

INTRODUCTION

Introduction: the issue of duplicates

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Abstract

The permanent preservation of objects in global custodianship is a captivating ideal that informs countless museums' corporate identities and governs collection guidelines as well as politics. Recent research has challenged the alleged perpetuity of collections and collected items, revealing their coherence as fragile and dependent on historically, politically and culturally specific conditions. Duplicates offer an instructive point of entry to explore the idea of collection permanence, museum politics, and the mobility of museum objects. The history of duplicates, moreover, comprises a constellation of practises, concepts and debates that can be found in various forms throughout the intertwined histories of natural-scientific, ethnographic and artistic collections. This history, however, has rarely been questioned or explored. By introducing the issue of duplicates, this paper opens up a discussion that not only connects different forms of collections, but also situates the history of collecting institutions across the disciplinary spectrum within broader political, economic and epistemic frameworks.

When a fire destroyed the Brazilian Museu Nacional and some 20 million objects in its collections in September 2018, a wave of solidarity swept the museum world. Duplicates – that is, multiple specimens and objects understood to represent a single species or object type – were promised from Argentina, Canada, China, France, Germany, Italy, Spain and the United States to rebuild the lost collections.¹ It was not the first time that duplicates came to the fore as objects of restoration. In fact, museum archives hold countless similar stories in which the destruction of a collection activated a professional ethos of resource sharing and collaborative rebuilding. After the natural-history collections in Budapest's Magyar Nemzeti Múzeum were destroyed during the Hungarian Revolution in 1956, for instance, the head of the Museums Department at the Ministry of Education in the fledgling German Democratic Republic wrote to the director of the Zoologisches Museum in Berlin,

¹ Song Jianlan, 'Chinese paleontologists extend helping hand to fire-devastated National Museum of Brazil', *Bulletin of the Chinese Academy of Sciences (BCAS)* (2018) 32(4), pp. 204–8; 'ICCRUM to participate in National Museum of Brazil restoration', International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCRUM), 2 October 2018, at www.iccrom.org/news/iccrom-participate-national-museum-brazil-restoration (accessed 18 May 2021).

We consider it our duty to help our friends in the People's Republic of Hungary to rebuild the destroyed institutions, and therefore we ask the scientific museums to what extent they can make duplicates of their collections available to the National Museum in Budapest.²

Before that, the ruin wrought throughout Europe by the Second World War also prompted duplicate-fuelled reconstruction efforts: the Liverpool Museum, which had been struck by a Luftwaffe bomb during the 1941 Blitz, reconstituted its collections in the 1940s and 1950s with surplus from the Wellcome Historical Medical Museum's ethnographic holdings.³ After a bombing raid sent parts of the Berlin Botanischer Garten und Botanisches Museum up in flames in 1943, many university collections and museums across Europe and the United States sent their duplicate herbarium sheets to bolster Berlin's decimated holdings.⁴ Meanwhile, the 40,000 photographic negatives of Berlin's type specimens that Chicago botanist J. Francis Macbride had made just a decade earlier to replicate and make accessible the taxonomic information for his American colleagues suddenly became the singular records of the destroyed plant specimens.⁵

These examples indicate that duplicates have been intertwined in narratives of rescue and rebuilding. Indeed, these often uplifting accounts can make duplicates visible both as physical objects and as a conceptual category to audiences outside collection institutions. However, this is only one part of the story. As much as duplicates can be involved in collection reconstruction, the history of duplicates is also a history of the destruction of objects, of the dissolution of collection contexts and of the illegitimate appropriation of holdings: at the turn of the twentieth century, for instance, archaeologists had few qualms cutting up ancient textiles excavated on their digs into smaller pieces, thereby transforming them into functional equivalents that could be distributed to multiple European museums.⁶ In the nineteenth century, naturalist institutions like the Berlin Zoologisches Museum made it their business to cull and sell duplicates from the specimen crates that travelling naturalists had – often at great personal risk and financial cost – entrusted to the collection for their further research.⁷ During the Nazi regime, German state, university and municipal libraries filled their shelves with duplicates procured from the private libraries of Jewish Germans, whose collections had been seized by the Reich Central Exchange Agency and Procurement Office of German Libraries (Reichstauschstelle und Beschaffungamt der deutschen Bibliotheken).⁸

The appearance of duplicates in contexts of salvation, as well as of destruction, dispersal and pilfering, point to the complex range of historical configurations that they are

² Staatssekretariat für Hochschulwesen der DDR, Abteilung Wiss. Bibliotheken, Museen und Hochschulfilm an Zoologisches Museum, 10 April 1957, Museum für Naturkunde Berlin, Historische Bild- und Schriftgutsammlungen, Zool. Mus., S. IV Verwaltungsakten ZM. Translation here and in the following by the authors.

³ Georgina Russell, 'The Wellcome Historical Medical Museum's dispersal of non-medical material, 1936–1983', *Newsletter (Museum Ethnographers Group)* (1987) 20, pp. 21–45; Louise Tythacott, 'The African Collection at Liverpool Museum', *African Arts* (1998) 31(3), pp. 18–35, 93–4, 25.

⁴ Paul Hiepko, 'The collections of the Botanical Museum Berlin-Dahlem (B) and their history', *Englera* (1987) 7, pp. 219–52.

⁵ Field Museum, 'Berlin negatives', at www.fieldmuseum.org/node/5186 (accessed 28 May 2021).

⁶ Lena Bjerregaard, "'Doubletten': puzzles that could maybe someday be reconstructed', *Baessler-Archiv* (2001) 49, pp. 187–92.

⁷ August Brauer, 'Das zoologische Museum', in Max Lenz (ed.), *Geschichte der Königlichen Friedrich-Wilhelms-Universität zu Berlin*, vol. 3: *Wissenschaftliche Anstalten, Spruchkollegium, Statistik*, Halle: Verlag der Buchhandlung des Waisenhauses, 1910, pp. 372–89.

⁸ Cornelia Briel, *Beschlagnahmt, erpresst, erbeutet: NS-Raubgut, Reichstauschstelle und Preußische Staatsbibliothek zwischen 1933 und 1945*, Berlin: De Gruyter, 2013.

embedded in and that bring them forth. Unfolding these complexities, the contributions gathered in this special issue examine duplicates across different scientific disciplinary cultures and collection contexts from the nineteenth to early twentieth centuries. They explore the various ways in which duplicates have historically been conceptualized and the constellation of practices and actors surrounding the definition, collection, storage, study, valuation, politicization, dispersal and distribution of these objects. By centring duplicates and their histories, the papers in this volume simultaneously call attention to a historiographical problem in the study of collection-based science and knowledge: duplicates are objects whose ontological status has rarely been scrutinized by historians. Nevertheless, as the contributions in our volume and the present introduction attest, duplicates and duplicate practices can be found throughout a wide variety of historical collection contexts from at least the mid-eighteenth century up to the present day. In this introduction, we outline these ambivalences that have rendered duplicates an issue that either is taken for granted or provokes intellectual and institutional discomfort, but which has, in either case, resulted in historiographical disregard for these objects. We then develop three interconnected points of entry into the complex, often hidden, history of duplicates, and trace some of the major milestones in the history of collection and science since around 1750 that have profoundly shaped duplicates' meaning, value, visibility and movement. Finally, we demonstrate how a history of this hitherto understudied, yet ubiquitous, collection object can productively open up new ways of analysing the histories and envisioning the futures of collection institutions.

Duplicate ambivalences

Duplicates are contested objects. Their histories were and still are shaped by conflicts over their definition, function and legitimacy. While the media coverage of restorative duplicate practices like those involved in reconstructing the Museu Nacional shed light on the seemingly unquestioned presence of these objects, present-day museum guidelines unveil less straightforward statuses and definitions of the duplicate, particularly when paired with a discussion on what a collection should do with such assumed doubles. A 2011 booklet on 'sustainable collecting' published by the German Museum Association, for instance, devotes an entire chapter to duplicates and outlines the steps through which museums deaccession objects.⁹ At the same time, the guideline consistently couches the term 'duplicate' in quotation marks, signalling a potential disconnect between the term and the designated object.¹⁰ Indeed, the guideline emphasizes that even in cases concerning 'so-called duplicates' produced in serial industrial manufacturing, utmost care should guide each decision to deaccession, since 'every item is singular in its history'.¹¹ Ultimately, by the end of the publication, the association insists that the term 'duplicate', prevalent until the mid-twentieth century, is now no longer even employed in museum contexts.¹²

Duplicate objects and the various practises associated with them, particularly their distribution or dispersal, have more often than not been regarded as anomalous, at least retrospectively. When the then director of Berlin's Zoologisches Museum, August Brauer, presented the first history of his institution in 1910, his assessment of the museum's decades-long practice of auctioning duplicates was devastating. To Brauer, it

⁹ Deutscher Museumsbund e. V. (ed.), *Nachhaltiges Sammeln: Ein Leitfaden zum Sammeln und Abgeben von Museumsgut*, Berlin: Deutscher Museumsbund, 2011.

¹⁰ Deutscher Museumsbund, op. cit. (9), pp. 31, 41–2, 55, 63.

¹¹ Deutscher Museumsbund, op. cit. (9), p. 55.

