual for adverts to announce how durable the spines were so they could stand repeated use. The Swedish brand Agrippa had spines made of steel and came with coloured labels. ‘The binder is as good as indestructible, and its elegant appearance is preserved after years of daily use.’³⁴ The index supported effective information retrieval inside the ring binder; collections of binders were marked with labels on the spines. Coloured labels, numbering, letters, or markings were

the chief means of creating an overview of the system. 'For the filed material to be of service to productive work, intelligibility appears to be the principal condition', and every office worker should be able to find any document quickly 'to answer a question, calculate a cost, request an estimate, pay or enter an invoice in the books'.³⁵ Vismann terms this the 'administrative panopticon'—an orderly system, comprehensible at a glance.³⁶

In Vismann's study of Prussian bureaucracy, the binder takes on an almost autonomous role, where files, not people, control the process using routines and plans.³⁷ This was not true in the ordinary office practices studied here. Papers did not sort themselves. As with many media technologies in the world of offices, new devices meant that work could be delegated to lower-level staff. The typewriter, and the young female typist, was a typical example. Writing work had been done by clerks or other high-level staff, but when the typewriter was introduced the amount of writing quickly increased. Typing became a task delegated to stenographers or typists, organized in large departments, sitting in a typing pool, producing, and reproducing information. Similarly, when filing systems had a prescribed structure designed by a higher-level office worker, the actual sorting could be assigned to others. The 1932 trade journal comparison of ring binders and vertical filing cabinets described one company's incoming letters being sorted by its telephone operators in between taking calls, and the binders were then transported by office boys to their destination.³⁸ In a description typical of the Taylorist-influenced discourse of office management, the article listed the different motions involved, from (i) gathering documents, (ii) pre-sorting with the aid of an index, (iii) hole-punching, to (iv) filing the papers, including opening and closing the fastening mechanism.³⁹ The steps in information processing were often detailed in handbooks and manuals, whether it was the time needed to open the different drawers in the office worker's desk or the most efficient way of feeding paper into a typewriter.

The creation, organization, and circulation of information was thus a highly material practice. Information was processed using media technologies that set the limits on what could be achieved. As logistical media—organizing, orienting, and arranging people and material—the ring binder contributed to the use of information in new ways.⁴⁰ This was information as pieces of data that could be easily arranged and reorganized, that became part of a larger structure or system. Binders were not only carriers of information, but they also reorganized the workplace by making possible a division of labour and an organized structure where the different tasks of information management were delegated. This was possible because of the atomization of information: once there were loose papers to be handled by individual office workers, tasks could be delegated. In short, new media technology created new practices, and new practices facilitated a new organization. The ring binder was a medium that organized on many levels, albeit only as part of the larger infrastructure that evolved slowly from the end of the nineteenth century. To borrow Conrad's concepts of mutual moulding and mutual organizing, the trajectory was not linear, but rather a reconfiguration where media, organization, and information were intertwined.⁴¹

The significant holes of the Trio System

Having approached ring binders as media technological objects and on a micro- and meso-scale of infrastructure, I will turn to the macro scale through focusing on the standard of filing holes. The international standard for filing holes is regulated in the standard ISO 838 ('Holes for general filing purposes') accepted in 1974 by all members of ISO except the Sweden, Canada, and US.⁴² Sweden's deviation from the international standard has been a topic of interest in the popular and trade press from the 1950s on. 'Regarding holes in paper, Sweden's relationship to foreign countries is not good',

declared an article about the international negotiations about filing hole standards in 1967.⁴³ Twenty years earlier the Swedish organization for standards had appointed a Committee for Filing Holes to conduct a ‘comprehensive inquiry of the question of filing holes and related problems’.⁴⁴ A provisional standard was released in 1963, building on the *de facto* standard that dated from Tengwall’s Trio System, which had dominated the Swedish market since the late nineteenth century. According to ISO 838, the standard is two holes separated by 80 mm; Sweden has a four-hole system with two pairs of filing holes 70 mm apart. It was thought Tengwall chose the measurements as a way of standing out among the competition ‘or for some technical reason that is unknown’.⁴⁵ It was only after 2000 and four revisions that the international standard was included in the Swedish standard for filing holes—as an alternative.⁴⁶ Despite filing holes having remained on the agenda for decades, the conclusion has always been to keep the standard unchanged.

