Paper War: Office Work and the Government of Labour in Germany (1920-1950)

Scholar-in-residence Program, Deutsches Museum München

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Proposed Project Duration: January 2 – 30 June 2017

Research Overview

This is a proposal to explore the museum's large collection of archival material, specialist books and journals, as well as historical artefacts relating to (German-speaking) office appliance companies and bureau 'rationalization' c.1920-1950 with a view to:

- complete and submit for publication two research articles by the end of the fellowship in June 2018;[1]
- continue work on a monograph manuscript based on my PhD dissertation (estimated date of submission: December 2018 to *Transcript,* series *1800/2000 – Kulturgeschichten der Moderne*).[2]

My book project – tentatively entitled *Paper Wars: Office Work and the Government of Labour in Germany 1920-1970* – explores the socio-technical interrelations between German labour administration (LA)[3] and the labour market through a study of the bureau technologies (writing and registration technologies) that allowed labour offices to select, store and produce relevant data on manpower.[4] Drawing on a wide range of archival and printed material from contrasting locations at the regional (Southern Germany) and the *Reich*/federal level, as well as on American, British and OECD archives, the book follows a Latourian framework[5] to map out for the first time the mundane yet often highly consequential day-to-day routines within this bureaucratic '*lieu* of modernity' (Kracauer 1930/2009; Schlehan 2005) shaping the life course of numerous Germans (and 'foreign' workers) like perhaps no other contemporary public office.

As I show in more detail in the book proposal, the semantics of 'paper war' (*Papierkrieg*) – a key notion largely popularized during Nazism but in use since the Frist World War at least – will be taken as a prism through which to study the, often paradoxical, dynamics between (largely) paper-based form-alization and bureaucratic rationalization (*war with paper*), and the manifold forms of resistance and public critique on behalf of employers, the unemployed, and generally the economic active population (*war against paper*).

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[1] Provisional titles are: "'The ordering hand of the state': Recording-Keeping and Information Work in the Nazi Administration of Labour" (targeted at *International Review of Social History*). "Paper Wars: Dynamics of Record-Keeping and Information Control in the Nazi Administration of Labour" (targeted at *Technology & Culture*)

[2] I am currently rewriting the book proposal to fit the transcript series *1800/2000* (co-editor Professor Peter Becker, Vienna). The book manuscript is based on my PhD dissertation but also contains some added chapters, specifically on the 'Third Reich' labour administration and on Allied measures with regards both to archival protection and control of labour post-World War Two, written while guest researcher at the Berlin-based *Independent Commission for the History of the Reich Ministry of Labour 1933-45*, and post-doc fellow at the Darmstadt research cluster *Topology of Technology*.

[3] Labour Administration here denotes primarily the Reich Ministry of Labour (RAM, founded in 1918) and the Reich Agency of Placement Services and Unemployment Insurance (RfA) established in 1927 as an 'independent higher Reich administration' within the RAM's area of responsibility. The foundation of the RfA in 1927 envisioned, and largely succeeded in, the centralization of the existing organizational structure of local labour exchanges into 13 Land labour offices and 361 local labour offices (numbers as of 1928) – until 1939, when the RfA, considerably larger, was incorporated into the RAM to become part of the polycratic Nazi war bureaucracy.

[4] 'Manpower' is a historical term whose meanings varied. Labour offices generally asked for knowledge important to capture the 'manpower' of the population in combination with knowledge about work places and economic branches: the 'occupational identity' such as name and address, marital status; training, apprenticeship, disabilities etc. and the individual 'occupational history'.

[5] See only Latour, B1986). 'Visualization and Cognition: Thinking with Eyes and Hands', *Knowledge and Society: Studies in the Sociology of Culture Past and Present*, 6: 1-40. Latour, B. (2005). *Re-Assembling the Social. An Introduction to Actor-Network-Theory*. New York, Oxford University Press. But there have been other influences, too, ranging from Foucault to Jack Goody's triad principle of bureaucracy comprising 'the state, the bureau, and the file', see Jack Goody, The Logic of Writing and the Organization of Society, Cambridge, 1986, p. 87f.