¹² Deutscher Museumsbund, op. cit. (9), p. 63.

was nothing short of incomprehensible that the commercial trade in duplicates could have ever been seen as a means to enhance the museum's fame and dignity: 'Certainly, through [duplicate] trade the museum has gained many a valuable piece, but it is equally certain that it has lost many a perhaps more valuable piece and that the order and scientific significance has declined.'¹³ A more recent episode illustrating such duplicate regret is offered by the British Museum. From the 1950s onwards its officials decided to sell the Benin bronzes that they defined as 'duplicate specimens' and thus as 'surplus to the Museum's requirements'.¹⁴ The Nigerian government emerged as a major buyer of these artefacts, as these objects had been looted from its territory seven decades earlier. The decision to sell the Benin 'duplicates' was later strongly condemned by the British Museum, not because of ethical qualms about its own entanglement in the illegitimate translocation of cultural heritage and its aftermath, but solely for curatorial reasons regarding the resulting gaps in the collection: 'From a curatorial point of view, it was a curse. The bronzes were cast in matching pairs, so it is difficult to exhibit them properly', the museum's African expert regretted decades after the sale.¹⁵ In hindsight, duplicates often pose a fundamental dissonance to historically specific ideals that hold museums as perfect, permanent, ordered repositories of the world *in microcosmo*.¹⁶ In this utopia of order, museum repositories may grow over time, prompting proud announcements about the hundreds of thousands, millions or tens of million of objects accrued over centuries.¹⁷ But they must not contract by disposing of or distributing what they come to own. Duplicates disturb the order, epistemology and identity of collections.

However, a glance into other contemporary guidelines indicates that the term 'duplicate' and objects classified as such are still, in fact, part of the museum world today. The Berlin Museum für Naturkunde's collection guideline from 2010, for instance, stipulates,

Single duplicates whose geographic origin, preservation conditions, sex and other important characteristics are identical may be replaced in exchange with other collections by objects that fill a scientifically significant gap in their own collections (e.g. additional species, different sex, geographic origin not previously represented in the collections).¹⁸

¹³ Brauer, op. cit. (7), p. 378.

¹⁴ 'Benin bronzes sold to Nigeria', *BBC News*, 27 March 2002, at <http://news.bbc.co.uk/2/hi/entertainment/1896535.stm> (accessed 28 May 2021).

¹⁵ *BBC News*, op. cit. (14).

¹⁶ Barbara Kirschenblatt-Gimblett, 'Refugium für Utopien? Das Museum. Einleitung', in Jörn Rüsen, Michael Fehr, and Annelie Ramsbrock (eds.), *Die Unruhe der Kultur: Potentiale des Utopischen*, Weilerswist: Velbrück Wissenschaft 2004, pp. 187–96. On the centrality of permanence to museums' institutional identity see the International Council of Museums latest official definition of the museum as a 'permanent institution ... which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment'. ICOM, 'Museum definition', at <https://icom.museum/en/resources/standards-guidelines/museum-definition> (accessed 3 June 2021).

¹⁷ The British Museum, for instance, boasts 'a staggering 8,000,000 objects in the collection'. The British Museum, '260 years: the British Museum in numbers', at <https://blog.britishmuseum.org/260-years-the-british-museum-in-numbers> (accessed 28 May 2021). The Berlin Museum für Naturkunde counts '30 million objects'. Museum für Naturkunde Berlin, 'Collection', at www.museumfuernaturkunde.berlin/en/science/infrastructure/collection (accessed 28 May 2021). The American Museum of Natural History devoted its first podcast episode to its '33 million things'. AMNH, *Shelf Life Podcast*, Season 1, Episode 1, '33 million things', at www.amnh.org/shelf-life/33-million-things (accessed 28 May 2021). Even art museums enjoy publicly counting their collections, such as the Metropolitan Museum of Art, which reports 'over two million works of art'. The Met, 'General information', at www.metmuseum.org/press/general-information?st=facet&rpp=10&pg=2 (accessed 28 May 2021).

¹⁸ [Peter Bartsch], 'Sammlungsrichtlinien des Museums für Naturkunde Berlin (Collection Guideline for the Museum für Naturkunde Berlin)', unpublished, 2010, p. 8; see also Museums Association, 'Disposal toolkit:

According to a 2018 concept paper, the British Museum defines the duplicate as ‘an object that is identical in every significant respect to one or more other objects in the Collection, not merely of the same or a similar kind’.¹⁹ Whereas the Museum für Naturkunde Berlin guidelines officially allow for replacement and exchange, the British Museum maintains a comparatively stricter policy of ‘not normally’ deaccessioning duplicates, as these objects ‘may enhance the significance of the Collection as a whole and ... the study of particular classes of artefact’.²⁰ Both museums are striking in that they not only acknowledge duplicates in their collection, but also provide definitions. And yet the definitional bases of the duplicate given here, such as ‘geographic origin’, ‘preservation condition’ and ‘identical characteristics’, are anything but self-explanatory. Nevertheless, there seems to be little analytical need in everyday life, especially as any scrutiny of the categories, and the politics surrounding them, might reveal practices antithetical to the profession. Duplicates touch the innermost morality of museums.

A brief glimpse into the semantic layers of the word ‘duplicate’ shows that these ambivalences surrounding duplicate collection items are intrinsic to the term itself. A duplicate signifies ‘one of two things exactly alike, so that each is the “double” of the other’, and further, ‘the exact counterpart ... of something already in existence: applied to any number of such copies or specimens of a thing’.²¹ Already, this seemingly intuitive definition points to several issues surrounding duplicates. On the one hand, the term connotes identity and exact correspondence between two things; on the other, it maintains a hierarchy, distinguishing between an original thing, ‘already in existence’, and a ‘copy’ that is subsequently made or defined from it. Context-specific meanings and other terms related to ‘duplicate’ further widen this gap between identity and difference, primacy and derivativeness: in a juridical or bureaucratic context, for instance, ‘duplicate’ (in French *duplicata* and German *Duplikat*) refers to a second copy of legal document that carries the ‘same legal force’ as its counterpart.²² In the world of gemstones, however, the French *doublet* and German *Dublette/Doulette* signify counterfeit jewels, thus connecting the term to notions not only of inferiority, but also of fraud, or *duplicity*.²³ As this special issue will show, duplicate collection objects are inherently unstable entities, frequently oscillating between statuses as identical, individual, deficient and hence disposable, or valuable and worthy of safekeeping.

Duplicate historiographies

We argue that both institutional discomfort triggered by duplicates and the matter-of-factness of duplicates have led to their historiographical neglect. Only by attending to political histories of museums, by examining the globally dispersed forms

guidelines for museums’, at www.museumsassociation.org/campaigns/collections/disposal-toolkit (accessed 18 May 2021).

¹⁹ British Museum Policy, ‘De-accession of objects from the collection’, 2018, p. 2 (§ 3.4), at www.britishmuseum.org/sites/default/files/2019-10/De-accession_Policy_Nov2018.pdf (accessed 18 May 2021).

²⁰ British Museum Policy, op. cit. (19).

²¹ See ‘duplicate, adj. and n.’, *OED Online*, March 2021, Oxford University Press, at www.oxford-dictionary.com/entry/58587?rskey=8FOBu9&result=1 (accessed 12 May 2021).

²² *OED Online*, op. cit. (21); compare ‘duplicata, subst. masc.’, *Trésor de la langue française informatise*, <http://atilf.atilf.fr> (accessed 12 May 2021); and ‘Duplikat’, *Oekonomische Encyklopädie von J. G. Krünitz* (1785) 9, p. 742, at <http://kruenitz1.uni-trier.de> (accessed 12 May 2021).

²³ ‘Dublette’, *Oekonomische Encyklopädie von J. G. Krünitz* (1785) 9, pp. 662–5, at <http://kruenitz1.uni-trier.de> (accessed 12 May 2021); ‘Dublette, Doublet, ein Edelstein’, *Johann Heinrich Zedlers Grosses vollständiges Universal-Lexicon aller Wissenschaften und Künste* (1734) 7, p. 791, at www.zedler-lexikon.de (accessed 12 May 2021); ‘doublet, subst. masc.’, *Trésor de la langue française informatisé*, at <http://atilf.atilf.fr> (accessed 12 May 2021).

of labour as well as the administrative tools of collecting, and by recognizing the museum's integration within market infrastructures does the salience of duplicates emerge. Recent studies in the history of collections, museums, and science have begun to challenge the projection of institutional perpetuity by historicizing the emergence of this ideal in the nineteenth-century Western museum and by refocusing the ways and reasons collections end.²⁴ Additionally, the onset of what the cultural heritage scholars Jennie Morgan and Sharon Macdonald have variously called the 'profusion struggle' and 'proliferation of heritage' triggered by late twentieth-century mass industrialization and production has encouraged museological reflection on productive strategies of 'de-growing' collections.²⁵ In a recent monograph, Martin Gammon – professional adviser in museum management and former museum liaison at Bonham Auctioneers – has shown that while the term 'deaccession' only emerged in the 1970s, the deaccessioning of collection items is by no means a new or even newly visible management strategy for cultural-heritage institutions: in fact, it has a long history, reaching at least as far back as the seventeenth century.²⁶ Arguing that deaccession has always been a part of the 'museum experiment' – that it is a feature, not a bug, of collection practice – Gammon seeks to bring historical nuance to a debate that often oscillates between 'deaccession denial' and 'deaccession apology'.²⁷

The growing interest among heritage scholars and professionals in the history and strategic potential of curatorial deaccession practices builds on a longer interdisciplinary research tradition that has focused on the fundamental mobility of objects and hence the dynamism of the collections through which they travel. Taking theoretical cues from anthropological research of the 1980s on the 'social life' or 'cultural biography' of things, historians of art and science over the last two decades have traced how objects traverse vast distances, transect cultural and epistemic boundaries, and transform along the way.²⁸ What has been dubbed the 'mobility turn' – the shift of attention from objects' meanings within a collection to their complex trajectories beyond the collection – has fundamentally destabilized the concept of museal permanence.²⁹ Furthermore, by reconstructing the dispersal of objects rather than patterns of institutional accumulation, this focus on mobility challenges traditional narratives of object origins and the very notion of objects' ontological immutability.

