Period, Theme, Event: Locating Information History in History
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In response to the advent of digital information technologies, it is not surprising that scholars have begun to historicize information in a whole range of contexts and periods to the extent that the term ‘information history’ or ‘history of information’ has now entered the disciplinary lexicon (e.g., Cortada, 2016a; Richards, 1991; Weller, 2010; Weller, 2011).

The continued proliferation of such technologies will only accentuate this trend and, furthermore, makes urgent the need for historicizing projects that lay bare the implications of an information society that has begun to organize itself around big data and data-driven decision-making (Aronova, von Oertzen, and Sepkoski, 2017; Leonelli, 2016).

Many have observed that information has always been fundamental to human existence—with some remarking on its existence in pre-history and others identifying it as a quintessential feature of the modern world (Webster, 2014, 2004; Spink, 2010). Information has emerged, as J. Black (2014: p. ix) argues, as ‘a major theme in cultural, intellectual, political, social and economic history’. In the same similar vein, Franklin (2017: p. 8) has noted the recent ‘foregrounding or upgrading of claims for the importance of information as a key (for some, the key) to understanding major cultural phenomena and historical processes’. But not everyone, by any means, recognizes or understands the term ‘information history’. For as much as ‘information’ has a problem in terms of its semantic slipperiness, its ubiquity renders information history an ambitious and, for some, an unfathomable field of study.

Arguably, information history is more familiar, and thus less troubling conceptually, to those who are associated with the information sciences, the sub-fields of which (including information science, archival science, library science, museum studies, information management, information technology, information systems, cybernetics, bibliography, computer science and knowledge/information theory, philosophy and organisation) have produced bodies—and in some cases extensive bodies—of historical literature (e.g., Archival transformations, 2016; Black, Muddiman and Plant, 2007; Bryant et al., 2013; C. Burke, 2007; P. Burke, 2000; Campbell-Kelly et al., 2013; Conn, 1998; Gleick, 2011; Haigh, 2011; Hall, 2000–10; Hoare, 2011).

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1 In this discussion we consciously use the term ‘information history’. Just as social, economic, political or cultural history each have a wider frame than, respectively, the history of the concepts, or phenomena, of society, the economy, politics or culture, so also the emergent field of information history carries a connotation that extends well beyond the term ‘history of information’. The order in which the two words ‘information’ and ‘history’ appear is important. Whereas the term ‘information history’ implies that any aspect of history can have an informational dimension, the term ‘history of information’ encourages the notion of a concept of information, or of information practice or use, which can be studied historically. Of interest in this respect is the employment of the possessive term ‘information’s history’ in Cortada (2016a), the sub-title of which refers to the ‘history of information’.

2 In seeking an inclusive definition of information, we gravitate towards Stevens’ (1986: p. 9) deliberately loose perspective which viewed information as ‘the factual data, ideas, and other knowledge emanating from any segment of society that are identified as being of value, sometimes gathered on a regular basis, organized in some fashion, transmitted to others, and used in some meaningful fashion’. Of further interest here is the thinking of Nunberg (1996: p. 117), who conceptualized information as corpuscular, or cell-like—that is, knowledge that is morselised.
Although rich in academic content, these sub-fields tend towards the ‘professional’ or ‘applied’ in terms of orientation and purpose. Critiques of the significance of the digital information society have also been developed in the humanities and social sciences, where the methodological impulse is to foreground the ‘social’ and push back against technological explanations of historical change—all information infrastructures and systems are, after all, socially constructed and situated. An early effort can be found in the papers presented at the Irish Conference of Historians in 1999 (Morgan, 2001). Taking place more than a decade before the conference that gave rise to this present volume, and arranged around the same confluence of information, power and history, the meeting exposed an astonishingly wide variety of information-history discourses, including: the print revolution; perceptions of the link between spying and tyranny in the Greek polis; news and information in the papyri of ancient Egypt; networks of power among Huguenot refugees; the birth of bureaucracy in revolutionary France; the improvement of communication in Victorian freight markets; publicity, propaganda and the press in the British Empire between 1880 and 1920; intelligence and the Cold War; and the relationship between communication and political power in the work of Jürgen Habermas.