Several chapters of my book manuscript explore how so-called labour card files and related paperwork, arguably the most important bureau technology in the field of Nazi labour deployment or *Arbeitseinsatz*, shaped, and were shaped by contemporary labour policies. As I show in a in a soon-to-be-submitted journal article,[6] the workbook and the file card as the workbook's duplicate from 1935 functioned as a large albeit fragile and constantly evolving 'actor-network' comprising – next to relevant legislation, records managers, their office equipment, and respective guidelines – a number of further card indexes (housed in the defense replacement agencies and related *Wehrmacht* offices) to register German workers and monitor their inclusion into 'labour deployment'. 21 million work books had been issued by September 1936 already, and on the basis of the information contained in the file cards (on the individual occupational history, as well as current employment situation, kind, name, and address of the plant, as well as employment duration), an expanding army of some 7000 records managers (*Karteiführer*) conducted complete surveys (in 1938, 1940, and 1941) of the economically active parts of the *Volksgemeinschaft*, and helped facilitating selection by skills, gender, or age of individual workers or *Angestellte* for *Arbeitseinsatz* in armament plants; or controlling the breach of contract by skilled workers, to name but a few.

The gigantic and unwieldy internetwork emerged from the 'administrative tools' and the 'technique of placement' by which social rationalizers and labour administrators within the larger context of administrative and 'office reform' hoped to standardize the rather 'anarchic' communication structures of the then nascent RfA,[7] to essentially last until the 1950s in East and West Germany, while largely bypassing mechanical punched card and tabulating machines until the incorporation of magnetic storage devices in the late 1960s.[8]

Introduction

Against this larger background, I am particularly excited about the possibility of working at the *Deutsches Museum's* archive and library for several reasons:

- Despite the technology's ubiquity from the late 1920s until the recent past, there is no social history of card indexes, its users and uses – the museum's unique collection of company and special anniversary documents, as well as exhibition catalogues, specialist journals, and handbooks relating to the German-speaking rationalization movement and bureau organization will enable me to begin reconstruction of the business world of office appliance manufacturers, specifically with regards to card files and related paperwork.
- This endeavor includes exploration of the personal papers of Karl Eicke (1887-1959), foremost Weimar and Nazi mechanizer and bureau reformer, kindly brought to my attention by Dr Röschner in preparation for this application.
- The Museum's staff is known world-wide for its research and collections of calculating machines and related information technology. Even though curators in these fields are currently in a state of transition due to retirement etc., (Dr Glocker in email correspondence in preparation of this application), I hope to be able to connect with new staff and learn from their expertise, specifically on punched-card and tabulating machines.

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[6] This article is entitled "Manpower Memories: Bureau Technology and the Organization of the Nazi *Arbeitseinsatz*" and will be submitted to *NTM – Journal of the History of Science, Technology and Medicine* by the end of October 2017.

[7] Schäfer, Kanut, 1927, Das Verwaltungswerkzeug des öffentlichen Arbeitsnachweises, Dresden: C. Heinrich. Jülich, Hermann, 1927. Beiträge zur Technik der Arbeitsvermittlung. 2. Teil: Die bürotechnischen Grundlagen der Arbeitsvermittlung. Bücherei der öffentlichen Arbeitsfürsorge, Reihe III Heft 5/6. Nerschmann, Oskar/Friedrich, Johannes/Henschel, Hans 1927. Beiträge zur Technik der Arbeitsvermittlung. Teil 1: Die Vermittlungskartei. Bücherei der öffentlichen Arbeitsfürsorge, Reihe III, Heft 3, Stuttgart: Kohlhammer. Oechsle, Richard, 1931. Technik der Arbeitsvermittlung. In: Otto Neuburger, Hg., *Praktikum der Arbeitsvermittlung, 1. Teil: Personal, Dienstbetrieb und Technik der Arbeitsvermittlung*, Stuttgart: Kohlhammer, 51-65.

[8] See chapters 4, 6, 8, and 9 of my PhD dissertation, and a journal article: "Bureaucratic Perpetuity: Allied Archival Protection and the Persistence of Power in the German Administration of Labour, c.1943-1960" (submitted to *Studies in Contemporary History*).

My Research at *Deutsches Museum*

Following Email correspondence with Dr. Matthias Röschner and Dr. Winfrid Glocker, who both kindly agreed to share their in-depth knowledge of the museum's various collections in preparation of this application,[9] I see three distinct albeit interrelated areas of research exploration of which will allow me both to elaborate further on the empirical basis of my book manuscript and submit two journal articles for publication.