The analysis of the distribution and circulation of museum objects also broadens the research perspective on architectures and infrastructures of translocation and the

²⁴ Boris Jardine, Emma Kowal and Jenny Bangham (eds.), *How Collections End*, *BJHS Themes* (2019) 4; Steven Lubar, Lukas Rieppel, Ann Daly and Kathrinne Duffy (eds.), *Lost Museums*, *Museum History Journal* (2017) 10(1); Nick Merriman, 'Museum collections and sustainability', *Cultural Trends* (2008) 17(1), pp. 3–21.

²⁵ Jennie Morgan and Sharon Macdonald, 'De-growing museum collections for new heritage futures', *International Journal of Heritage Studies* (2020) 26(1), pp. 57–70.

²⁶ Martin Gammon, *Deaccessioning and Its Discontents: A Critical History*, Cambridge, MA: MIT Press, 2018, pp. 201–31.

²⁷ Gammon, op. cit. (26), p. 234.

²⁸ The anthropological research of Arjun Appadurai and Igor Kopytoff has offered historians of material culture some of the most significant impulses, especially their contributions in Arjun Appadurai (ed.), *The Social Life of Things*, Cambridge: Cambridge University Press, 1986. For the continued reception of Appadurai's and Kopytoff's work see Bettina Dietz, 'Mobile objects: the space of shells in eighteenth-century France', *BJHS* (2006) 39(3), pp. 363–82; Marianne Klemun (ed.), *Moved Natural Objects: Spaces in Between*, special issue, *Journal of History of Science and Technology* (2012) 5; Daniela Bleichmar and Meredith Martin (eds.), *Objects in Motion in the Early Modern World*, special issue, *Art History* (2015) 38(4); Christian Vogel and Manuela Bauche (eds.), *Mobile Objekte*, special issue, *Berichte zur Wissenschaftsgeschichte* (2016) 39(4).

²⁹ Felix Driver, Mark Nesbitt and Caroline Cornish, 'Introduction: mobilising and re-mobilising museum collections', in Driver, Nesbitt and Cornish (eds.), *Mobile Museums: Collections in Circulation*, London: UCL Press, 2021, pp. 1–20, 2.

institutional work on collection objects. The history of collection and storage spaces – a theme that runs through all the contributions gathered in this special issue – points to museum practises of valuation and devaluation. While the most precious objects are often displayed in the central halls of museums, the overwhelmingly vast number of objects lie in storage rooms. They raise the central question, ‘how can an object be important enough to be acquired by a museum, but not worth showing to its public?’³⁰ For the focus of this special issue on duplicates, storage facilities are interesting above all because they refer to the imaginaries and potentialities of objects. Storage depots are spaces that, in the best case, point to the future. They promise to return things to research or exhibition at some point. It is precisely this conjunction of collection conceptions as well as imaginations of completeness and object abundance that makes the question of storage so interesting for the history of the duplicate.

Through the realm of storerooms, and the focus on circulation, economies of collections come to light. Interrogating Krzysztof Pomian’s oft-cited thesis that museum objects are removed from mercantile circuits, researchers have shown that markets, in concert with scholarship and other collections, have crucially shaped the formation of collection-related knowledge.³¹ Thus, as this research has made clear, the meaning and value of scientific objects were and still are shaped by a close interplay of monetary, epistemic and moral economies, as well as logistics and infrastructures. The fact that the alleged scarcity of ethnological, but also natural-history, objects – extinct animals – gave rise to the commodification of objects was first traced by H. Glenn Penny and supported by subsequent studies.³² Following this research, scholars like Dániel Margócsy analysed how logistical requirements for the economization of collection objects contributed to the development of scientific ordering systems: there would be no transport, sale or exchange of collection objects without accurate object lists. Encyclopedic catalogues thus met the communicational needs for the global commerce of naturalia.³³

The debates over ‘organized loss’, the politics of museum storage and the intersections between collecting sciences and marketplaces resonate with scholarly and public debates over museums’ responsibilities and identity.³⁴ In light of the institutions’ complicity or direct collaboration in European colonialist enterprises and the provenance of objects obtained by violent means, museums are increasingly subject to critical re-evaluation and transformation. Recent projects imagine and experiment with re-mobilized collections that are no longer inaccessibly stored in European institutions or under the exclusive purview of national authorities, but rather embedded in a ‘translocational museology’

³⁰ Mirjam Brusius and Kavita Singh, ‘Introduction’, in Brusius and Singh (eds.), *Museum Storage and Meaning: Tales from the Crypt*, London: Routledge, 2017, pp. 1–33, 9. On the dual arrangement of research and public collections see Lynn K. Nyhart, *Modern Nature: The Rise of the Biological Perspective in Germany*, Chicago: The University of Chicago Press, 2009, pp. 223–40.

³¹ Krzysztof Pomian, *Collectors and Curiosities: Paris and Venice. 1500–1800*, trans. Elizabeth Wiles-Porter, Cambridge: Polity Press, 1990; Pamela H. Smith and Paula Findlen (eds.), *Merchants & Marvels: Commerce, Science, and Art in Early Modern Europe*, New York: Routledge, 2002; Staffan Müller-Wille, ‘Nature as a marketplace: the political economy of Linnaean botany’, *History of Political Economy* (2003) 35, pp. 154–72; Daniela Bleichmar, ‘Learning to look: visual expertise across art and science in eighteenth-century France’, *Eighteenth-Century Studies* (2012) 46(1), pp. 85–111; Nils Güttler and Ina Heumann (eds.), *Sammlungsökonomien*, Berlin: Kadmos Kulturverlag, 2016.

³² H. Glenn Penny, *Objects of Culture: Ethnology and Ethnographic Museums in Imperial Germany*, Chapel Hill: University of North Carolina Press, 2001, pp. 51–94; Britta Lange, *Echt. Unecht. Lebensecht. Menschenbilder im Umlauf*, Berlin: Kadmos, 2006, pp. 27–56; Irina Podgorny, ‘Recyclen: Vom Schrott der Ausrottung zur Ökonomie er (Sub-)Fossilien’, in Güttler and Heumann, op. cit. (31), pp. 23–46.

³³ Dániel Margócsy, *Commercial Visions: Science, Trade, and Visual Culture in the Dutch Golden Age*, Chicago: The University of Chicago Press, 2014.

³⁴ Morgan and Macdonald, op. cit. (25), p. 57.

that liberates collections ‘from their institutional seclusion’.³⁵ Instead of perpetuating the national codifications of collections, collaborative forms of responsibility and knowledge production are in development. It is in this context that circulation is remembered as a beneficial practice.³⁶ While they assess the circulation of objects as a political shortcut standing in the way of a more equitable restitution of objects, Felwine Sarr and Bénédicte Savoy sum up this scientific–political dimension as ‘relational ethics’ that call for the return of objects and are in turn produced by the act of restitution.³⁷

Duplicates are central to the interconnected histories of deaccessioning, object mobility and collection economies, as well as the restoration and prosperity of collections. Yet, with several important exceptions, these research fields have not taken duplicates into account. Indeed, as summed up by the editors of the recent volume on ‘mobile museums’, the conceptual, methodological and ethical issues of duplicates need further exploration.³⁸ Though explicit, extended and interdisciplinary analysis of duplicates is still lacking, historians of anthropological and ethnographic collecting have begun to broach the subject in recent years. Whereas Beatrix Hoffmann’s case study of the nineteenth-century Berlin Museum für Völkerkunde emphasizes the mischaracterization of unique objects as duplicates for pecuniary or political purposes and the irreplaceable loss of valuable material as a result, Catherine Nichols’s research into anthropological duplicate exchange at the Smithsonian around 1900 shifts the framework from one exclusively concerned with loss towards one that attends to the ‘dynamic archival nature of museums and their role in the circulation of material culture’.³⁹ Many contributions in the aforementioned *Mobile Museum* anthology profoundly touch on duplicates as strategic illustrative tools of evidence and persuasion.⁴⁰ Book historians have also examined the distinctions between specimen and individual, duplicate and unique books. In libraries, duplicates frequently manifested through donations, acquisition errors or the merging of libraries, as a

³⁵ Paul Basu, ‘Re-mobilising colonial collections in decolonial times: exploring the latent possibilities of N.W. Thomas’s West African collections’, in Driver, Nesbitt and Cornish, *Mobile Museums*, op. cit. (29), pp. 44–70, 67, 66. See also the unpublished talk by David Simo, ‘Is it possible to imagine collaborative knowledge productions to resist existing asymmetric structures?’, Colonialism as Shared History conference, 8 January 2021, at https://lisa.gerda-henkel-stiftung.de/sharedhistory_panel4 (accessed 18 May 2021).