The wide array of periods and topics presented at the conference demonstrate that no period of history is information-poor and that no historical subject can be considered information-free. Yet despite having found some traction in the humanities and the history-inflected social sciences, the concept of information history is yet to ‘stick’. Few historians who engage in explorations of information history would label themselves ‘information historians’. Furthermore, practitioners of media history, book history, and library history might resist being absorbed into an information-history amalgam. Nevertheless, the absence of a coherent set of scholars who would primarily identify themselves as members of an information history academy does not mean that such a field cannot be theorized and promoted, as is evident in bibliographic and methodological assessments of the field by some scholars committed, or close, to the ‘cause’ (A. Black, 2006; Black and Schiller, 2014; Cortada, 2012; Cortada, 2016a: pp. 1–21; Cortada, 2016b; Edwards et al., 2011; Stevens, 1986; Weller, 2008; Weller, 2010).

Efforts to carve out a convincing information history field have been primarily impelled by the desire to inculcate an awareness that we have been here before (Chandler and Cortada, 2000; Darnton, 2000; Fyfe, 2009; Headrick, 2000; Hoare, 1998; Keller, 1995; May, 2002: pp. 19–28; Robins and Webster, 1999: pp. 89–110; Stieg, 1980). Such investigations have focused on particular events, such as the invention of the telegraph, from which some have drawn a direct line of ascent to today’s internet (Standage, 1998). Alternatively, many have concentrated on themes, such as the evolution of state and corporate bureaucratic systems (Agar, 2003; Beniger, 1986; Slack, 2004; Yates, 1989). Events in information history may thus take place at a specific time not exceeding a short span of years; meanwhile, thematic studies have ranged across the mid- and long-term. Information history, therefore, is potentially lacking in neither scale nor scope. The wide panorama of topics and the great variety of histories and disciplines that can inform the field is one of its great strengths. Nevertheless, because the meaning of information in many people’s minds is opaque and its nature so pervasive, information history might be considered too unwieldy to be deemed heuristic. Consequently, some sort of organising

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3 Commencing in 2011, the journal Library & Information History has published an information-history bibliography in each of its quarterly issues.
paradigm is required to improve an understanding of the field. The selective critical bibliographic survey offered below is therefore arranged around the three lenses of period, theme and event. Intrinsic to the material presented is the phenomenon of power, including associated concepts such as authority, control, oversight and, indeed, resistance; for information—its collection, storage, organisation, dissemination and accessibility—is central to the way power is executed and questioned. Largely excluded in the discussion are references to informational areas that already point to an established history college—such as the history of library science, information science, museums, archives, the book and computing—and which are thus already obvious candidates for membership of the information history club. Similarly, the traditional core of communication and media history (for example, the history of television, radio and cinema) has been omitted. Rather, the aim is to highlight the energy that has been expended in the remaining and extensive areas of the humanities and social sciences, where scholars from domains as diverse as history, business studies, literary studies, and geography have engaged in what might be called information history.

PERIOD

For the historian, periodisation is a necessary hazard. Periods convey ‘a sense of time passing’, serving as a scaffold to historians’ basic motivational instinct to tell a story (Marwick, 2001: p. 53). Periods can provide the fundamental structure that assists sound historical communication. Methodologically, however, periodisation can be troublesome. Periods are inevitably arbitrary; they can be created by a ‘rupture’ mentality that overplays the importance of watershed moments. The chunks of time agreed upon within the various academies of historians—whether social, economic, political, intellectual, cultural or, indeed, information—will inevitably not always match; and the same goes for historians interested in different countries or regions of the world. Nevertheless, the familiar, staple meta-periods of the Ancient World; Middle Ages; Early Modern World; and Age of Modernity (and, indeed, Post-Modernity), or those that revolve around large-scale social or cultural change, such as the Reformation; Enlightenment; Scientific Revolution; Baroque; Industrial Age; and Information Society, often continue to shape curricula and scholarship.

