

Recording Worlds

Recording is a transformative process



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A little paper trail of the exchanges between Berlin Zoo and Zoological Museum Berlin. (MfN, HBSB, S004-02-05 96. All rights reserved.)

The practice of recording subtends the stories we gather on this website. In fact, a large part of collecting, especially natural history collecting, is about keeping records. It's these records that allow us to tell our stories and answer questions like [How Do Animals End Up in the Zoo?](#) or how to classify microbes, such as in the example of [Cycladophora davisiana](#). The photos, documents, and data that lie at the heart of our texts constitute different forms of record-keeping, as do the stories we tell. In relying on records to trace specific histories, we are confronted with a remarkable diversity of historical and current recording practices, including our own. This might come as a surprise, as today one might think of records as objective, neutral, one-to-one accounts of the world. Yet, as historical and social studies of the sciences have shown, records *do* more than just record nature: they have an active role in shaping how we order and make sense of the world. Furthermore, records emerge through historically situated practices and significantly change over time, and across different settings. This is especially important in our case, as we focus on a *network* of collecting institutions in Berlin, including the Zoological Gardens, the Museum für Naturkunde, and the [Zoological Teaching Collection](#) of Humboldt-Universität zu Berlin: changing records can

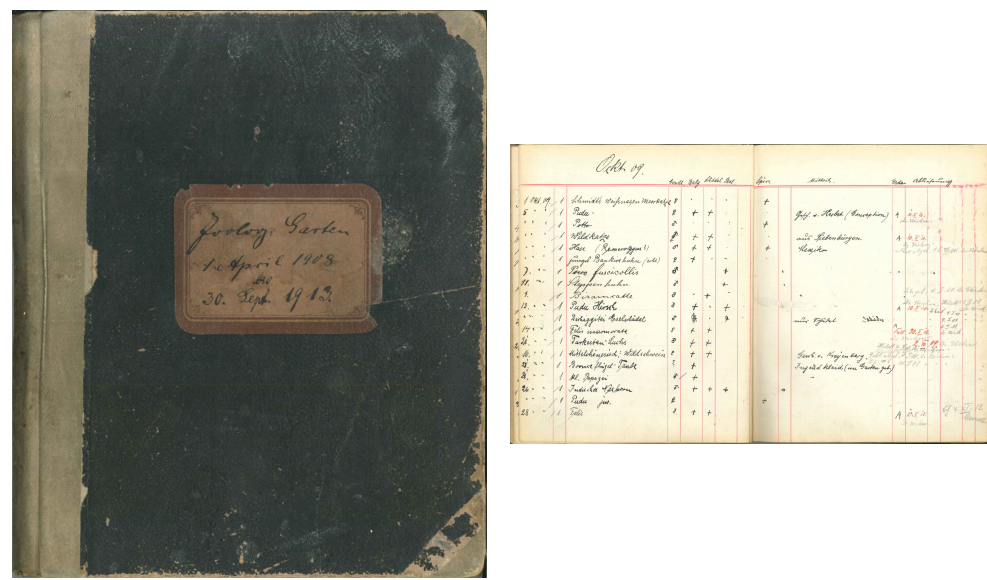
tell us something about institutional transformations and the re-orderings of collections while broader cultural and political shifts can find expression in recording and inscription techniques and artefacts. In presenting the theme of “Recording Worlds”, then, we want to highlight how records do not merely *represent* the world, but *shape* the world because their mobilisation engenders new actors and relations, such as in establishing [taxonomic orders](#) or turning [pests into displays](#).¹

In following how animals are turned into objects in zoos and natural history collections, records emerge as key players in their objectifying practices: not only as recording practices themselves change, but also as they leave their [mark on animals](#) and collections as well. In other words, bodies can be understood as produced in and through practices of inscription. Specimens are recorded in catalogues and inventories, in price lists and accounts, on labels and tags, Microsoft Access databases or customised data systems, in diaries, journals, studbooks, in global biodiversity and research [data infrastructures](#), and survey forms. Thus, records facilitate the circulation of animals and information about them, while also attributing them a specific place in various classifications, and assigning them meanings and values. An example of this is the exchange between the Berlin Zoo and the Museum für Naturkunde Berlin. The processes through which the zoo sent lists of animals on offer, the museum attributed prices to them, and the animals were then sent with specimen tags attached, unfold in [Keeping Records of Animals](#). The differential objectifications of animals (wild animal, zoo animal, museum specimen, teaching model) thus takes place through *bodily* and *informational* transformations. In this sense, records work as *vehicles* for the circulation and exchange – as well as transformation – of animals between different institutions and collections. But lists, inventories and labels are also instruments to manage collections, and work in this sense as tools of *control*.² They reflect the arrangement of a collection and its underlying orders – for instance taxonomy, and help build it at the same time, imposing specific restraints, and channeling what is considered relevant, see [Common Seadragon](#).³ Thus, different types of collections – teaching collections, zoos and other displays, but also research collections – work with different forms and formats of record-keeping which depend on their purpose. Records, then, allow us to consider what happens in the encounter and interaction of this multitude of coexisting media, formats and practices of record-keeping. Tracing historical changes in record-keeping techniques, the stories on this website illustrate how recording still continues today to impact and transform the world – in this case by affecting how animals are turned into objects, but also what these objects [may come to mean](#) in different situations. Our stories evidence that these objectifications are never straight-forward but are characterised by resistance and challenges, such as, when [animals rot](#) during transport; or when they are listed in catalogues but [cannot be found](#) in the collection. These moments of recalcitrance and their resulting [gaps](#) form an important part of turning animals into objects and, more broadly, of working with records.