³⁶ See also Caroline Cornish and Felix Driver, ‘“Specimens distributed”: the circulation of objects from Kew’s Museum of Economic Botany, 1847–1914’, *Journal of the History of Collections* (2020) 32(2), pp. 327–40; Clémentine Deliss, *The Metabolic Museum*, Berlin: Hantje Cantz Verlag, 2020.

³⁷ Felwine Sarr and Bénédicte Savoy, *The Restitution of African Cultural Heritage: Toward a New Relational Ethics*, November 2018, p. 89, at http://restitutionreport2018.com/sarr_savoy_en.pdf (accessed 28 May 2021).

³⁸ Driver, Nesbitt and Cornish, ‘Introduction’, op. cit. (29), p. 10.

³⁹ Catherine Nichols, ‘Lost in museums: the ethical dimensions of historical practices of anthropological specimen exchange’, *Curator: The Museum Journal* (2014) 57(2), pp. 225–36, 234; see also Nichols recent monograph on duplicate exchange between Smithsonian anthropologists and museums, individual collectors and schools in the late nineteenth century; Nichols, *Exchanging Objects: Nineteenth-Century Museum Anthropology at the Smithsonian Institution*, New York: Berghahn Books, 2021; Beatrix Hoffmann, ‘Unikat oder Dublette? Zum Bedeutungswandel musealisierter Sammlungsgegenstände aus dem Bestand des einstigen Museums für Völkerkunde Berlin’, in Elisabeth Tietmeyer, Claudia Hirschberger, Karoline Noack and Jane Redlin (eds.), *Die Sprache der Dinge: Kulturwissenschaftliche Perspektiven auf die materielle Kultur*, Münster: Waxmann, 2010, pp. 99–108. On ethnographic duplicates see also Brooke Penalzo-Patzak, ‘Capital collections, complex systems: Vienna, Berlin, and ethnographic specimen exchange in trans-national *fin de siècle* scientific networks’, in Mitchell Ash (ed.), *Science in the Metropolis*, Abingdon: Routledge, 2020, pp. 152–71; and Penalzo-Patzak, ‘An emissary from Berlin: Franz Boas and the Smithsonian Institution, 1887’, *Museum Anthropology* (2018) 41(1), pp. 30–45.

⁴⁰ Catherine A. Nichols, ‘Illustrating anthropological knowledge: texts, images and duplicate specimens at the Smithsonian Institution and Pitt Rivers Museum’, in Driver, Nesbitt and Cornish, *Mobile Museums*, op. cit. (29), pp. 121–48. See also Jacobs and Newman in the same volume.

result, for example, of the secularization of monasteries. These processes significantly altered the status and value of book objects.⁴¹ However, as Evelyn Hanisch shows in her study on incunabula duplicates, there were no manuals and criteria in the eighteenth and nineteenth centuries that could be used to define duplicates as such; what counted as a duplicate was the prerogative of the individual librarian or a result of spatial conditions.⁴² Hanisch demonstrates that duplicates were distributed again via gift, exchange and sale, and points to duplicate auctions in the mid-seventeenth century, which were to become models for later auctions of natural-history objects.⁴³

This special issue, which brings together five case studies and a concluding essay on duplicates, builds on and interrogates this body of work. The six contributions were first presented at a virtual workshop organized by the authors of the present introduction with the support of the Berlin Museum für Naturkunde in November 2020. They take on the discrepancies between the claimed timelessness of collections and the ongoing processes of deaccession, revaluation and devaluation, object mobility, and exchange as multiple points of departure. Our collection of papers not only fills a crucial gap in the historical literature, but also, and perhaps more importantly, embraces the uncomfortable methodological issues that emerge from the displaced concern about duplicates. As the contributions demonstrate, duplicates have been defined and handled in a variety of ways that are sometimes shared across multiple collection traditions and are sometimes diametrically distinct, depending on historical context, type of collection and practises specific to individual disciplines.

The papers focus on duplicate histories from 1800 until around the 1930s that connect places like Amani, Anaa, Berlin, Dar es Salaam, Paris, Simpsonhafen/Rabaul, Stuttgart, Sydney, Uppsala and Washington, DC. Through the issue of duplicates they trace not only the global mappings of object circulation, but also decisive historic moments of epistemic, economic and political appropriation and exploitation of colonial objects. The history of the duplicate combines macro- and microhistorical levels of analysis. It is both a history of empires, political decrees, collection concepts and directorial decisions, and a history of the laborious, small-scale work in the field and in the collections. The duplicate histories told in these contributions bring to light a rich cast of figures, not only at institutions like the Smithsonian, the British Museum, the Musée de l'homme or Berlin's Museum für Naturkunde, Ethnologisches Museum and Botanischer Garten: beyond the exclusive ranks of directors and scientists, the duplicate compels us to focus on museum workers tasked with sorting chaotic duplicate storerooms or drawing up catalogues, colonial agents who occupied key nodal positions in logistical and economic networks between museums and collection sites, and collectors and dealers of duplicates – both those more traditionally visible to disciplinary communities and collection institutions, and those whose contributions tended to be diminished or omitted within the lines of ledger books and field reports. By highlighting the spectrum of agents and the multiple forms of labour involved in duplicate networks, the papers repeatedly display the colonial infrastructures and logistics that made the translocation of objects to and among Western institutions and markets possible in the first place. Given the diverse practises and definitions surrounding duplicates, the papers approach their variability and basic historicity with a focus on three intrinsically interlocked themes: duplicate politics, duplicate

⁴¹ Petra Feuerstein-Herz, 'Vom Exemplar zum Einzelstück', in Ulrike Gleixner, Constanze Baum, Jörn Münkner and Hole Rößler (eds.), *Biographien des Buches*, Göttingen: Wallstein Verlag, 2017, pp. 115–33.

⁴² Evelyn Hanisch, *Der Umgang mit Inkunabeldubletten: Kauf, Verkauf und Tausch von Wiegendruckten der Königlichen Bibliothek/Preußischen Staatsbibliothek (1904–1945)*, Berlin: Institut für Bibliotheks- und Informationswissenschaften der Humboldt-Universität zu Berlin, 2019, p. 12.

⁴³ Hanisch, op. cit. (42).

economies and duplicate epistemics. As will become clear in the following sections, this division is primarily a heuristic one, aimed at more clearly teasing apart the stakes and implications of each of these three interwoven levels of duplicate history.

Duplicate politics

As we argue throughout this special issue, it is the malleability of duplicates that makes them so productively adaptable to specific political interests. In fact, one might even contend that each political framework of collecting produces its own particular figuration of the duplicate. The issue of duplicates thus provides unique avenues to historicize the political past of collection institutions, the appropriation of collection items and the politics of object authenticity in museums. We would like to call attention to three aspects of duplicate politics in particular.

First, the issue of duplicates allows for a better understanding of the global networks and power relations that enabled Western institutions to accumulate and distribute globally translocated items. Focusing mainly on the nineteenth and early twentieth centuries, the contributions demonstrate that the emergence of duplicates was inextricably linked to European expansionism. Imperial infrastructures and actors, but also the corresponding, often militaristic, logistics did not just open up new territories. These colonial frameworks also changed the tasks, roles and functions of institutions in European metropolises. The papers by Anne Greenwood MacKinney and Katja Kaiser describe how two of Berlin's central institutions, the Zoologisches Museum and the Botanischer Garten und Botanisches Museum, became clearinghouses for objects – the majority of which came from colonized territories. Here, zoological or botanical objects were ordered on a large scale, received, processed, taxonomically described and recirculated as duplicates. While MacKinney concentrates on the early decades of the nineteenth century before German unification and formal colonial rule, Kaiser attends to the period around 1900 when the German colonial empire was reaching its fullest extent. Both cases, despite different temporal focus, make clear the extent to which imperial conditions were used to serve financial, institutional and scientific interests through the monopolization of objects and their distribution as duplicates. That duplicates, in turn, could also serve colonial ambitions is shown by the case Rainer Buschmann describes. Attending to early twentieth-century German New Guinea, he shows how the colonial governor Albert Hahl's efforts to distribute as many duplicates as possible of the tools, weapons and ritual objects of the people of New Ireland (former Neumecklenburg) and the Baining people to museums in Germany aimed at more than educating German exhibit-goers about Pacific material culture. His duplicate strategy was also a means of propagandizing the colony that Hahl believed had thus far been politically neglected in favour of colonized territories in Africa.

Within these imperial networks, duplicates could emerge in the field – that is, they were already collected as objects intended to serve distribution policies and agendas. These were shaped by institutions as well as individual actors, as Dániel Margócsy demonstrates in his paper on the shell economies that operated within multiple systems of exchange, both financial and symbolic. It is important to note that the category 'duplicate' could contradict notions of uniqueness, individuality and ownership as understood by those who had made and used the objects, or had a different approach to nature.⁴⁴ At the same time, as Buschmann argues, duplicates could also be intentionally crafted by local artisans for sale to European collectors and hence also served local interests.