Despite the limitations of periodisation, working within these categories when emphasising information and its practices can provide an easy induction into information history. In attempting to explore long-term trends in information provision, organisation, and access in this way, we may find that the work of doing information history can help to bring received notions of progress and periodisation itself into question.

In the Ancient World the emergence of settlements, city states and, eventually empires, driven by the development of agriculture, slave labour, widening trade and the rule of deity-anointed rulers, went hand in hand with the appearance and exploitation of a range of information technologies and processes. The invention of writing in the Fertile Crescent around 5,000 years ago gave rise

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4 We also found this organizing paradigm useful for the course in Information History we have taught in the School of Information Sciences at the University of Illinois.

5 Such meta-periods are akin to what the Annales School referred to as the longue durée, being periods of history lasting hundreds or thousands of years (Braudel, 1958; Tomich, 2011). The Annales School’s categorisation of historical periods is referenced by Rayward (1996), to whom we are grateful for partly prompting this essay. We go beyond Rayward’s essay, however, in that we both showcase material outside the domain of information science, which was his chief concern, and have naturally been able to reference work which has appeared in the two decades since Rayward’s contribution.
to the clay-tablet archive-library, through which administrative power was in part exercised—
this in respect of records of such matters as land ownership, tax payments, business transactions
and inheritance (Brosius, 2003; Charpin, 2010). Once city states were superseded by imperial
states, however, more sophisticated and, indeed, additional information systems were required
(Posner, 1972a; Vismann, 2008). The information-gathering system built for intelligence
purposes—and ultimately for the maintenance of power—by the first empire in history, that of
the Egyptians from around 1500–1200 BCE, was significantly different from that operating in
the ancient world two thousand years later, in the late-Roman Empire which was centred not on
Rome but on Constantinople. Whereas, according to Dvornik (1974), the Pharaohs kept tabs on
activity (including resistance) in the domains they controlled through the dispatch of King’s
Messengers to centres of population to issue instructions (and collect tribute) but also extract
information, the Roman Empire of the 5th and 6th centuries, as Lee (1993) has explained,
collected information using more subtle means, through the bureaucratic, routine monitoring of
travellers crossing into the Empire (especially from the East) and by tapping into a rising
cacophony of informal, oral communication heightened by the intensification of trade and
increasing urbanization and population density. The intelligence accumulated from information
generated in these informal ways was then enhanced, or tested, more formally through the work
of visiting ambassadors who were tasked with obtaining as much military and cultural data as
they could while discharging their duties as negotiating diplomats and message conveyors.

In terms of period, a major focus for information history is the Age of Modernity, which is said
by some to have been ushered in by the Enlightenment belief in the power of reason, in the
possibility of social and individual progress and emancipation and in the potential of knowledge
to control nature (Porter, 2001). Modernity is considered to have spawned many new kinds of
information activity. Specifically, information management was a potent driver of Imperial
Modernity—the proposition that the developments in scientific industrialism and state power,
including those of an informational kind, that shaped modern societies and identities in the West
were resourced to a large extent by imperial adventure; while in a circular fashion, resulting
technical and technological advances, including print and archival culture and, eventually, the
telegraph, facilitated colonial penetration. More than this, the influences of empire that helped
create Modernity manifested themselves in the consumption of colonial ‘products’, many of
them with an informational dimension: from travel books, art and drama to record-saturated
institutions like botanical gardens, scientific societies, museums and libraries. As such, empire
was as much a cultural and informational, as a geographical and political, entity (Wilson, 2004:
pp. 8–9).