The filing hole was one of the fundamental units in a paper-based office infrastructure, along with, for example, paper sizes. How these basic units were defined was important and each had its staunch defenders. From a communications perspective, any unique protocol or technical solution will cause problems because it obstructs connections. One example was colour television in the mid twentieth century, when there were competing incompatible standards for sending out the signals (the American NTSC system, French SECAM, and German PAL).⁴⁷ For many standards, ‘the best’ is measured against ‘the agreed upon’: an example of an inferior solution that has become standard is the QWERTY keyboard.⁴⁸ The Trio System exhibits all these traits, making it difficult to file papers from another country. Despite considerable national pride in the Trio System as superior to what became ISO 838, by the third iteration of the Swedish standard in 1984 the problem of different national standards for filing holes was being acknowledged, including the problems it caused in the international exchange of documents

and stationery. Yet the four-hole system was still said to be better at managing documents, especially the fact that papers were held in place when the binder mechanism was open.⁴⁹ The Finnish economist Henrik Schybergson wrote about the problem in a trade journal in 1949, noting that the Tengwall binder ‘construction of two pair of forks is so simple, and considering usability so superior to its competitors, that it is hard to explain its meagre spread beyond its home country’s borders’.⁵⁰ When in 1981 *Dagens Industri* interviewed Lars Walldén, a representative of the Swedish Institute for Standards, he was blunt, saying that ‘people abroad’ seemed ‘inclined to pile up loose papers rather than put them in a binder’, because the ISO system was ‘an immature system’.⁵¹

In Sweden, filing holes have been a topic of debate, committee work, official inquiry, and testing since the 1940s. Despite all this, the Trio System from 1889 still stands. It seems the ring binder as an organizing device also holds the potential to create disorder, at least in relation to the international circulation of documents. The struggle to keep the Trio System and the immense effort put into persuading other countries and the international standardization organization are a prime example of how an ordering device may itself become an ordering problem. By forming part of the infrastructure of everyday life, standards are mostly invisible to us. They take time and effort to put in place, but when standards work they recede into the background. The debates, discussions, and even conflicts about the Trio System indicate that the workings of this particular standard could be questioned. Apart from being an odd expression of national pride, the reason for retaining the Trio System could of course be related to the price tag of altering the standard. As Bowker and Leigh Star point out, standards have ‘significant inertia and can be very difficult and expensive to change’.⁵² This was evident in the 1990s, when Sweden was negotiating membership of the EU and the question of the Trio System was raised. Greater communication with other EU countries would mean far more work, and the lack

of compatibility between binder and paper would cause fury on both sides. The total cost of ‘hole adapting’ Sweden to the EU was estimated to be 6 billion kronor.⁵³ A columnist in *Dagens Nyheter* recently described how the differing standards seemed to double his battles with French bureaucracy as recurring visitor from Sweden, and required a separate shelf ‘because Swedish and French papers can’t share the same binder’.⁵⁴ From the effortless superiority of the Swedish system in the 1980s, the discourse now seems to have shifted to emphasizing the oddity of it.

Conclusion

In 2011 at a press conference to mark the twenty-fifth anniversary of the assassination of the Swedish Prime Minister Olof Palme, the prosecutor announced there was no news about the murderer’s identity. Instead, the press were given a description of what is supposedly the largest police investigation in the world, totalling no fewer than 3,600 binders.⁵⁵ A few years later, plans were revealed for the complete digitization of the investigation, when the archivist in charge anticipated the crime being solved in six months as overlooked connections would suddenly appear through the digitized material.⁵⁶ It was never realized, however, and the investigation was shut down in 2020. The Palme investigation is illustrative of the history of information. If digitization today brings the promise of making anything possible, compared to the analogue world of information, the ring binder was also a medium for fast information retrieval, and impeccable order, compared to the codex era of bookkeeping. New devices facilitate new practices that replace the old—so the story of information technology goes.

When introduced, ring binders offered a quicker way of finding the right information than existing media technologies. Subsequent technologies have long since proved that information retrieval can be even faster. But in its historical context the ring binder was

important in speeding up the circulation of information since it enhanced accuracy and improved security and control. The move to store loose paper in folders rather than bound in books meant an articulation of information as discrete units. Unlike a bound volume, a single sheet of paper offered less content and more flexibility, which promised increased exactness and ease of access to the information. The ring binder, like other office technologies of the time, contributed to the modern concept of information. To be able to temporarily file loose sheets, creating an alphabetical, chronological, or numeral organization, was an important development in information management, because it facilitated flexibility in the creation of order. Once outside the office sector, the practice created a new market in the publishing industry: the loose-leaf publication. Here the product for sale was rapidly updated information. The ring binder was then not so much archival media as a temporary sorting device. A historical analysis of the ring binder as a material medium also sheds light on the mundane office work practices that constituted information management before computers. The infrastructure for managing information and communications in offices was complex and labour-intensive. Media technologies, furniture, office space, routines, plans, and office workers had to be aligned for the infrastructure to work. The work of making these disparate parts fit together was for most part done behind the scenes by now forgotten office organizers and engineers.