(1) Business structures of German office appliance manufacturers, c.1920-1950

My preliminary research has shown that some placement sections in the 1920s already worked with so-called visual card files supplied by e.g. *Kardex*.[10] Moreover, pendulum card indexes, or *Pendelkarteien* – a specific invention by bureau engineers at the Dresden labour office in 1927 to rationalize Weimar placement services – were (partly) manufactured by *Union-Zeiss KG*,[11] while the Freiburg-based *Fortschritt GmbH* offered its products and services in 'psychotechnical' training to the Reich Ministry of Labour in 1926.[12] Drawing specifically on material of companies with proven business relations both with offices of the Weimar and/or Nazi labour administration and employers (on whose existing authority relied most of the Nazi data captures in this field) will allow for a reconstruction of the contemporary landscape of office appliance manufacturers, their product range, as well as the specific ways in which they developed and promoted their respective rationalization and standardization strategies.[13]

My analysis is also concerned with the evolution of business structures in the wake of the Nazi agencies' massive consumption of passports, file cards and related paperwork. Some new companies were founded, such as the Munich-based *Verlag für Verwaltungspraxis Franz Rehm*, which, from 1934, ventured into developing paper tools specifically for the operation of the Nazi workbook bureau technology.[14] Drawing on this and related unique collection of company and special anniversary documents spread across the Eicke *Nachlass*, in particular, the very promising eight-volumes collection of company documents on office technology,[15] the *Soennecken* company documents,[16] as well as specialist journals by office supplies companies such as *Papierwelt; Die Büro-Industrie; Burghagens Zeitschrift für Bürobedarf*[17], including Brauner's 600+-pages 'Illustrated Orga-Handbook'[18] containing corporate data and market overviews, will further allow reconstruction of the business world of office appliance industries 1920-1950. Material on exhibitions, such as the 1914 *International Exhibit for Book Trade and Graphic Art* in Leipzig, and the 1929 *Bureau-Exhibit* in Stuttgart containing information on the variety of suppliers (both German and international), the sizes of their businesses, and product range

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[9] I am very grateful to both for so generously sharing their precious time in responding to my numerous emails.

[10] The kaufmännische Abteilung of the Düsseldorf labour office used such Sichtkarteien see Hermann Jülich, Beiträge zur Technik der Arbeitsvermittlung. 2. Teil: Die bürotechnischen Grundlagen der Arbeitsvermittlung. Bücherei der öffentlichen Arbeitsfürsorge, Reihe III Heft 5/6, 1927; p. 31.

[11] Jülich, Hermann, 1930. Arbeitsvermittlung als Dienst am Menschen, Fortbildungsschriften für das Personal der Arbeitsämter, Berlin: Verlag des Zentralverbandes der Angestellten, p. 20

[12] Julia Alexandra Luttenberger, Verwaltung für den Sozialstaat -- Sozialstaat durch Verwaltung?: die Arbeits- und Sozialverwaltung als politisches Problemlösungsinstrument in der Weimarer Republik, LIT Verlag Münster 2013; pp. 390-94.

[13] Material for each of these companies is contained in the Museum's collection of company documents and in Eicke's personal papers: *Kardex Aktiengesellschaft*, Berlin (Bestell-Nr.: FS 003730/1-34) and in Eicke NL 108/067, 1-6; 068, 1-8; 190, 191. *Fortschritt Büro-Einrichtungs-Fabriken GmbH* (Bestell-Nr.: FS 1625-1627); *Heinrich Zeiss Unionzeiss KG*, in: Eicke NL, 108/190 Büromaschinentechnik, Bd. 7.

[14] The company in 1936 offered change-of-status notifications, emulating the design of RfA forms, as 'postcard notification pads' (*Postkarten-Meldeblock*) promising savings in postage to employers and quicker paper processing. See advertisement of Rehm company in Philipp Hertel, *Das Arbeitsbuch. Systematische, zusammenfassende und erläuternde Darstellung der Vorschriften über das Arbeitsbuch nebst Abdruck der sämtlichen gesetzlichen Vorschriften*, Verlag für Verwaltungspraxis Franz Rehm, München, 1936, p. 56.Material can be found at the Museum's library: Franz Rehm, *Franz Rehm Jubiläumsalmanach 1934 – 1959*, München, 1959. Idem., *Fünfzig Jahre Verlag Franz Rehm*, München [u.a.], Rehm, 1984.