Positing that ‘modern societies have been . . . information societies since their inception’,
Giddens (1985: pp. 177–8) argued that the gathering, processing and use of information became,
from the early-19th century onwards, an integral part of the means by which modern states
internally pacified their territories and subjects, displacing pre-modern, absolutist rule, which
was dependent on fear and violence, with a modern regime of surveillance. A major facet of this
process was the formation of specialized institutions and systems of information—official
statistics; reporting mechanisms; libraries; documentation centres; indexes; and archives—
designed to collect, store and utilize the new informational resources of the state (Lyon, 1994:
pp. 22–39). As well as increasing the power of the state, such information architecture was also
conducive to the empowerment of citizens through an enhancement of their rights; for the
satisfaction of such rights—legal, political, economic and social—is ultimately based on the operation of sophisticated record-keeping systems. Further, modern ‘informed’ citizenship was propelled by the emergence of a variety of systems of information provision, from mass-produced books, newspapers, journals, magazines and the libraries that contained them, to the telephone, radio, film, television and the internet.

Modernity was characterized by an administrative ‘watching’ of individuals (Dandeker, 1990), which the German sociologist Max Weber depicted as an ‘iron cage’ of bureaucracy (Mitzman, 1985), whose power was derived from the strict control of information—or ‘the files’—by officials. In this ‘dossier society’—or ‘surveillance society’, to use the term introduced by the sociologist Gary Marx in 1985—indirect, informatised surveillance provided the fundamental means of control, operating in the form of the documentary logging and tracking of individuals’ daily existence. As the French cultural theorist Michel Foucault (1991) explained in citing the late-18th century model panopticon prison (designed by the English philosopher Jeremy Bentham) as a metaphor for everyday life in modern societies, individuals in what he termed the ‘carceral society’ are placed under permanent observation, their actions being recorded and classified—essentially ‘computed’—by means of ‘scriptuary and documentary methods’ (p. 190). Ironically, this negative side of Modernity, its bureaucratic persona, has by its very nature produced a positive outcome in terms of the immense riches that documentary culture has bequeathed to the historian. The ‘mundane epistemic and administrative tools’—or ‘little tools of knowledge’, as one group of historians has termed them—by which society is ‘planned, surveyed, examined, and judged’, from reports, protocols, dossiers and journals, to questionnaires, tables, graphs and lists of various kinds, have now begun to be analysed as historical phenomena in and of themselves (Becker and Clark, 2001: p. 1).

The world of business benefited hugely from the increasing information intensity that was at the heart of Modernity. During the industrial revolution workplace supervision was facilitated by new clock-bound routines and written protocols (Thompson, 1967). Subsequently, in the late-19th century, with the rise of the large corporation, complex in its internal operations and needing to create ever-expanding markets at home and abroad, new techniques and technologies of information management were required, from the filing cabinet and the punched-card machine to market research and mass advertising (Heide, 2009; Orbell, 1991; Yates, 1989). Due to these new office techniques and technologies, by the First World War the overseeing of labour had become highly ‘informatised’, this being intellectually justified via the inception of Taylorist scientific management and seen in practice most vividly in Fordist production methods, both entailing, effectively, the transfer of knowledge about work processes from worker to manager and to management systems. In addition, the informatized corporation was heavily reliant on flows of information up and down the corporate hierarchy (Robins and Webster, 1989: pp. 33–53).

Periodization in history serves as a helpmate to information history’s desire to be at the top table of history’s academies, sitting alongside social, political, economic and cultural treatments of the subject. Like these treatments, information history is applicable to any period of history but, importantly, it has the additional advantage that its core signifier, information, also serves as a core signifier for a major period of history: the ‘information age’. The validity of the latter has, of course, been contentious; and this in itself has generated a great deal of interest in information
activity across all periods from those who are either searching for the roots of the information age (in which we supposedly live) or seeking to point to its earlier incarnations.