⁴⁴ Karen Jacobs, 'The flow of things: mobilising museum collections of nineteenth-century Fijian liku (fibre skirts) and veiqia (female tattooing)', in Driver, Nesbitt and Cornish, *Mobile Museums*, op. cit. (29), pp. 303–27, 313.

Regardless of the objects' status at the sites and in the communities from which they were collected, in the eyes of many Western collectors and curators duplicates were potentialities, produced in the process of collecting, that reified a form of exploitation which has not yet been addressed in contemporary debates. The auctioning of human remains by Berlin's Zoologisches Museum is only one particularly blatant example of the objectification, economization and exercise of a total power of disposal over that part of the world defined as the other of culture.⁴⁵ While duplicates in the Zoologisches Museum were sold at public auction from 1818 onwards, the Botanisches Museum exchanged most of its colonial surplus for duplicates from botanical institutions of other colonial powers or sold the objects exclusively to other institutions. In both cases, in addition to financial advantages, the museums thereby gained opportunities for action that expanded the institutions' political influence. They established themselves as central nodes in a network of duplicate circulation.

This created incendiary political issues during colonial times. As Kaiser illustrates, the Berlin museums for botany, ethnography and zoology profited from the German Federal Council's 1889 edict that channelled all natural-scientific and ethnographic specimens collected by colonial civil servants or federally sponsored expeditions to the German capital. Similar attempts to monopolize the collections from colonial territories also emerged in Great Britain and, as Catherine Nichols demonstrates in this special issue, in the United States at the Smithsonian Institution, though their reach was never as absolute as it was in the German Empire. While sound scientific reasons were provided to support centralizing collections in Berlin, it was the system behind the surrender of colonial duplicate specimens to peripheral German institutions that would trigger reform. In theory, Berlin museum curators were to decide which specimens would be classified as duplicates and hence distributable via printed registers that circulated among other German institutions.⁴⁶ These collection institutions would in turn be able to submit requests for the desired natural or ethnographic pieces. In practice, however, Berlin never left enough duplicates to satisfy museums outside the capital, sparking complaints from other German institutions about the overly narrow criteria for establishing identity. Karl Möbius, then director of the Zoologisches Museum in Berlin and chair of the Berlin commission for the distribution of colonial duplicates, noted the rising dissatisfaction about the quality and quantity of duplicates offered to other institutions. He nevertheless countered that fellow German museum officials

should consider that the Berlin museums have to account for all costs accompanying the acquisition, preservation, transportation and storage of the collection. Moreover, the same institutions issue free-of-charge instructions about collection and preservation ... They correspond with colonial authorities within and outside Germany; they conserve, prepare, determine and distribute the arriving collections. For all of these services, the Berlin museums should be *entitled* to keep the majority of the specimen.⁴⁷

⁴⁵ Hinrich Lichtenstein, *Verzeichniß einer Sammlung von Säugethieren und Vögeln aus dem Kaffernlande*, Berlin: Druckerei der Königlichen Akademie der Wissenschaften, 1842, p. 10; see also Patrick Grogan, "Nothing but love for natural history and my desire to help your museum"? Ludwig Krebs's transcontinental collecting partnership with Hinrich Lichtenstein', in Martin Lengwiler, Nigel Penn and Patrick Harries (eds.), *Science, Africa and Europe: Processing Information and Creating Knowledge*, New York: Routledge, 2019, pp. 66–85.

⁴⁶ See *Erstes Verzeichniß aus der aus den deutschen Schutzgebieten eingegangenen Sendungen*, Berlin, 1889, and the following inventories from 1897, 1899 and 1901.

⁴⁷ Karl Möbius in *Drittes Verzeichniß der aus den deutschen Schutzgebieten eingegangenen wissenschaftlichen Sammlungen* [Berlin, 1897], preface, emphasis ours; 'entitled' is *berechtigt* in the German original.

Möbius's sense of entitlement to the artefacts was, according to Kaiser and Buschmann, shared by officials at the botanical and ethnographic institutions in Berlin. Other German museum officials and colonial officers deeply resented this decision and interpreted Berlin's positioning as an outright monopoly. When complaints about the centralization reached fever pitch, the German Colonial Office was forced to organize a meeting in 1910 to address the issue of colonial specimens.⁴⁸ While colonial officials could henceforth transfer their collections to a German museum of their choice, no satisfactory distribution *modus* could be reached with regard to federally sponsored expeditions.⁴⁹ The issue of colonial artefacts ultimately came to halt in the First World War, which led to the dissolution of Germany's colonial empire. In contrast to these seething national conflicts triggered by duplicate monopoly, the widely ramified international exchange networks for colonial objects were able to deepen and broaden in a largely harmonious manner during this period. Kaiser charts the extent of this duplicate exchange, which, despite sharp national competition and imperial power struggles, continued without significant interruption or conflict, especially with Kew, Buitenzorg, Paris, New York, Washington, DC and Melbourne.

Closely connected to the privileged position that some museums were able to establish through the definition and distribution of duplicates were, second, the epistemic politics made possible by the duplicate. As the contributions make clear, the significance of a collection is based not only on the amount of data it provides for scientific, institutional or state interests, but also on its distribution, diversity and balance. Duplicates were a tool for realizing this. Seen from this perspective, the duplicate is no longer only associated with loss, error or non-scientificity, but becomes visible as an instrument for executing specific epistemic agendas. The contributions of MacKinney, Kaiser and Anaïs Mauuarin demonstrate how duplicates were produced within the collection institutions. Their reproduction in auction catalogues, duplicate inventories or photographs functioned historically as representations of scientific excellence, (imperial) power and institutional profusion. This is particularly clear in MacKinney's case study of the Zoologisches Museum in the first third of the nineteenth century: while the museum director, Martin Hinrich Lichtenstein, could pitch the business enterprise to his superiors in the Prussian Ministry of Culture as a magnanimous means of spreading knowledge, the sales also provided the museum a platform to promote its own scientific authority, particularly in contradistinction to commercial specimen dealers. The auctions of natural-history objects increased the 'fame of our institution', as Lichtenstein emphasized. The main advantage for buyers of purchasing from the museum, according to Lichtenstein, were the

scientific names, given with the greatest possible care, with which they receive the purchased objects ... Thus they receive, free of charge as it were, that which alone can actually give value and meaning to the possession of such objects: namely references – as indicated by the names – to the natural relationships, the artificial characteristics and the classification of the objects that have passed into their ownership.⁵⁰

⁴⁸ Wolfgang Lustig, "Ausser ein paar zerbrochenen Pfeilen nichts zu verteilen ..." *Ethnographische Sammlungen aus den deutschen Kolonien und ihre Verteilung an Museen 1889 bis 1914*, *Mitteilungen des Museums für Völkerkunde Hamburg* (1988), Neue Folge 18, pp. 157–78.

⁴⁹ Rainer F. Buschmann, *Anthropology's Global Histories: The Ethnographic Frontier in German New Guinea (1870–1930)*, Honolulu: University of Hawai'i Press, 2009, pp. 84–6, 93–6.

⁵⁰ *Verzeichniss von ausgestopften Säugethieren und Vögeln*, Berlin: s.n., 1818, vi.

Duplicates were theses. They embodied the scientific investigations in Berlin and were ambassadors of 'true' – that is, institutionally authorized – knowledge. This referred not only to the natural-history work of classification, but also to Berlin's mastery of taxidermy practices that turned natural objects into collection items in the first place.⁵¹

Against this background, it is not surprising that in the conflicts over the definition and dispersal of duplicates, reference was repeatedly made to the scientific quality of the collection. The duplicate should serve to improve the collections through its disposal, so, for example, in Lichtenstein's argumentation, his aim was, through the sale of duplicates, 'to constantly rejuvenate the collection ... by always exchanging the outgoing specimens for fresh ones'.⁵² Alternatively, the collection's quality could be based on the fact that as little material as possible was transferred to other institutions. As Kaiser shows, this was precisely the line of argumentation of the directors of the three Berlin museums – Adolf Bastian as director of the Völkerkundemuseum, Karl Möbius as director of the Zoologisches Museum, and Adolf Engler as director of the Botanisches Museum. They argued that only on the basis of 'richest comparative material' could the scientifically correct determination of colonized nature and culture be undertaken, and that hence no duplicates were available for other institutions. Conflicts about who was allowed to define and distribute duplicates were always also conflicts about the scientificity of institutions and their practises.

Third, through the analysis of duplicate politics, shifts in political geographies come into view. We argue that duplicates' emergence is connected to mostly violent shifts in national or international power relations. Collection agendas – the accumulation of objects – were more often than not part of the history of wars, imperial violence and racist contempt. Newly drawn territorial lines backed with military force led to an uptick in duplicate objects, based on political legislation that created the conditions for object centralization, as in the case of the German Federal Edict 1889 prominently discussed in the papers of Kaiser and Buschmann. Following Germany's formal induction into the circle of Europe's colonial powers after 1884, ethnological, zoological and botanical objects were translocated into the metropolis at an unprecedented rate; the contents of the consignments were in fact frequently expressed only in kilograms, which were recorded and analysed in Berlin, and in turn distributed as duplicates to the other national museums. The issue of duplicate sheds light on geographies of circulation and points to the fact that objects mostly moved in specific ways that benefited Western institutions and neglected the sites where the objects originated. Mauuarin's study of the Paris MET in particular shows not only how duplicates were themselves part of the appropriation and valorization of African cultural artefacts, but also that their photographic duplication set in motion further circuits of exploitation for the benefit of the Parisian institution and its actors. The distribution of duplicates created hierarchies between institutions, between countries, and between continents. But it is not only the Western metropolises that come into view through the issue of duplicates. The political history of the duplicate also reveals how complementary 'centres of calculation' were created in the colonized territories themselves by sending or exchanging duplicates. Kaiser argues that the botanical material shipped from Berlin was intended to establish research institutions in Victoria, Cameroon as well as in Amani and Dar es Salaam in then colonized territories in East Africa, which could work on the identification and scientific processing of plants independently of the Berlin institution.