Studying ring binders means, in the words of Patrick Joyce, considering 'low and slow tech' compared to the high-tech visions of larger, more sophisticated media technologies and systems.⁵⁷ Low and slow are relative terms, however. Ring binders, as this chapter has shown, have gone from being cutting-edge technology in the late nineteenth century to an ordinary part of daily life in the early 2020s. They are still there on office shelves and in attics and basements in people's homes. And in one case a metaphor, perhaps unintentionally, for a murder investigation that lost steam and instead became an archive.

Notes

- 1 Åhlin 1950, 260, 263.
- 2 Peters 2015, 37.
- 3 Ibid. 1.
- 4 Fuller & Goffey 2012, 1.
- 5 Vismann 2008, 129, 131.
- 6 Gitelman 2008, 7.
- 7 Robertson 2021, 450.
- 8 For an overview of information history see Black & Schiller 2014, 628–62.
- 9 Krajewski 2017, 230.
- 10 Robertson 2021, 450.
- 11 Wootton & Wolk 2000, 86.
- 12 Vismann 2008, 131.
- 13 Wootton & Wolk 2000, 88.
- 14 Centrum för Näringslivshistoria (Centre for Business History), Bromma (CfN), Esselte, P. Herzog & Söner AB, Priskuranter och kataloger, kontor 1927–1955, *Esseltes ABC-regler*.
- 15 Yates 1989.
- 16 Campbell-Kelly 1996, 16.
- 17 Wootton & Kemmerer 2007, 97.
- 18 Wootton & Wolk 2000, 80.
- 19 Conrad 2019, 73–4.
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- 21 'Till vänner av ordning!,' *Nya Wexjöbladet* (28 May 1891), advert for J. P. Lönnngrens Pappers- och bokbinderiaffär.
- 22 Bolter & Grusin 1999.
- 23 Müller-Wille & Charmantier 2012, 4–15.
- 24 Robertson 2019, 72.
- 25 Kittler 1990, 194–5.
- 26 Senzel 2000, 148, 234.
- 27 Wootton & Wolk 2000, 81.
- 28 Senzel 2000, 152.
- 29 Ibid. 149–51, 156.
- 30 CfN, Esselte, P. Herzog & Söner AB, Priskuranter och kataloger, kontor 1927–1955 F1A:5, 'Samlingspärmar'.
- 31 Vismann 2008, 132.
- 32 Thorelli 1932, 523.
- 33 Robertson 2017, 956.
- 34 CfN, Esselte, P. Herzog & Söner AB, Priskuranter och kataloger, kontor. 1927–1955, F1A:5, 'Ågripa: Pärmen med stål i ryggen', 1947.
- 35 Thorelli 1932, 541.
- 36 Vismann 2008, 145.
- 37 Ibid. 137–142.
- 38 Thorelli 1932, 524.