THEME

Themes travel across periods of history. One could make a strong case, for example, for the subject of information work not to be chronologically bound (Blok and Downey, 2003; Cortada, 1998; Downey, 2003; Lowe, 1987; McKercher and Mosco, 2007; Rosenhaft, 2003; Schaich, 2017). The same could be said for mail and messenger systems and news networks of various kinds (Campbell-Smith, 2011; Daunton, 1985; John, 1995; Randolph, 2017; Raymond and Moxham, 2016). Themes are, of course, susceptible to periodisation. For example, the theme of information itself is present throughout the ages but when examined according to medium or technology—the age of the manuscript, print, or computer, for example—temporal categories can be created. As well as creating such information-centred temporal categories, thematic aspects of information can be studied in relation to certain spans of time, especially staples such as the Middle Ages or particular centuries (or parts thereof). But what the thematic approach offers most is the possibility of pursuing information across large swathes of the past.

Another way to approach information history, then, is to examine different practices or performances across time and geographical regions, and across media, materials, and modes of communication. For instance, investigating sound as a mode of information practice permits us to cut across and thereby question the conventional periods of history and received notions of progress. In his study of town bells, Garrioch (2003) argues that the major distinction in the chronology of urban soundscapes occurs not between early modern and modern periods, for example, but around the mid-19th century. Until that time, different bells, as well as subtle variations in the styles in which they were rung, constituted a semiotic system, communicating to the urban dweller the passage of time and providing instruction: a calling to mass; to benediction; to convey information about the deceased; to mark a socially significant wedding; to indicate curfew. Harbour bells might signal the return of ships from a long voyage, or the arrival of foreign dignitaries. The patterning of sounds furthermore aided the fabrication of acoustic communities beyond local or regional differences. For example, a spiritual community might be brought together and identified through its interpretation of and response to the particular ringing of bells. Meanwhile, street vendors used rhythm, rhyme, and cadence to develop distinctive calls that could be identified with different occupations.

Despite the modern tendency to privilege the written word, especially in its printed form, oral tradition persisted as an important mode of communication, and thus constitutes an information practice that spans technological eras and time periods. Clanchy (1993) observed that living memory and oral procedure constituted the preferred method for business transactions in England, and the use of writing for such purposes only began to gain acceptance in the later 12th century. In her discussion of notaries in early modern Rome, Nussdorfer (2009) describes the debates that were waged from the 12th to the 18th centuries about the place of oral testimony in the hierarchy of legal proof—a battle between the respective and relative value of witnesses and documents. Meanwhile, Darnton (2000) examines song as a powerful means of transmitting

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6 By ‘information work’ we mean occupations, whether professional or not, where the handling and organization of information is the primary purpose, or a major feature, of the tasks undertaken.
messages in 18th-century Paris, and Toner (2003) discusses how the Yolngu in the Northern Territory of Australia employ melody, and specifically the intervallic relations between pitches, to negotiate identity and communicate social structure. Such performative modes of information could be fluid, too, moving from vocalized to handwritten to printed methods of transmission and back again, as Liapi (2017) and Mee (2011) have shown in the contexts, respectively, of the political dimensions of crime reporting and gossip in the 17th century, and the appearance of conversational spaces in the 18th century.

Power is a theme that can be tracked through regimes of paperwork and networks of information management across the conventional boundaries of time, geographical region, and medium, as the emergent field of the history of documentary culture reveals (e.g., Friedrich, 2018; Peters, Walsham and Corens, 2018; The Social History of the Archive: Record-keeping in early modern Europe, 2016; Brown, Costambeys, Innes, and Kosto, 2013; Head, 2013; Kafka, 2009). Drawing comparisons with the ways that other colonial enterprises sought to exert and manage power, Hostetler (2001) offers an examination of the ethnographic and cartographic projects of the Qing dynasty. The representation and classification of minority ethnic groups in illustrated albums—information materialized as prose, poetry, and image—was used to help expand and consolidate empire, particularly as the Qing state modified its administrative practices of the frontier regions. Likewise, Friedrich’s study (2008) of the administrative system of the Jesuits from the mid-16th century to the suppression of the Society in 1773 reveals how power can be distributed and subverted through documentary practice. The Society of Jesus was arranged around a central government in Rome, which was informed about the wider organization through written reports that travelled from station to station in a carefully regulated system of communication. Despite the standardized questionnaires that had been developed for reporting on personnel and the handbooks that provided exhaustive instructions about how to fill out the printed forms, the results still demonstrated various modes of creative resistance.