Histories of Record-Keeping

Much has been written on lists, catalogues, and other forms of record-keeping examining specific forms and formats for specific cases.⁴ As these works show, we can read records in at least two ways: as sources, specimen lists, accession

books and tags inform us about the organisation of a collection, about the trajectories, numbers or prices of individual animals, as well as about institutional exchanges. At the same time, we can focus on records as objects of study in their own right, analyzing the applications, the epistemic, social, and political effects as well as genealogies (e.g. tracing their origins in bookkeeping) and transformations in their forms, formats and functions. In this way, historians of science have not only shown, for example, how the British Museum (Natural History) in London or the Zoological Museum in Berlin built and organised their collections with the help of recording practices.



Entry books like these inform about the number and species of animals transferred from the Zoo Berlin to the Zoological Museum Berlin in the years between 1908 and the 1940s. The museum archive holds three entry books of the same format with about 70 pages each. (MFN, HBSB, Eingangsbücher Zoologischer Garten 1908-1913, unerschlossen. All rights reserved.)

They have also shown how record-keeping functioned as a surveillance technology to control field work at/from a distance and to keep tabs of internal workings of large museums; or how catalog records not only serve as a finding aid, but as yet another technique of power to manage and control the production of knowledge and the practice of science.

Building on these works, our website focuses on the transfer of objects into and between different institutions, mainly three Berlin institutions: the Zoological Garden Berlin, the Museum für Naturkunde Berlin, and the Zoological Teaching Collection of the Humboldt-Universität zu Berlin. Reconstructing the paper trails of animals in and through these institutions and their shared history sheds light on animal provenance and trajectories, allowing us to assemble partial biographies. As we follow how animals move and transform across different settings, we too travel through multiple media. Thus, tracking animals unearths and, in parts, generates all kinds of records that document, organise and facilitate their movements. A register tracing the transfer of reptiles and amphibians from the zoo-aquarium to the Zoological Museum in 1914-15 is a case in point illustrating the importance of keeping records of animals. Here, the assignment of inventory number and list price mark the transformation of an animal into a museum specimen, turning it into the property of the museum and part of its collections or exhibition. This process has a key part in how an

animal changed its status, going from living zoo attraction to dead and preserved collection item.⁵

Among the collections we focused on, some were dedicated to research, others to zoological teaching, and others yet, like those including zoo animals, to the display of live animals. As such, the variety of uses of animals is reflected in, but also actively shaped by, the various kinds of record-keeping involved. From the Steinmetz Index and registers of the zoo, to the index cards and inventory books of the Zoological Teaching Collection, and the logbooks of the Zoological Museum, the animals' records differ according to the specific needs, uses, and pragmatic possibilities of each collection – as well as the idiosyncratic preferences of curators in different times in history.

The early days of natural history museums in Europe were characterised by an abundance of recording techniques for accessing and disposing of collection items. For example, in the Zoological Museum in Berlin we find many forms and formats of record-keeping co-existing throughout the 19th century: logbooks, specimen tags and different forms of cataloguing as shown in Keeping Records of Animals and Purchased from a Caravan. Berlin was not an exception. In collections all over Europe, much effort was put into handling, administering and accounting for the accumulation of natural history objects, which had proliferated with colonial collecting activities as Anne MacKinney has evidenced for the Museum für Naturkunde Berlin. James Delbourgo has examined the power as well as the messiness of early cataloguing practices for the case of Hans Sloane and the British Museum, while Lukas Rieppel has shown how the American Museum of Natural History implemented bureaucratic documentation regimes of large corporations in philanthropic museums.⁶ We find variety not just in the media used but also in the practices of record-keeping. These ranged from informal, improvised note-taking to standardised notation systems. From these sources, we learn about the use of animal objects as well as the organisation of and everyday work in a collection. Furthermore, logbooks like the ones from animal preparator Friedrich Beyer also illustrate the connections between the Zoological Museum and other institutions. Offers and delivery lists like those used in Keeping Records of Animals reveal details about the exchanges between these institutions and provide insights into their economies of gifting, trade and barter.