[15] *Sammlung von Firmenschriften zu Büromaschinentechnik*, see NL 108 / 184ff., (especially NL 108/190 on card files).

[16] F. Soenecken, Bonn in the Museum's collection of company documents (signature to be confirmed).

[17] *Papierwelt. Fachzeitschr. f. Papier- u. Schreibwaren, f. Bürobedarf, Mal-, Zeichen- u. Schulartikel* (Vol. 1937-41; 1955; 1956; Sig ZB 2929); *Die Büro-Industrie. Fachblatt für Fabrikation und Handel aller Büromaschinen und Bürobedarfsartikel* (Vol. 1931-1943; Sig ZB 1547); *Burghagens Zeitschrift für Bürobedarf* (Vol. 1935 – 1939; Sig. ZB 2607).

[18] Ludwig Brauner (Hrsg.), *Illustriertes Orga-Handbuch erprobter Büro-Maschinen*, Berlin: Organisation-Verlags-Gesellschaft, 1921 (Sig.1000/2004 B 746).

are equally useful, specifically in order to trace international transfer histories of card files and related paperwork (Krajewski 2011).[19]

(2) Card indexes and punched-card machines in contemporary office reform discourses

Crucial to this project is comparison of the various, often competing, attitudes towards card indexes and related paperwork across the range of office appliance manufacturers, bureau technicians in private and public institutions, and the LA's administrators who set out so use them, and how each of these changed before and after 1933. Building on research that has shown the rationalization movement to be a highly ambivalent process, progressive as well as reactionary (Herf 1984; Nolan 1994; Willeke 1995; Ludwig 2007), my preliminary research has shown a large variety of attitudes towards bureaucratic paperwork, and it is yet to be shown how the Nazi movement benefitted from the often peculiar passions for indexing in the 1920s.

A scholar-in-residence fellowship will allow me to explore further these questions along two distinct albeit interrelated avenues. First, drawing on the identical archival material as (1) with the addition both of specialist journals and handbooks on bureau organizations,[20] and material relating to organizations and committees located at the interface between cooperate and public rationalization efforts, such as

- the *Reichskuratorium für Wirtschaftlichkeit* (RKW), one of the leading organizations (founded in 1921) that strove to implement measures of organizational efficiency,[21]
- the RKW's *Ausschuß für wirtschaftliche Verwaltung* (AWV),[22]
- the *Deutsches Institut für wirtschaftliche Arbeit in der öffentlichen Verwaltung* (DIWIV), a central coordinating and information agency for the office reform movement founded in 1926,[23]

I will compare how office appliances manufacturers conceived of and advertised both functionality and efficiency of their products, and how their rationalities towards safety, efficiency, and economy differed from similar concepts and ideas held by bureau experts working both under the auspices of the above-mentioned public-private joint-ventures, and within the LA. This will not only help to further differentiate the various designs and uses for card indexes and related paper forms (for indexing library books; recording and storing various types of business information on sales, production and costs; the registration of people), against the backdrop of which then the forms of bureaucratic rationalization specific to the Nazi *Arbeitseinsatz* can be described. It will also help elucidating how, in relation to the bureau technology concerned, a specific speciality emerged which also became paramount within the LA: information managers *avant la letter*, senior administrators specifically concerned with translating

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[19] Exhibition guides for both are housed in the library BUGRA 1914, Internationale Ausstellung für Buchgewerbe und Graphik, Büro-Ausstellung Stuttgart 21. - 29. September 1929 ; Fachausstellung für Bürobedarf und neuzeitliche Bürotechnik im Ausstellungs-Gebäude auf dem Interimtheaterplatz Stuttgart, (Sig 1000/1925 A 564)

[20] The Museum's library houses: *Organisation – Zeitschrift für Betriebswissenschaft, Verwaltungspraxis und Wirtschaftspolitik* (Vol. 1918; 1920; 1924-25; Sig ZB 1151); *Organisation, Betrieb, Büro* (Vol. 1929-1930; Sig ZB 1151); *Organisation, Buchhaltung, Betrieb* (Vol. 1927; Sig ZB 1151); *Zeitschrift für Organisation* (Vol. 1930-1944; Sig ZB 1583) *Neue Betriebswirtschaft (Vol 1950-1954; Sig. ZB 3533); Praktische Psychologie. Monatsschrift für d. gesamte angewandte Psychologie, für Berufsberatung u. industrielle Psychotechnik* (Vol. 1920-23; Sig. ZB 6682