Examples of similar networks of information that could be explored include those of the Umayyad and Abbasid Caliphates, which used dīwāns or departments to manage different administrative activities, such as the indexing of correspondence, the assessment of taxes, and the maintenance of muster rolls and pension records (Posner, 1972b); the state of Venice, with its diplomatic relazioni (or end-of-mission reports) of ambassadors returning from their foreign posts from at least the 15th to 18th centuries (de Vivo, 2011); and the informal networks of lenders, borrowers and intermediate agents in the credit market of pre-revolutionary Paris (Hoffman, Postel-Vinay and Rosenthal, 1999). Also available for consideration are the Dutch East India Company’s organisation and communication of commercial information (Szmoller, 2011; Cook, 2007; Zandvliet, 1998); the annual letters, journals and financial account books that served to connect outposts of the Hudson’s Bay Company with their headquarters in London, from the 17th to the 19th centuries (O’Leary, Orlikowski and Yates, 2002); and the letter- and report-writing, and other information activities, that underpinned the operations of Britain’s East India Company (Szmoller, 2018), prompting Ogborn (2007: p. xvii) to state that the ‘Company’s world was one made on paper as well as on land and sea’. Such bureaucratic, documentary culture, operating within the context of the West’s colonial ambitions, can be viewed within the context of the above discussion of the emergence of modern societies and their reliance on increasingly sophisticated information objects and infrastructure.
Examining the material techniques of knowledge management also offers a way to make strategies of power visible. How information was embodied, and dominion over it enacted, constitutes another theme that again crosses the disciplinary divides of time, geography, and culture. Evidence of reference tools such as inventories, catalogues, or indices survive from ancient Sumer to the modern day, suggesting that the arrangement and organization of information has been a persistent challenge throughout history. Casson (2002) has noted that there are catalogues extant from the 13th century BCE that offer bibliographical information, as well as notes about missing tablets and details about shelving. The Pinakes of Callimachus was a detailed bibliographical survey of all Greek writings based on the holdings of the ancient Library of Alexandria, and also served as a shelf-list or tool for both inventory and retrieval. This organizing tradition continued through the Middle Ages and Renaissance. The proliferation of finding aids between 1220 and 1306 suggests a different attitude towards textual authority—a move that could be called an ‘informationalising’ impulse. The scholarly apparatus of books came to include commentary, subject indexes, chapter titles, running headlines, paragraph marks, and foliation or page numbers (Rouse and Rouse, 1982). By the 14th century, readers had come to expect a number of such aids in their texts. In the following centuries, strategies for the ordering of information continued to be honed, especially in the more widespread practice of cutting up and re-arranging excerpted material (Eddy, 2016; Friedrich, 2017). Blair (2010) has shown us, for example, that scholars such as Conrad Gesner, Girolamo Cardano, and Ulisse Aldrovandi all used such a method of knowledge management—Gesner in support of his bibliographical project; Cardano in support of his own writing; and Aldrovandi for managing his collections. Additional refinements were offered in 1685, when John Locke published a handbook that offered an indexical approach to retrieving the disparate ideas that might be accumulated in a commonplace book (Yeo, 2004). Instead of guessing how many blank pages to devote to a particular topic, different ideas could be added to the book sequentially and registered with their respective page number in the alphabetical index. These efforts and others through the next century might be considered material and conceptual precursors to the card filing system that began to be adopted widely in the 19th century, in which a set of cards could represent a whole ecosystem of information—first in libraries, and subsequently in businesses that included banks, insurance companies, manufacturers, and retailers, as well as government offices (Krajewski 2011).

