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Before Google: A Pre-History of Search Engines in Analogue Times

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Googling – that is, searching the internet using the Google search engine, which was developed in 1997² – is by now taken so much for granted that resources for searching and finding used before Google seem outdated, whether they are library catalogs on index cards, printed bibliographies, or address and telephone books – as though they belonged to a past age, an age that may be described as the ‘analogue age’ in the future.

On various occasions over the last few years, research has tried to consider past information technologies as precursors of the digital age. Technologies facilitating the location of information within early modern books, card catalogs, servants, and even popular German television series such as Robert Lembke’s *Was bin ich?* or Eduard Zimmermann’s *Aktenzeichen XY*, have been described as part of the prehistory of computers.³ In my habilitation treatise on *intelligence or registry offices*, I attempted to describe these institutions as pre-modern search engines. These offices were increasingly established in major European cities from the 17th century onwards; they brokered information, but also all too often served as watchdogs.⁴ In an overview article and in a collection edited with Thomas Brandstetter and Thomas Hübel in

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1. Translated by Brita Pohl, www.bricolangue.at.
 2. On the history of Google cf. among others the following journalistic accounts: David Vise and Mark Malseed, *The Google Story*, New York: Delacorte Press, 2005; Lars Reppesgaard, *Das Google-Imperium*, Hamburg: Murmann, 2008.
 3. Thomas N. Corns, ‘The Early Modern Search Engine: Indices, Title Pages, Marginalia and Contents’, in Neil Rhodes and Jonathan Sawday (eds) *The Renaissance Computer. Knowledge Technology in the First Age of Print*, London-New York: Routledge, 2000, pp. 95-105; Markus Krajewski, *Paper Machines. About Cards & Catalogs, 1548-1929*, trans. Peter Krapp. Cambridge, MA: MIT Press, 2011; Markus Krajewski, *Der Diener. Mediengeschichte einer Figur zwischen König und Klient*, Frankfurt am Main: S. Fischer, 2010; David Gugerli, *Suchmaschinen. Die Welt als Datenbank*, Frankfurt am Main: Suhrkamp edition unseld 19, 2009. For an overview of many of the issues touched upon in this article, see Peter Burke, *A Social History of Knowledge: from Gutenberg to Diderot*, Cambridge: Polity Press, 2000.
 4. Anton Tantner, *Adressbüros im Europa der Frühen Neuzeit*, Habilitation treatise, submitted at the Faculty of Historical and Cultural Studies at the University of Vienna, Wien: Universität Wien, 2011, <http://phaidra.univie.ac.at/o:128115>.

2012, I tried to shed more light on these past resources of searching and finding, the history of which has yet to be written.⁵

Of course, one has to be aware of the problems of such an historical approach. The term 'pre-history' might imply a kind of teleological view of history, with the assumption that the glorious advent of Google was the solution to all the problems that could not be solved in the past. This is by no means the intention of this article. What I do intend to study is how search worked in the past and what problems arose from it, assuming that some of the problems are comparable to those we are confronted with today, be it privacy issues, poor observance of the secrecy of registered data, or government use of these services.

Today's technological solutions may be new, but the problems they address are older. Thus, the extensive data collection campaigns of the Middle Ages and during the early modern period resulted, for example, in the making of the Domesday Book of medieval England, the so-called *Relaciones topográficas* composed during the reign of the Spanish king Philip II, the *enquêtes* by French minister Colbert, and the 'Political Remarks of the Imperial War Council' during the Hapsburg monarchy in 1770-1772, all which may be compared to the 'crawlers' sent out by current search engines to 'harvest' information. Their intention was to make people's property and their social and physical conditions visible and legible for state authorities, and they were often met with skepticism and resistance.⁶ Even the surveillance of global internet communication by the NSA, which was made public in the summer of 2013, did not surprise historians of the early modern postal services. What nowadays are back doors allowing secret services to control the big internet companies' data traffic have famous precursors in the 'Black Cabinets' and 'Post Lodges' of European governments, which monitored correspondence via the mail services from the early modern period.⁷

In the following three sections, I will examine how knowledge was indexed and ordered in the past, the ambivalence with which human information brokers were regarded by those using their services, and finally which institutions were created in order to exchange information in the analogue age. This historical overview should not only provide new insights about the past, but should also be useful to those who study today's search engines.

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5. Anton Tantner, 'Suchen und finden vor Google. Eine Skizze', in *Mitteilungen der Vereinigung österreichischer Bibliothekarinnen & Bibliothekare* 64 (2011): 42-69; Thomas Brandstetter, Thomas Hübel, and Anton Tantner (eds) *Vor Google. Eine Mediengeschichte der Suchmaschine im analogen Zeitalter*, Bielefeld: Transcript, 2012; the present article is based on these two last publications.
 6. Peter Burke, *The Historical Anthropology of Early Modern Italy. Essays on Perception and Communication*, Cambridge: Cambridge University Press, 1987, pp. 28-31; Peter Burke, *A Social History of Knowledge*, pp. 129-132; for a monograph on Colbert's intelligence system, see Jacob Soll, *The Information Master: Jean-Baptiste Colbert's Secret State Intelligence System*, Ann Arbor: University of Michigan Press, 2009; Michael Hochedlinger and Anton Tantner (eds) *'... Der größte Teil der Untertanen lebt elend und mühselig'. Die Berichte des Hofkriegsrates zur sozialen und wirtschaftlichen Lage der Habsburgermonarchie 1770-1771*, Innsbruck-Wien-Bozen: Studienverlag, 2005 (Mitteilungen des Österreichischen Staatsarchivs Sonderband 8).
 7. Thomas Winkelbauer, 'Postwesen und Staatsbildung in der Habsburgermonarchie im 17. und 18. Jahrhundert', in *Wiener Geschichtsblätter* 68 (2013): 69-86, at 82-85 with further literature.