⁵¹ See also Nichols, *op. cit.* (40), p. 144.

⁵² Lichtenstein to Ministry of Culture, Berlin, 22 March 1822, Geheimes Staatsarchiv Preußischer Kulturbesitz I. HA Rep. 76 Va Sekt. 2 Tit. X Nr. 15, Bd. 7, fol. 253.

Focusing on these duplicate politics, the contributions seek to understand the removal of duplicates from collection institutions not simply as a story of loss, but as another form of institutional strategy in national and international contexts that could potentially redistribute resources, power and knowledge. From the political history of duplicates emerge new perspectives on the circulation, restitution, and stability of collection objects as discussed in recent debates over the museum's colonial past.

Duplicate economies

The political agency of duplicates in brokering institutional power and building global networks is often inextricable from the economics and market-related aspects of duplicates. The contributions in the special issue open up a spectrum of economic forums and forms in which duplicates appear: in Nichols's, Kaiser's and Mauuarin's papers, we see internal museum exchanges of duplicate specimens for duplicate specimens – or, as Mauuarin shows, also for photographic duplicates which ethnographic museums in the 1920s and 1930s accepted as surrogates for a physical specimen and which could 'top up' the value of a shipment sent in exchange to another institution. Margócsy traces the back-and-forth movements of duplicates and collaborative work of their identification between specimen dealerships and museums, namely the family-owned Sowerby Natural History Offices and the British Museum. MacKinney's contribution highlights public auctions where duplicates were exchanged for cash, a strategy of financing collection institutions more commonly seen in state or royal libraries around the turn of the nineteenth century, but one that was adopted by zoological and other museums in Berlin as a way to profit from surplus holdings. Buschmann, in turn, studies duplicate donations made by colonial agents and collectors hoping to obtain in exchange softer, though no less coveted, forms of capital: state decorations and medals honouring civil achievement. Depending on the pattern of trade into which they are incorporated, duplicates shift through various object statuses: these can range from 'dead capital' whose price is determined by competition and public consensus at an auction block to a kind of currency itself whose exchange value is measured not in monetary terms, but rather in other objects which a limited number of stakeholders have deemed to be of scientific value or political utility. Moreover, as Margócsy shows, duplicates provide new perspectives on the history and theory of gift exchange, financial transactions and global markets: duplicates reveal the mutual influences between these symbolic and commercial values as well as between market systems in Western and Pacific economies in the nineteenth and early twentieth centuries.

Studying duplicate economies highlights museums and collections as active participants in shaping supply and demand for various goods, natural and cultural, artistic and scientific – though the duplicates studied in this issue rarely, if ever, occupy a single category of thing, particularly when they are caught up in dynamic economic processes of being traded, sold or gifted.⁵³ At the same time, duplicate histories demonstrate that collecting institutions were often themselves driven by the dynamics of markets, particularly when trying to satisfy consumers' demand. Certainly museums, cabinets and other collections like libraries and herbaria have always been embedded in commercial market forces since as long as there have been collections to speak of.⁵⁴ Yet the mid-eighteenth century

⁵³ On things as relational entities, whose ontological status and qualities depend on connections to other things, actors, discourses, practises and institutional logics, see Vogel and Bauche, op. cit. (28), p. 300. See also Penny, op. cit. (32), pp. 69–70.

⁵⁴ Smith and Findlen, op. cit. (31); Margócsy, op. cit. (33); Güttler and Heumann, op. cit. (31); Driver, Nesbit and Cornish, *Mobile Museums*, op. cit. (29).

marks the beginning of a major conceptual and infrastructural shift within the European scholarly community – particularly among those focused on the study of the natural world – that had significant consequences for how museums and collections operated as arbiters of a specifically duplicate market. With the widespread adoption of Carl Linnaeus’s binomial nomenclature and hierarchical taxonomic ranks for natural-historical collections, European natural history saw a shift from a system based on identifying differences to one based on establishing relations of equivalence.⁵⁵ Overhauling an older polynomial naming tradition, whereby long diagnostic names comprised all distinguishing traits of a species within the generic group and required updating every time a new member was added, Linnaeus’s innovation conceived of the short, two-part species name as a stable container.⁵⁶ Rather than communicate diagnostic information, this ‘container’ only designated a taxonomic group that individual members could be added to or subtracted from according to the rapidly shifting findings of natural-historical research without changing the name. As historian Staffan Müller-Wille has pointed out, Linnaeus explicated his new system of equivalencies by drawing on economic and market analogies:

The generic name has the same value on the market of botany, as the coin has in the commonwealth, which is accepted at a certain price – without needing a metallurgical assay – and is received by others on a daily basis, as long as it has become known in the commonwealth.⁵⁷

This conceptual shift – involving the decontextualization of objects from their local settings and a focus on their comparability, quantification and interchangeability as universally equivalent units – not only supported a broader infrastructural shift of influence from individual collectors to large, permanent ‘collections of collections’ that systematically and globally expanded specimen acquisition efforts, as Müller-Wille and others have argued.⁵⁸ It also created the conditions for these institutionalized collections to identify duplicate objects and circulate them as commodities. In MacKinney’s study of duplicate auctions in Berlin, we see that the imbrication of the museum and market not only had the effect of affixing collections to market values. The economization of the collections via the duplicate also allowed for the economization of social relations. A complex, time-intensive exchange relationship based on repeated collection visits and object comparisons, mutual interest and protracted social interactions became a more anonymous, regulated relationship between sellers and buyers. The work that previously had to be invested in cultivating interpersonal trust now went into the commodification of objects and the establishment of institutional trust – a kind of work in which administrative cataloguing and stock keeping, technical taxidermy operations and advertising measures were closely intertwined.

⁵⁵ Staffan Müller-Wille, ‘Names and numbers: “data” in classical natural history, 1758–1859’, *Osiris* (2017) 32, pp. 109–28, 116, 126.

⁵⁶ Müller-Wille, op. cit. (55), p. 114. On polynomial naming tradition and sixteenth-century classification schemes see Brian Ogilvie, *The Science of Describing: Natural History in Renaissance Europe*, Chicago: The University of Chicago Press, 2006, pp. 209–29.

⁵⁷ Carl Linnaeus, *Critica Botanica*, Leiden, 1737, p. 204, cited in Müller-Wille, op. cit. (55), p. 117; see also Staffan Müller-Wille, *Botanik und weltweiter Handel: Zur Begründung eines natürlichen Systems der Pflanzen durch Carl von Linné (1707–78)*, Berlin: Verlag für Wissenschaft und Bildung, 1999, p. 315.

⁵⁸ Müller-Wille, op. cit. (55), p. 113. For the transition from personal collection to national museum in the British case see James Delbourgo, *Collecting the World: The Life and Curiosity of Hans Sloane*, [London]: Allen Lane, 2017; for the Parisian case see E.C. Spary, *Utopia’s Garden: French Natural History from Old Regime to Revolution*, Chicago: The University of Chicago Press, 2000.

By the mid-nineteenth century, the status of duplicates had fundamentally shifted, as a result of evolutionary theoretical innovations in biology and the emergence of a nomenclatural type specimen, which held that species had to be described on the basis of specific objects in order to determine the boundaries and adaptation processes of the species group.⁵⁹ Duplicates were increasingly understood as doubles of an ‘original’ type, rather than as interchangeable equivalents of each other. Moreover, with the rise of the so-called ‘new museum idea’ from the 1860s, which called for a division between pared-down displays for the public and research collections for scholars scientists, specimens – even seemingly identical ones – were ideally assembled into extensive series that could be subjected to meticulous comparison to determine minute differences.⁶⁰ But even with the rise of research depots, object series and patterns of what Buschmann in his paper characterizes as an almost compulsive artefact ‘hoarding’, we still see museums and collections continue to actively engage in duplicate commerce well into the late nineteenth and early twentieth centuries.⁶¹ For instance, as Kaiser shows in her contribution, colonial centres of calculation like Berlin’s botanical institutions at the turn of the century did not just absorb the literal tonnes of specimen material originating from the annexed territories of the German Empire; these institutions also circulated hundreds of thousands of duplicates along German as well as transimperial networks of reciprocal exchange, effectively transforming the duplicate into a form of currency itself. This duplicate exchange market extended to anthropological and ethnographic collections as well, as illuminated by Nichols’s study of the transformation of Haida Gwaii rattles at the Smithsonian into exchangeable duplicate specimens and by Mauuarin’s study of the various paths along which the Paris MET circulated duplicate specimens and duplicate photographic objects.