Surveillance is clearly an important theme in a broader history of information that ranges from Antiquity to the modern day (Agar, 2005; Higgs, 2004; Robertson, 2010). For example, Soll (2009) has explored how Louis XIV’s famous minister, Jean-Baptiste Colbert, crafted a system of surveillance that took advantage of two different traditions of information management: the one developed by scholars such as Gesner, and the reporting and accounting systems developed by Europe’s great merchant houses. With the help of well-paid intelligence agents, Colbert created a massive archive of industrial and diplomatic information that was used to devastate the Parisian book trade, combat the constant stream of seditious pamphlets, and even develop secret policies that sometimes became law. Surveillance of oral communication was also important to powerholders in pre-Revolutionary France. According to Darnton (2000), the power of oral communication was deemed so threatening to the Old Regime that the Parisian police sought to monitor gossip and conversation by posting spies ‘wherever people gathered to discuss public affairs—in marketplaces, shops, public gardens, taverns, and cafes’ (p. 10). The same monitoring was to be found in and around the pharmacies of early-modern Venice, where the seditious
conversations of individuals were ‘noted’ by Catholic spies (de Vivo, 2007). In this way, the theme of surveillance and that of sound, discussed earlier, might intersect or be intertwined.

Related to the strategic making and deployment of data, the Book of Negroes is a British military ledger that marks an important act of surveillance in its list of three thousand Black passengers bound for Canada, England and Germany at the end of American Revolutionary War during the British evacuation of New York in 1783. As Browne (2012) tells us, the ledger ‘explicitly links corporeal identifiers to the right to travel’, relaying details such as ‘stout with 3 scars in each cheek’ or ‘lame of the left arm’, and thus positioning such information as a mode of surveillance and a means of identification (pp. 545, 547–8). This biometric approach to identification, characterised by a logic of archetypal whiteness that seeks to identify, classify, and separate bodies, has been adapted into the modern passport system, Browne argues. In this way, an ‘information history’ approach can begin to reveal what is at stake—and at risk—in the 21st-century techniques that gather information about the body, including iris scanning and DNA tests (Bowker and Star, 1999).

Information can thus serve as a theme that not only crosses periods of the past but also interacts with the major categories of historical analysis: social, economic, cultural political. This is also the case regarding the sub-themes of information history, such as surveillance, documentary culture and information work, transmission and material forms of information management.

EVENT

Just as timeless—or long-lasting—themes are made up of periods, they are also compounds of particular events or episodes in history: that is, the incidents or vignettes of the past, or what Simiand (1985 [1903]) conceptualized as histoire événementielle (event, or event-focused, history), similar to the Annales School’s courte durée (Braudel, 1958; Tomich, 2011). History and the study of human behaviour generally, urged Simiand, needed to begin to favour the regular over the accidental, the social over the individual: ‘to turn away from unique events and take up events that repeat themselves’ (p. 180). However, while being guarded in respect of celebratory and deterministic history that foregrounds ‘great’ personalities and momentous events, there may nevertheless be some utility in recognizing the impact and importance of the individual as well as particular historical episodes and events.

The theme of ‘information in war’ is a good example in this respect, for it is peppered with particular events that can be deployed to build histories that make visible operations at the micro-level and the participation of ordinary people, including those who have often been hidden from history. In the aftermath of the English Civil War (1642–51) there emerged a lively debate about education, learning and social change, which manifested itself not least in an explosion of publications and the establishment of the Royal Society in 1660. In the 1640s, Samuel Hartlib, advocate of universal learning, and his close friend, the clergyman John Dury, proposed an Office of Publicke Addresse, a special kind of state-supported information bureau (Rayward, 2011). The Office, planned but never realised, was to have two departments: the Addresse of Accommodations and the Addresse of Communications. The latter would be concerned with information related to matters of religion and learning, and would seek out and make available technological inventions. Meanwhile, the Addresse of Accommodations was to be concerned
with information related to all the matters of daily living—a place of common resort and information exchange. There would be standing (permanent and semi-permanent) registers containing a catalogue of all catalogues of books, geographic information on all the localities in the country, a directory of officials throughout the kingdom, and other types of yearbooks and directories, including a ‘Who’s Who’ of citizens. Occasional registers, updated regularly, would provide information on shipping movements, courier services and interest and currency exchange rates. There would also be information on matters such as employment sought and available, property for sale or rent, import and export, locally produced commodities and transportation. Such information bureaux would be located in all major towns and would be networked by correspondence. The Address of Accommodations was influenced by Theophraste Renaudot’s innovative Bureau d’Adresse in Paris, which came into its own as a result of war, France joining the Thirty Years’ War in the 1630s.7