[21] I will be drawing on RKW's 1930 1200+pages 'handbook of rationalisation': RKW (*Reichskuratorium für Wirtschaftlichkeit*), Hg.,1930². *Handbuch der Rationalisierung*. Bearbeitet unter Mitwirkung zahlreicher Körperschaften und Fachleute von Fritz Reuter. Berlin: Spaeth & Linde (Sig. 1000/1940 A 501., the RKW Nachrichten (Vol. 1928-1942; 1943-44; Sig ZB 113) and the RKW Jahresberichte (1927-1932; Sig SB 1070).

[22] Of interest are: *Arbeitsuntersuchungen in Büro- und Verwaltungsbetrieben Richtlinien für Privatbetriebe und Behörden* (1933, Sig 1000/SB 1070 (89.); Schriftgutkunde: Grundsätzliches über Arbeitsgut, Aufbau, Ordnung, Arbeitsweisen, Arbeitsmittel und Benutzung von Schriftgutverwaltungen (1943; Sig. 1000/SB 1070 (135); *Der Vordruck. Anleitung zum Entwurf u. zur zeit-, kraft- u. geldsparenden Verwendung im Betrieb* (1932; Sig 1000/1932 A 1778); Das Vordruckwesen. Bedeutung, Gestaltung, Verwaltung (1941; Sig 1000/SB 1070 (37-3 /1); *Die deutschen Einheits-ABC-Regeln für Registraturen, Namensverzeichnisse sowie Orts- und Straßenverzeichnisse* (1935; Sig 1000/SB 1070 (6-9); Die Schriftgutablage (Registratur). Vorschläge nach Erfahrgn bei Privatbetrieben u. Behörden (1931; Sig 1000/SB 1070 (40)

[23] *Deutsches Institut für wirtschaftliche Arbeit in der öffentlichen Verwaltung* (1930); *DIWIV-Blätter* (19??); *Grundlagen der wirtschaftlichen Behördenarbeit* (1932); *Öffentliche Verwaltung und Büroreform* (1932); Alfred Wisch, *Merkblatt für den Umbau veralteter Büromöbel*, (1932); *Vordruckkunde*, bearb. von Eugen Mix. (1931); *Schaubilder des DIWIV* (1932) – all of which are housed in the museum library. On the DIWIV, see Ruck, Michael ,1998. Patriotischer Institutionalismus und bürokratische Modernisierung – Arnold Brecht als Verwaltungsreformer in der Weimarer Republik. In: Eberhard Laux und Karl Teppe, Hg., Der Neuzeitliche Staat und seine Verwaltung. Beiträge zur Entwicklungsgeschichte seit 1700, Stuttgart: Steiner, 177-201, here 198ff.

the decrees and executive orders into feasible paper forms and flows (e.g. the *Karteilauf*)[24] within the material environment of the office.[25]

Secondly, rather surprisingly, data production on labour and transmission in the 'Third Reich' and after essentially bypassed mechanical punched card and tabulating machines, relying instead on handwriting, piling, sorting, and tallying until the incorporation of magnetic storage devices in the late 1960s. While contemporary official statistics, insurance companies, private businesses and scientific analyses in Germany and elsewhere adopted punched-card machinery as the then most advanced information technology (Norberg 1990; Petzold 1992; Tooze 2001; Agar 2003: 146-201; Heide 2009), German labour offices – a few model tests with punched-card machines in the 1950s notwithstanding – constitute an empirically rich example through which to study failed or rejected technology.

Building on the particularly rich scholarship on punch card machines and mechanization more broadly for the Nazi period (Tooze 2001: 255-259; Petzold 1992: 117f. and 153-159; Schneider 2002: 414f.; Heide 2009), and by drawing both on company documents of the *Deutsche Hollerith-Maschinen-Gesellschaft* (IBM's German subsidiary),[26] and relevant reports by Eicke,[27] I will further explore what the technical, economical, and organizational reasons were for the rejection of punched-card technology in the case of the LA. This will involve in-depth analysis of the Museum's actual punched-card and tabulating machines such as the *Dehomag D-11* to critically compare the allegedly more technologically-mediated nature of mechanic data production with the earlier human-labour intensive data gathering processes (e.g. how file cards would need to be mechanized and arranged in order to become 'machine-readable').