- 39 Ibid. 539.
- 40 Peters 2015, 37.
- 41 Conrad 2019, 73–4.
- 42 ISO 1974.
- 43 Karsberg 1967.
- 44 'GSK:s årsberättelse för verksamhetsåret 1948', *Grafiskt forum*, 54/4 (1949), 109.
- 45 Karsberg 1967.
- 46 SIS 2000.
- 47 Fickers 2010.
- 48 Reinstaller & Hölzl 2009.
- 49 SIS 1984.
- 50 Schybergson 1949.
- 51 Sterner 1981.
- 52 Bowker & Leigh Star 1999, 14.
- 53 Hagerfors 1991.
- 54 Mortensen 2019.
- 55 Axberger 2022, 317–18.
- 56 Ibid. 322–3.
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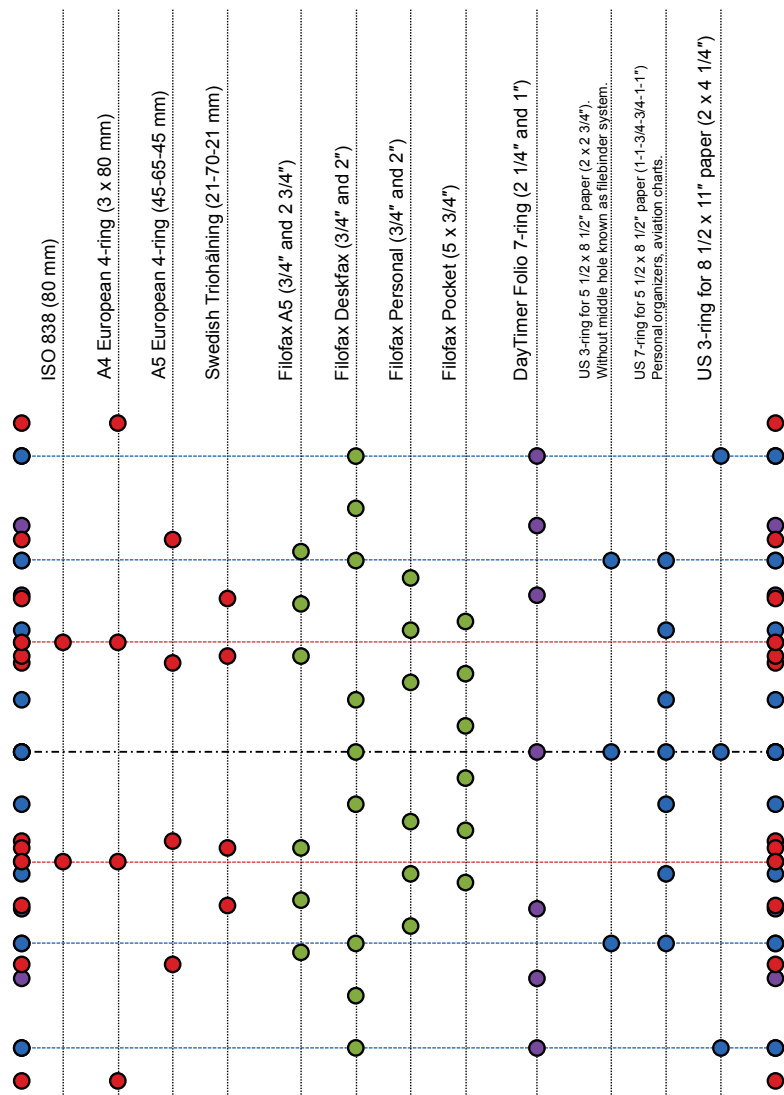


Figure 5.3. Different hole patterns in ring binders and personal organizers. Swedish ‘Triohålning’ is the standard in Sweden. Photo: Wikimedia Commons, File:Common-hole-patterns-in-punches-and-binders.svg (CC BY-SA 3.0).

En TV-bänk kan man använda i många sammanhang . . .



TV-bord MTP

modell MTP — *guldgrön lack*
Längd 110 cm, bredd 40 cm, höjd 45 cm. Vikt 11 kg. Pris 118.—
Pris i skåp med skåpsskåp 118.—



TV-bänk KUNGSHOLM

modell KUNGSHOLM — *guldgrön lack*
Längd 110 cm, bredd 40 cm, höjd 45 cm. Vikt 11 kg. Pris 118.—
Pris i skåp med skåpsskåp 118.—

DOMINO



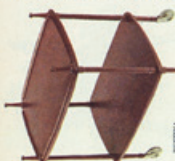
VARIE

modell VARIE — *rostfärgad*
Längd 110 cm, bredd 40 cm, höjd 45 cm. Vikt 11 kg. Pris 118.—
Pris i skåp med skåpsskåp 118.—



KUNGSHOLM

servera bekvämt med tevegn



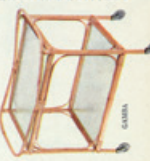
BETTNA

modell BETTNA — *guldgrön lack*
Längd 110 cm, bredd 40 cm, höjd 45 cm. Vikt 11 kg. Pris 118.—
Pris i skåp med skåpsskåp 118.—



GAMB

modell GAMB — *guldgrön lack*
Längd 110 cm, bredd 40 cm, höjd 45 cm. Vikt 11 kg. Pris 118.—
Pris i skåp med skåpsskåp 118.—



DIANA

modell DIANA — *guldgrön lack*
Längd 110 cm, bredd 40 cm, höjd 45 cm. Vikt 11 kg. Pris 118.—
Pris i skåp med skåpsskåp 118.—



FREDDY

modell FREDDY — *guldgrön lack*
Längd 110 cm, bredd 40 cm, höjd 45 cm. Vikt 11 kg. Pris 118.—
Pris i skåp med skåpsskåp 118.—

Figure 6.2. The appropriation and extension of new media: 'You can use a TV bench for many purposes'. *IKEA Katalog* 1966. © Inter IKEA Systems B.V.



Figure 6.3. Media as sound environment. *IKEA Katalog 1970*. © Inter IKEA Systems B.V.



Figure 6.4. Young homemakers of the pop age in their multimedia environment, complete with newspaper, stereo record player, headphones, slide projector, and (possibly) camera. *IKEA Katalog* 1973. © Inter IKEA Systems B.V.