Hence it becomes clear through these contributions that museums and collection institutions during this period could not achieve eminence just by amassing untold amounts of material from around the world. Distributing collection items as duplicates on the market became just as crucial an operation for shoring up one’s institutional status within a global landscape of museums and research collections. Yet status was not only a concern of museums and museums did not operate as lone players on the duplicate market. As Margócsy shows, commercial dealerships formed both a crucial partner and a competitor to museums during the nineteenth and twentieth centuries, selling off their own masses of shell specimens to wealthy individuals hoping to bolster their social reputation as scientifically interested gentlemen. To meet this demand, dealerships pursued a ‘strategy of individuation’: in other words, to commodify duplicate shells, dealers made them individual, a status that could at times contradict their taxonomic classification. The fact that shells were described as new species, advertised and offered for sale even against the explicit scientific advice of museum-based experts shows how strongly epistemic practices were subordinated to economic interests.

But duplicates were not only tools for accruing value and economic and sociocultural power. As we have already seen in the previous section on duplicate politics, duplicates often emerged in moments of crisis, in this case both as economic instruments for mitigating crises, and as the spark and fuel of these crises. In the case of the Berlin

⁵⁹ Joeri Witteveen, ‘Naming and contingency: the type method of biological taxonomy’, *Biology & Philosophy* (2015) 30(4), pp. 569–86; and Joeri Witteveen, ‘Suppressing synonymy with an homonym: the emergence of the nomenclatural type concept in nineteenth-century natural history’, *Journal of the History of Biology* (2016) 49, pp. 1–55; Michael Ohl, *The Art of Naming*, Cambridge, MA: MIT Press, 2019; Lorraine Daston, ‘Type specimens and scientific memory’, *Critical Inquiry* (2004) 31, pp. 153–82.

⁶⁰ On object series see Kristin Johnson, *Ordering Life: Karl Jordan and the Naturalist Tradition*, Baltimore: Johns Hopkins University Press, 2012, pp. 63–7. Dual organization emerged in both natural-history and ethnographic museums. See Nyhart, op. cit. (30), p. 223; Penny, op. cit. (32), p. 144.

⁶¹ On the escalation of museum acquisitions in the field of ethnography around 1870, see Penny, op. cit. (32), p. 94.

Zoologisches Museum, the business of selling duplicates was initially proposed by the director, Lichtenstein, as a means to relieve the strains both on limited shelf space as they tried to find room to house new acquisitions from around the world, and on the limited numbers of staff available to process incoming crates; the profits from the sales would be an added bonus to supplement a limited museum budget. Yet within only a few decades of this enterprise, the sales soon consumed more resources than they alleviated, eventually driving the museum deeper and deeper into financial debt: what once was the solution to the crisis now became its source. For the fields of anthropology and ethnography in the late nineteenth century, Nichols and Buschmann offer another crisis context that produced duplicates, namely a salvage paradigm or doctrine of scarcity, which assumed that cultural groups subjected to European colonialism were doomed to demise. The ostensibly inevitable extinction of non-European culture, in turn, fuelled ethnographers' and anthropologists' conviction that they must collect as much of the remaining cultural productions of these communities as possible before their disappearance. This scramble for artefacts led to the accumulation of unruly masses of objects – 'museum chaos', as H. Glenn Penny has called it – of which professional curators could barely make sense.⁶² Additionally, it also effectively drove up prices for these objects, given that commercial export companies stationed throughout the world, such as the Hensheim Company featured in Buschmann's contribution, began to perceive ethnographic objects as an additional 'cash crop' that could supplement their other revenue streams. Only by trading or selling off more duplicates could museums hope to compete in a tightening market. The crises of strained budgets and chaotic collections that museums sought to address using duplicates as economic instruments makes clear that these institutions, powerful as they were, were never omnipotent agents in duplicate economies. Rather, museums had to contend with other stakeholders and go-betweens, such as the colonial administrators in Buschmann's case who positioned themselves between the colonized peoples and metropolitan collections driving the demand.

By analysing patterns of duplicate commerce and trade, the papers contribute to a better understanding of collections' imbrication within multiple economic circuits. Designating objects as duplicates has historically served collection proprietors and officials as an effective tool for managing unruly collections and dispersing surplus in exchange for more desirable objects or much-needed funds. The issue of duplicates proves that collecting was guided not only by political but also by economic considerations and must be analysed as part of a global history of European extractivism. The European centres of calculation were also centres of capitalization of collection objects, and museums, in historically variable ways, were part of national economies and capital flows. The issue of duplicates opens up perspectives on museums as much more permeable institutions than their contemporary self-identification as heritage institutions would suggest.

Duplicate epistemics

Finally, the contributions in the volume also explore the intersections between duplicates and collection-based knowledge production. Beyond their multifaceted functions as political expedients and financial instruments, duplicates are deeply embedded in processes of making, circulating and curating different kinds of knowledge. One of the most visible arenas in which duplicates are operationalized as epistemic tools is in curatorial strategies of collection diversification and enhancement. A pretension to completeness – that is, the goal to create comprehensively representative collections of the world – unites many of the institutions and historical collection contexts studied across the contributions –

⁶² Penny, *op. cit.* (32), p. 164.

whether the Berlin Zoologisches Museum in the early nineteenth century, imperial Germany's Botanical Research Centre and its associated institutes in Victoria and Amani, or the Smithsonian Institution at the turn of the twentieth century. Defining objects as duplicates and distributing them to other collectors and collections was hence much more than a practical or lucrative solution through which collections might rid themselves of expensive-to-maintain surplus and perhaps even accrue financial as well as political gain. As Nichols, Kaiser and MacKinney emphasize in their case studies, it was also a strategy that collection keepers at times actively pursued in order to curate a more balanced collection. Nichols, in particular, demonstrates that even under the perennial shortages of time and money, curators still thoughtfully made decisions – with the help of describing, cataloguing and ordering objects – about which items were to be removed from the collection and exchanged as a duplicate for objects from another institution.

In other words, duplicate selection practices were not only about pruning excess or hastily reacting to economic and institutional pressures. In many cases it was also about generating a collection apparatus that was considered to be more intellectually useful, more effective as a tool to produce disciplinary knowledge. As Mauuarin's study of the Paris MET shows, enhancing the research effectiveness of a collection did not necessarily take place through pruning duplicate surplus, but in fact by creating another kind of duplicate using the medium of photography. In fact, some anthropologists around the turn of the century and into the mid-twentieth preferred studying photographic doubles, which in many cases were more easily accessible and easier to compare across collections than the original ethnographic artefacts that they represented. Duplicates – both those that were generated by practices of cataloguing and spatial arrangement, and the kind of double generated when photographically reproducing an object – offer a means of knowing the collection better and creating knowledge from it.

Duplicates were not only a curatorial tool for enhancing the breadth of resources, upon which disciplinary knowledge was developed in collection-based sciences like zoology, botany, anthropology or ethnography. Duplicates have also been instrumentalized to serve the educational goals of public collections.⁶³ As MacKinney shows, the Berlin Zoologisches Museum's duplicate auction enterprise – from the duplicate commodity, to the sales catalogue, to the event of the sale itself – was designed to fulfil the museum's goal of 'rapidly disseminating good and rigorous knowledge' beyond a narrow circle of museum-based scholars and among 'citizens of the state'.⁶⁴ While the university-educated and aristocratic male buyers at the duplicate auctions initially overlapped in large part with those who already enjoyed privileged to access the spaces and materials of natural-historical scholarship, later sales records indicate that by the 1820s a wider consumer base was beginning to participate in the duplicate market – including women, artisans and merchants. A century later in Paris, a similar pattern of lowering the threshold of access to the objects of research via duplicates can be traced. Following the paths of the MET's photographic duplicates, Mauuarin reveals that in addition to serving as intra-institutional knowledge tools or as a surrogate currency in transactions with other ethnographic museums, the photographs also were integrated into popular illustrated and literary magazines with detailed references to the represented object's materiality, its place of origin, its inventory number and its holding institution. Photographic duplicates, hence, were a tool for informing new audiences about, and attracting them to, the collections of the MET, which, due to

⁶³ See also the contributions of Nichols, Newman and Jacobs in Driver, Nesbitt and Cornish, *Mobile Museums*, op. cit. (29).

⁶⁴ Lichtenstein in Anne Greenwood MacKinney, 'Duplicates under the hammer: natural-history auctions in Berlin's early nineteenth-century collection landscape', *BJHS*, this issue.

dwindling visitor numbers in previous decades, was seeking to re-establish connections to its Parisian public.

Duplicates and their distribution and exchange can help hone collections as research tools as well as serve as vectors of collections' educational agendas. The contributions in this special issue also reveal that duplicates and their related practices often provoke disciplinary boundary work. In Nichols's, Buschmann's and Mauuarin's contributions, which together span the period from the 1880s to the 1930s when anthropology and ethnography were coalescing into institutionalized academic fields, duplicate objects constituted discursive spaces through which scholars who studied peoples and cultures sought to distinguish themselves from those who studied the natural world. In the case of the Smithsonian Institution in Nichols's study, a natural-historical classificatory model continued to shape the determination of identity and difference among collected cultural artefacts into the last decades of the nineteenth century, not least due to the material inertia of the institution's record-keeping formats, which had been developed a generation earlier according to the disciplinary conventions and knowledge categories of ornithology. Where the natural-historical metadata schemes proved of limited usefulness in classifying cultural artefacts, however, Smithsonian anthropologists pragmatically repurposed columns in the ledger books to include more meaningful data (such as visual representations of discrete objects or a new field for 'people' for the origin of an artefact), thereby developing distinct 'temporal and spatial grammars' with which to designate the status and organize the interrelationships between objects of anthropological study.⁶⁵ By 1900 in the German context, as Buschmann's contribution explores, museum-based ethnologists, such as Karl Weule or Felix von Luschan, were much more confident about drawing a clear line between the natural sciences, where duplicates were commonplace, and ethnography, where duplicates simply 'did not exist'.⁶⁶ Echoing this sentiment two decades later, as Mauuarin shows, was Frankfurter ethnologist Leo Frobenius, whose development of a specifically ethnographic 'symptomatic method' to study formal variations within an artefact series in explicit contrast to a natural-scientific 'systematic' approach based on fixed classification inspired ethnographic museums throughout Europe to restructure their research and display collections accordingly.