These and related question gain particular importance against the backdrop of the extensive scholarly debate as to how crucial population censuses, and IBM's information technology in particular, were for the Nazi government to collate statistics on the whereabouts of 'Jews' and others as a prerequisite for their automated destruction, and which type of registers had been used for this purpose in the first place – punched card systems or non-punched card, register-type systems.[28]

(3) Emergence of information work: Karteiführer within the LA

A scholar-in-residence fellowship will allow me to continue research which I began for a journal article exploring the specific forms of labour involved in the day-to-day operations of a labour office. Tentatively entitled '*The ordering hand of the state': Recording-Keeping and Information Work in the Nazi Administration of Labour*, this article uses Downey's notion of 'information work'[29] to show how with the incessant albeit fragile trails of application forms, workbooks, file cards and change-of-status notifications circulating in and between labour offices several – hitherto largely 'invisible'[30] – specialties-cum-professional titles emerged in relative autonomy from the tasks of *Arbeitseinsatz*: *Arbeitsbuchschreiber* and *Karteiführer*, including several sub-categories such as *Hilfskarteiführer* or *Suchkarteiführer* (staff numbers combined amounted to roundabout 7000 in the late 1930s). Their respective tasks were not always clearly demarcated, especially in smaller offices. As their occupational titles suggest, however, *Arbeitsbuchschreiber* and *Karteiführer*, other than cashiers, tax officers, or, indeed, placement officers, owed their bureaucratic existence, not unlike the book-keeper, to an intimate

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[24] Else Sander, 'Das Arbeitsbuch – eine Gemeinschaftsaufgabe der Arbeitsämter', in: *Arbeitseinsatz und Arbeitslosenhilfe*, Vol. 9/10, 10./25. May 1941; pp. 105-109, here p. 108.

[25] Still unconceivable for the inventors of the Weimar *Pendelkartei*, by the outbreak of the war, such information planners were present in most of the Land labour offices, and the RfA/RAM's central offices. Hubertus Hildebrandt, for instance, head of department Va,, Referat 3 'Planung des Arbeitseinsatzes in der Rüstungswirtschaft. Grundsätzliche Fragen der Betriebsprüfung. Organisation des Arbeitseinsatzes' was one of them, and even RfA president Friedrich Syrup possessed intimate knowledge of card indexing.

[26] Deutsche Hollerith-Maschinen-Gesellschaft, Berlin (1928ff. Sig: FS 833/6; 7; 8; 9a; 9B, 10; 11).

[27] These include reform proposals for private and municipal offices for the period 1928-1941 (e.g. NL 108 / 011; 014, 1-2; 031; 032; 047; 068).

[28] See only (the rather untenable) Black, E. (2001). *IBM and the Holocaust. The Strategic Alliance between Nazi Germany and America's Most Powerful Corporation*. Little, Brown, versus Allen, M. (2002). "Stranger than Fiction. Edwin Black, IBM, and the Holocaust." *Technology and Culture* 43 (1): 150-154.

[29] Downey uses 'information work' to uncover the various forms of human labour involved in the invention, development, and maintenance of informational infrastructure such as postal, telegraph, telephone and also digital networks. Such information work in its basic form describes 'producing, using, transforming and transmitting information', Gregg Downey 'Commentary: The Place of Labor in the History of Information-Technology Revolutions', in *IRSH*, 48, 2003 Supplement, pp. 225-261. Aad Blok, Introduction, in Uncovering Labour in Information Revolutions, 1750-2000, Aad Blok/Greg Downey (eds.), *International Review of Social History*, 48 (2003), pp. 1-11.

[30] The notion of information work's invisibility is Greg Downey's who has thus described the tendency of both academic and popular discussions of today's information society to overlook or suppress the human labour involved in information networks.

relationship with the very paperwork they were meant to process: the workbook and the card file.