In examining WWI as a problem of production as well as military strategy, Grier (2005: pp. 145–158) explores pre-computer information management and number crunching in the US Food Administration. For Grier, in the First World War information—the management of it at a granular level—became as important a resource as the personnel of the armed forces and the labour and raw materials required for production. In the Second World War, information and communication management systems became an indispensable corollary to two iconic scientific breakthroughs: radar and digital codebreaking. But an information perspective could avoid the tendency to focus on the technological development of the radar in favour of the ‘information system that won the war’ (Checkland and Holwell, 1998), a system that involved members of the Women’s Royal Air Force who tracked enemy aircraft, and communicated, channelled, triaged, and organised the information during the Battle of Britain. Similarly, Brunt (2004), in his account of the work of the Government Code and Cypher School at Bletchley Park, focuses less on the construction and deployment of computers (mechanical and human) to break the German Enigma codes than on the index-card system. Created and maintained by an army of female clerical workers, the system contained millions of records that helped officers make sense of the communications intercepted and enabled military hierarchy, and informed their decisions on military interventions.

Obviously, the intersection of information and war can for the most part be analysed from the perspective of grand strategy and systems. Taking the story of information and 20th-century war beyond 1945, Colin Burke (2018) has narrated the development of science and intelligence information systems and technologies in the United States in the Cold War and beyond. Beginning during the war, to be specific, rapid and deep American science-information development was shaped by an economic boom, the country’s role in international affairs, the tension between Left and Right at home and conflict with the Soviet quest for global hegemony.

Information events are the most digestible aspect of information history. This is most clearly the case in respect of the ‘great’ names and famous technical advances of the information past, for these continue to have a prominent place in the work of historians and in the appetites of consumers of history. However, since the middle of the 20th century, such ‘heroic’ and

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7 Renaudot’s ideas on information services to assist the sick and unemployed were formulated before France’s engagement in the War but the sufferings of the Parisian poor were exacerbated by it, not least in terms of the influx of deserters and the wounded created by the conflict.
‘momentous’ history has been strongly challenged by proponents of ‘history from below’. Information history offers an avenue to explore people, systems, and events at the micro-level—and especially those that continue to be overlooked in favour of leading personalities and major technical advances.

CONCLUSION

While consciously avoiding any grandiose claims to be delivering what Braudel (1972 [1949]: p. 1238) called a ‘new kind of history, a total history, written in three different registers,’ the proposed three-pronged approach to learning about the history of information throughout the ages commands a strong methodological appeal. In short, the perspectives of period, theme and event can help to locate, and to track and trace, questions related to information practices and infrastructure in the broader sweep of a global history. Such examinations, framed in this way, form the basis for the historicisation of 21st-century developments in information technologies and data analytics. By investigating more digestible chunks and morsels of history from an informational point of view, information history both provides a way of spanning the divisions that have traditionally segmented investigations of the past and encourages historians to think ‘big culture’. Power, to take just one aspect of history, can be inserted into this schema at will; for power is at once a continuous furrow that runs across the full landscape of a global information history, a discontinuous seam that winds its way through its recognisable historical periods, and an ever-present factor characterising particular informational events and episodes of the past.

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