Notwithstanding these discursive and structural efforts to use duplicates as a way to distinguish ethnography and anthropology from the natural sciences, Buschmann's and Mauuarin's cases also feature museum figures, like the general director of the Berlin museums Wilhelm Bode or MET director Paul Rivet, whose continued conceptualization, identification and indeed distribution of ethnographic duplicates resist easy distinctions in duplicate practices along a nature-culture divide. What is more, as the cases of Kaiser and MacKinney make evident, there was little consensus among natural-scientific disciplines on what constituted a duplicate specimen throughout the nineteenth century. While botany, Kaiser argues, had since the time of Linnaeus developed a relatively stable notion of duplicate that could refer to multiple representatives of a single species gathered by a single collector or to plant parts split off from a single specimen, MacKinney's study features a much broader – and contested – notion of duplicate within early nineteenth-century zoology. Indeed, the Berlin Zoologisches Museum director Lichtenstein's practice of liberally designating duplicates from specimens ostensibly of the same species, regardless of collector, geographic origin or small morphological distinctions, and selling them to the highest bidder before the objects could take up precious

⁶⁵ Catherine Nichols, 'Curating duplicates: operationalizing similarity in the Smithsonian Institution with Haida rattles, 1880–1926', *BJHS*, this issue.

⁶⁶ See Weule and Luschan in Rainer Buschmann, 'Contested duplicates: disputed negotiations surrounding ethnographic doppelgänger in German New Guinea, 1898–1914', *BJHS*, this issue.

real estate in his overwhelmed collection, quickly chafed the sensibilities of Berlin's mineralogical and anatomical museum directors. Given the different research questions, methods of analysis and materiality of study objects across collection-based disciplines, a botanical or zoological notion of duplicate could not always easily be transposed to other types of collections, even within the natural sciences.

Questions over what constitutes a duplicate and what can or should be done with them have thus, in various ways, helped shape disciplinary boundaries, even if this entails building epistemic ideals and Manichaeian counterimages of external scientific cultures that rarely reflect the more complex reality of collection-based research practices. But the issue of duplicates also often led directly into conflicts of expertise within a disciplinary field and the larger collection networks with which they were associated. In MacKinney's study, Lichtenstein's duplicate sales not only compelled his peers in Berlin's mineralogical and anatomical collections to draw sharper borders between their own disciplinary practices and that of zoology; rather, they also sparked debates among zoologists regarding the institutional legitimation of selling research material to a wide, non-expert body of consumers beyond the walls of the university and museum. Particularly disturbing to a university-trained zoologist like Christian Gottfried Ehrenberg – who insisted that the shipments he had sent to Berlin during his North African research voyage only ever contained as many specimens as were necessary to discern 'the nature of the species' – was the thought that anyone inside or outside academe with enough disposable income could purchase the privilege to own, describe and name a new species based on his collections.⁶⁷ Buschmann's study presents another crisis of expertise centred on the prerogative of duplicate definition once again involving Berlin museum curators and collectors with direct experience of the collection sites. Only this time, around eighty years after MacKinney's case and in the field of ethnography, it was members of Berlin's museum staff, like the aforementioned Felix von Luschan, who insisted on the narrowest of duplicate boundaries (indeed, approaching the limit of non-existence), which could only be determined with the comparative apparatus of an extensive museum collection and which was used to justify an extremely restricted distribution policy; if Berlin ever did release duplicates, then it was exclusively to other museums. Those responsible for assembling the collections in the German colony of New Guinea, by contrast, contested the expertise of their museum-based partners, maintaining their own, much broader concept of duplicate. Moreover, Buschmann shows, they actively pursued alternative paths of exchange to ensure that these objects were widely dispersed throughout European collections, not hoarded in Berlin depots. Defining duplicates was, hence, not only a contested practice that involved drawing boundaries between object identity and difference and between those items that belonged to a collection and those that did not. It was also deeply entangled in the project of building borders between disciplinary cultures as well as between arenas of the scholarly and the non-scholarly.

Duplicate pasts and futures

Like few other objects, duplicates connect the world of markets and science, advertising and research, taxonomy and architecture. As such, the question of when the duplicate appears as an object in exchange or sales relationships opens up new perspectives on the history of collections, museums and science. In our final remarks, we would like to briefly touch five central aspects that highlight the potential of duplicates as historiographical focus.

⁶⁷ Ehrenberg in MacKinney, *op. cit.* (64).

First, duplicates are relational entities. The contributions demonstrate that, across disciplines, political and institutional contexts, and object types, duplicates are situated objects, only to be understood in detailed descriptions of their specific time and place as well as the political, economic and epistemic contexts of their emergence. What is a duplicate in one setting is a unique object in another; where it is an ending in one case, it is a beginning in another. In this respect, it is not surprising that all papers attend to the fuzzy boundaries between duplicates and specimens – boundaries that themselves are drawn upon the definitional ambivalences of the object. This directs focus to practises and logistics, to inter-institutional and social interactions, to paper technologies, to legal frameworks and to financial revenues. The duplicate is created in that interstitial space between political, economic and epistemic prerequisites and aspirations, and in turn shapes these frameworks. It is precisely its adaptability that makes it a fascinating and productive resource for interdisciplinary object studies, institutional histories and the history of science.

Second, we contend, duplicates are as much part of normal science as they are a crisis phenomenon. They are reactions to geographical, institutional, collection-historical and scientific necessities and transformations. Duplicate histories make visible political, institutional and scientific, but also intergenerational, conflicts about what should be defined as double in the first place. Duplicates were implemented to counteract unruly collection growth or strained budgets, and, as a curatorial strategy, to optimize the epistemic order and institutional significance of collections. Additionally, as the following contributions show, duplicates were (and still are) associated with the crisis of collection access: while on the one hand the duplicate was able to generate a heterogeneous public and usher in novel sites of participation in the museum context, the duplicate simultaneously served to establish institutional monopolies over scientific and cultural resources. Duplicates could promote both the democratization of knowledge and the emergence of object cartels and as such the expansion of the political, scientific and economic privileges of institutions.

Third, duplicates raise questions about who was able to benefit from them and who was not. Duplicates reveal dimensions of appropriation policies and practices that go far beyond the mere possession of objects. Duplicates were part of a fundamental redistribution of resources that formed the financial and political hegemony of Western collection institutions. Not only were objects – mostly under colonial conditions – translocated to the metropolises, but also in the form of duplicates they were transformed into multiple economies of collection. The fact that the duplicate has not appeared in the restitution debates since the late 1960s – as objects of restoration and rescue – suggests that duplicates are resources from which some profit and others do not. Duplicates emerge as a strategic tool to favour predominantly Western institutions, building on a centuries-long tradition of specimen extraction from the non-European world – though the reconstruction of Brazil's Museu Nacional with global duplicates seems to be a rare exception to this general trend. In light of current debates on global justice, restitution and the role of museums in imperial politics, duplicates raise more clearly than ever the question of where objects are taken from, how they move and with what justification.

Fourth, duplicates tell stories that clearly stand out from current interests in the singular, special and individualized object and its biography: in the case of duplicates, we are dealing with masses, with object deluges that – if at all – can often only be measured in units of crates, kilos and tonnes and that strain attempts to control and order. Duplicates shed light on the storerooms of collections, on warehouses with unmanageable piles of accumulated items. In this respect, the duplicate tells a story of collecting as a precarious, potentially entropic enterprise. It allows us to look at collections in their entirety: not only those objects that are given pride of place within the exhibition halls

or main collections, but all those objects that are relegated to warehouses and inventories. The history of duplicates thus has the potential to make visible the ambivalence of collecting between success and failure, order and disorder, between the utopian ideals of perfect epistemologies and the dystopian realities of unmanageable object masses.

Finally, duplicates are objects that refer to implicit or explicit internal collection guidelines and the scientific concepts that undergirded collections. As the manual on ‘sustainable collecting’ cited at the beginning of our introduction points out, the prerequisite for a structured de-inventorization, or deaccession, to this day are collection guidelines that establish the means for determining object value and its relation to the collection concept as a whole. In this respect, an epistemology of the duplicate always refers to the history of collection imaginations, to the history of scientific theories, and to the value concepts that defined what was and should remain inside and outside the respective institutions. As such, the issue of duplicates helps us to reconsider how we tell the histories and envision the futures of collection institutions. Duplicates’ pasts can inspire the reimagination and transformation of collections in a global context.

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