Drawing on a largely identical corpus as for (2), expanded both by the relevant handbooks of records management[31] and related discussions on establishment, use, and maintenance of card indexes contained in rule books,[32] as well as in specialist publications on the *Psychotechnik* of the office[33] (all of which is contained in the museum archive and library) will allow reconstruction of how the responsibilities and demands placed on *Karteiführer* in, say, tax offices or large companies compared to those in the LA (based on my in-depth analysis of the more specific *Arbeitseinsatz* training material and handbooks, and publications from within the labour administration). With regards to the latter, analysis will also consider how the division of labour within the offices evolved in relation to the specific technical requirements of card indexes (e.g. their respective filing arrangements in relation to office space available).

Latour's analysis of the role of non-human agents/actants constitutive of the workings of administrative (and scientific) practice is particularly useful in this context because it allows us to realize how the cognitive-bodily (minds and hands), and material properties between placement officer and the card index were redistributed during innovation processes or, following Latour[34], 'folded' into each other in novel ways. These insights, in turn, will help to further differentiate where the daily routines resembled the more classical descriptions of the *Angestellte* habitus emphasizing the mechanical and repetitive functions of recording and reproducing (as documented in the rich literature on *Angestellte* in Germany and elsewhere), and where, following specific 'paper passions', fulfillment of duties were exceeded (in vetting for political reliability; sorting out 'Jewish' workers). Taken together, such perspective might prove useful to the artefact-oriented research undertaken at the Museum and the *Munich Center for the History of Science and Technology*, not least because it allows for establishing profiles or 'biographies' both of the information workers and their discreet and allegedly 'low-tech' paperwork. I am thinking here, in particular, of starting with an exploration of debates around the 'morality' of artifacts, and the 'technologies of racism'[35] thus, contributing to the establishment of combined typologies of mid-twentieth-century office workers and databases across different constellations of bureaucratic power and information management.[36]

The research findings from this project will be presented at the Museum's and the Munich Centre's Monday colloquium series and workshops, and at major international conferences (including the annual meetings both of *Gesellschaft für Technikgeschichte* and *Deutsche Gesellschaft für die Geschichte der Medizin, Naturwissenschaft und Technik* 2018).

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[31] Vogt, Victor, 1920. *Die Kartothek, ihre Anlage und Führung: Ein Handbuch für den praktischen Gebrauch*. Berlin: Organisation (Sig. 1000/1925 A 2531) Porstmann, Walter, 1928. *Karteikunde. Das Handbuch der Karteitechnik*, Stuttgart: Verlag für Wissenschaft und Verkehr (Sig. 1000/1923 A 273). Additionally, see Frank, Max, 1922 *Die Kartei*. Berlin: W. F. Marten.

[32] Prinzhorn's uniform ABC-rules, various editions of which are contained in the museum's library, served the labour administration to standardise spelling rules for registers and the filing system.

[33] *Industrielle Psychotechnik. Mensch, Eignung, Leistung, Charakter, Verhalten* (Vol. 1924-1943/44; Sig ZB 1794); Irene M. Witte, 1930. *Psychotechnik der Organisation in Fertigung, (Büro-)Verwaltung, Werbung*. Paul Jaeger, 1942. *Die Registratur und anderes Wissenswertes aus dem Gebiet der Büroorganisation. Erfahrungen und Beobachtungen eines alten Praktikers*, Stuttgart: Poeschel, (Sig 1000/1943 A 210)

[34] Latour, Bruno, 1999. *Pandora's Hope. Essays on the Reality of Science Studies*. Cambridge, Massachusetts, Harvard University Press, p. 194.

[35] Beyerchen, A. (1997). "Rational Means and Irrational Ends: Thoughts on the Technology of Racism in the Third Reich." *Central European History* 30 (3): 386-402.

[36] This, to me, seems a particularly timely endeavor now as 'Third Reich' historiography, especially Holocaust research, is working its way downward the social hierarchies within relevant Nazi institutions, see most recently Rachel Century, 2017. *Female Administrators in the Third Reich,* London: Palgrave. For a useful overview, see Michael Thad Allen, 2006. Introduction: A Bureaucratic Holocaust – Towards a new Consensus, in: Gerald Feldman and Wolfgang Seibel (Eds.). *Networks of Nazi Persecution: Bureaucracy, Business, and the Organization of the Holocaust,* New York: Berghahn Books, p. 259-268.

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