At the same time, we find important differences in what and how information is recorded, administered and evaluated in each collection. For instance, location data for specimens in the teaching collection and the museum is recorded very differently. The museum records need to identify the individual's site of origin as precisely as possible. In contrast, for specimens in the teaching collection locality data is sufficient if it points at a general species range. While these might be small differences, they often have significant consequences because they determine the format of records and, hence, the range of what can be accounted for and reckoned with. Tensions in recording-keeping practices also demarcate epistemic, institutional and cultural boundaries: when objects from zoos and traders reached the museum, much effort went into trying to retrace precise locations. Zoological research increasingly demanded detailed data, especially on the location of collected specimens, and was often frustrated by the scant and poor recording practices of traders and trappers who were more concerned with the commercial value of the animals.⁷

Proliferating Records

In the course of the 19th century, we find efforts towards more uniform formats and practices of record-keeping in the collections we study. While at first, specimens were not systematically and comprehensively recorded, we see the introduction of registers and inventory catalogues with individual inventory numbers assigned to each specimen mainly in the second half of the 19th century. From the late 20th century onward, we begin encountering specimens in digital databases and excel sheets. The reasons for these transformations are manifold. Firstly, technical innovation, particularly in relation to computational tools, leads to new forms of record-keeping. Also, the need to simplify everyday work in the collection inspired changes in media. For instance, in the late 1960s the Teaching Collection switched from bound catalogues to index cards.



Card box used to keep the records of the Zoological Teaching Collection. (Image: Mareike Vennen/Zoological Teaching Collection. All rights reserved.)

These were more flexible and literally lighter to handle, making it easier to incorporate new objects and to adjust existing orders. Yet another reason can be found in conservation legislation, which required the implementation of new regulations for the trade and traffic of wild animals and for the exchange between zoos and museums. This entailed new standards of record-keeping. During colonialism, millions of specimens were collected with few regulations in place, leading to poor records. After the Second World War, when international breeding programmes were established, linking zoos and conservation, more detailed documentation became crucial. At the same time, regulations like the Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) from 1973 required records of provenance to ensure traceability.

However, despite these standardizing efforts, we are far from universal (or even uniform) systems of record-keeping. Institutions such as zoos, natural history museums and teaching collections use (very) different databases, ranging from [Species360](#) to [NSB Database](#). Furthermore, past practices of record-keeping can pose challenges to the present since we inherit records which are based on historical decisions about what and how to record. These decisions might have been based on political rationales or economic logics that no longer obtain or that are, indeed, no longer defensible. The excess of colonial collecting made it impossible to assiduously record every incoming object and to this day specimens in collections worldwide are [not inventoried](#) (yet). This illustrates how difficult it is to quantify the exact [number](#) of objects in a collection, especially those originating from the 19th and early 20th century.

It further shows that practices of record-keeping in natural history collections can be an important site for political decisions about what matters, when, and to whom: while mundane and boring at first sight, what gets recorded has far-reaching consequences. It should, therefore, be an occasion for shared decision-making. This is particularly true today, as novel technologies for recording keep proliferating while others are lost, forgotten, or simply replaced. Instead of a linear progression, however, we still observe a co-existence of various formats of recording. Curators today need to be up to date on the latest approaches in data management, but they should also be able to read catalogue entries from the 19th century and correctly date historical labels based on their design. This aspect of collection records brings to the fore another important dimension of museum work: not only collection items themselves, but also their records have become objects of and instruments in political debates. Especially current debates on restitution often revolve around the question of open and comprehensive documentation and digitisation as decisive steps in the reappraisal of collections' colonial origins.² While this is indeed important, the examples gathered in this theme show some of the practical challenges involved, including the difficult conversion of historical data and media to new digital formats. Furthermore, digitisation cannot replace provenance research, which investigates the contexts that are habitually considered irrelevant when a natural history specimen is solely treated as an object of taxonomic information. In order to reconstruct the histories of specimens, digitisation *and* archival research in cooperation with different communities is needed. The work of maintaining a natural history collection, then, is deeply intertwined with the effort to record the world. As we show in our stories, this effort does not amount to a universal, comprehensive, and clearly demarcated collection. Instead, it is part of the ongoing transformations that affect animals, objects, collections as well as collectors, curators and researchers, including ourselves. Recording the world also transforms the world, which is why decisions about data formats, documentation standards and database models, as well as more humble paper lists, to paraphrase Donna Haraway, should always include the question: *what* gets recorded, and for *whom*, and at what *cost*?

Footnotes

1. The generative power of records, or more precisely of files is the key argument brought forth by Cornelia Vismann's work, for instance in Cornelia Vismann. *Das Recht und seine Mittel*. Frankfurt a.M.: Fischer, 2012; Cornelia Vismann. *Akten: Medientechnik und Recht*. Frankfurt a.M.: Fischer, 2000. [↗](#)
2. Lists are exemplary for these processes. From specimen lists to lists of people like donors, collectors or animals, lists have truly set the foundations of natural history. See e.g. Anne MacKinney, "Liste", *microform Podcast*, 12.02.2019, <http://www.kleine-formen.de/enzyklopaedie-liste/>; James Delbourgo and Staffan Müller-Wille. "Introduction". *Isis* 103, no. 4 (2012): 710-715; James Delbourgo. "Listing People". *Isis* 103, no. 4 (2012): 735-742. These studies not only track the bodies of knowledge transferred along with specimens across the sea from one continent to another, but also, importantly, the voices and knowledge that were lost, ignored, or erased from the record. [↗](#)

3. See Staffan Müller-Wille. "Carl Linnaeus's Botanical Paper Slips (1767-1773)". *Intellectual History Review* 24 (2014): 1-24; Hanna Hodacs et al. *Linnaeus, Natural History and the Circulation of Knowledge*. Oxford: Voltaire Foundation, 2018. ↵
4. Historians of science examine, for instance, the genealogies, practices and politics of note-taking: Lorraine Daston. "Taking Notes". *Isis* 95, no. 3 (2004): 443-448; Ann Blair. "The Rise of Note-Taking in Early Modern Europe". *Intellectual History Review* 20, no. 3 (2010): 303-316. Studies on the animal and plant transfers from the 16th to the 19th century have highlighted the role of instructions. From the growing body of literature, see for instance: Mareike Vennen. *Das Aquarium: Praktiken, Techniken und Medien der Wissensproduktion (1840-1910)*. Göttingen: Wallstein, 2018; Nigel Rigby. "The Politics and Pragmatics of Seaborne Plant Transportation, 1769-1805". In *Science and Exploration in the Pacific: European Voyages to the Southern Oceans in the Eighteenth Century*, Margarette Lincoln (ed.). Woodbridge: Boydell Press in association with the National Maritime Museum, 1998: 81-100. ↵
5. Historians of science have recently shown how record-keeping in natural history developed from earlier bureaucratic bookkeeping practices; and how they inherited and shaped forms of governance, like accounting practices and their moral economies and epistemic virtues: Anke te Heesen. "Accounting for the Natural World: Double-Entry Bookkeeping in the Field". In *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, L. Schiebinger and C. Swan (eds.). Philadelphia: University of Pennsylvania Press, 2005: 237-251. ↵
6. Lukas Rieppel. *Assembling the Dinosaur: Fossil Hunters, Tycoons, and the Making of a Spectacle*. Cambridge: Harvard University Press, 2019. Anne MacKinney has analysed the early work of record-keeping in the Zoological Museum. Anne MacKinney. "Objekte und Objektverzeichnisse in naturkundlicher Sammelpraxis: Das Beispiel des Berliner Zoologischen Museums von 1810 bis etwa 1850". In *Materielle Kultur in universitären und außeruniversitären Sammlungen*. Gesellschaft für Universitätssammlungen (ed.). Berlin: Humboldt-Universität zu Berlin, 2017: 23-28. <https://doi.org/10.18452/18536>; James Delbourgo studied the case of Hans Sloane, see James Delbourgo. *Collecting the World: Hans Sloane and the Origins of the British Museum*. Cambridge: The Belknap Press of Harvard University Press, 2017. ↵
7. Many natural history museums therefore began writing their own manuals for collectors in the field, which contained precise instructions about how to write labels and waybills, for instance, by providing information about the collector, where the animal had been found, and on which date. ↵
8. For discussions on the connection between the decolonisation of museum collections and data practices, see Bénédicte Savoy. *Afrikas Kampf um seine Kunst: Geschichte einer postkolonialen Niederlage*. München: C.H. Beck 2021; Kelley Hays-Gilpin, Atsunori Ito, and Robert Breunig. "Decolonizing Museum Catalogs: Defining and Exploring the Problem". *Trajectory* 1 (2020). <http://doi.org/10.15021/00009509>. For a Berlin example, see <https://www.smb.museum/en/research/research-projects/provenance-and-collections/>. ↵