Disposition and Indexation of Knowledge

How were books and bodies of knowledge arranged in order to facilitate searching for them? We need to distinguish systematic disposition on the one hand, in which books are registered and possibly arranged according to a specific system or classification – a method used often in public libraries – and, on the other hand, alphabetical organization, in which books are registered according to the name of the author or, in a subject catalog, according to keywords assigned by the librarian.

Systematic Organization: Dewey's Decimal Classification

For centuries, the systematic organization of books was pursued as an ideal. Already during the 17th century, numbers were used for classification systems; the system that is most famous today, the so-called *Dewey Decimal Classification*, was created by U.S. librarian Melvil Dewey in 1876, and later adapted and extended by Paul Otlet and Henry LaFontaine in Europe. The 'Decimal Classification' groups human knowledge into ten main classes, which are assigned the figures 0 to 9; the figure 9, for example, is reserved for the discipline of 'History'. The main classes are further subdivided, and the longer the number, the more detailed the description of the subject; for example, the history of Austria is assigned the figure '943.6'. It is no surprise, then, that this classification is strongly informed by the particular world view of its creators; thus, in the original version, all world religions outside Christianity were assigned the category '290 religions other than Christianity'.⁸

Decimal Classification is mainly used in science, technology, and medical science, and serves as an organizing pattern for systematic library catalogs, the shelving of books, and the compilation of bibliographies.⁹

Alphabetical Organization

According to Peter Burke, alphabetical order was first introduced in the 'Suidas', a Byzantine encyclopedia from the 11th century, and sporadically used over the following centuries, for example in cataloging the library of the abbey of Saint-Victor in Paris at the beginning of the 16th century. Only in the 17th century was the alphabetical organization of books established in library catalogs and bodies of knowledge such as encyclopedias, even though it was still considered so unusual that authors had to laboriously justify its use.¹⁰

After the acceptance of alphabetical library catalogs, distinct rules were created for them. These rules sometimes became extremely elaborate, as in the case of the 'Prussian Instructions', which were laid down during the compilation of the German General

8. Felix Stalder and Christine Mayer, 'The Second Index. Search Engines, Personalization and Surveillance', in Konrad Becker, Felix Stalder (eds) *Deep Search. The Politics of Search Beyond Google*, Innsbruck: Studienverlag, 2009, p. 98.

9. Harald Jele, *Wissenschaftliches Arbeiten in Bibliotheken. Einführung für StudentInnen*, München-Wien: Oldenbourg, 1999, pp. 41-49, 102-109; David Weinberger, *Everything is Miscellaneous: The Power of the New Digital Disorder*, New York: Henry Holt and Company, 2008, pp. 64-84.

10. Peter Burke, *A Social History of Knowledge*, pp. 109-10, 184-87; Neil Rhodes and Jonathan Sawday, 'Paperworlds: Imagining the Renaissance Computer' in Neil Rhodes and Jonathan Sawday (eds) *The Renaissance Computer. Knowledge Technology in the First Age of Print*, London-New York: Routledge, 2000, pp. 8-9; for a survey of the history of alphabetical sorting: Marc W. Küster, *Geordnetes Weltbild. Die Tradition des alphabetischen Sortierens von der Keilschrift bis zur EDV. Eine Kulturgeschichte*, Tübingen: Niemeyer, 2006.

Catalog in 1899. In Austria, the Prussian Instructions were adopted at the beginning of the 1930s in several research libraries, concurrent with the introduction of card indices. Its adoption also had political implications, as some German nationalist librarians welcomed the cataloging rules in force in Germany as an anticipation of the '*Anschluss*' of Austria to Germany.¹¹ Many libraries continued to use the Prussian Instructions up to the introduction of online catalogs. At that moment, they were replaced by another system of rules, the system of alphabetical cataloging that is usually identified by its German acronym 'RAK'.¹²

'Search Engines' in Books: Registers, Indices, Marginalia, Verse Numbers

For the location of contents in a book, too, adequate resources needed to be invented. Important tools that help a person gain an overview of a particular book are the table of contents on the one hand, and the register on the other hand, if the book contains one. The history of such book registers, however, remains to be written; according to historian Helmut Zedelmaier, they may be regarded as 'search engines of the early modern knowledge apparatus'.¹³

Scholars also unlocked the Bible's content using an entire apparatus of resources: so-called concordances; polyglots, Bible editions in several languages; canon tables, which indicate parallel passages in the Gospels; harmonies, which joined the four Gospels into one text; and synopses. Even a search aid that is self-evident to the present-day reader still had to be invented. It was the publisher Robert Estienne who, at least according to legend, divided the Bible into chapters while on horseback in the 16th century and thus introduced the numbering of verses that is still common in this fundamental text of occidental fiction.¹⁴

Especially in early modern times, such resources as title pages, marginalia, or chapter summaries were inserted into books; they anticipated present-day developments, and publishers succeeded in making texts more user-friendly by allowing non-serial access. This user-friendliness was, however, often paid for by a more restrictions to individual interpretation.¹⁵

From Bibliometric Citation Indices to Google's PageRank

One way of arranging and rating books that was invented in the 20th century is so-called bibliometric, or citation indices. By means of this method, a prioritized order of texts, articles, or books is established, depending on how often they are cited in important journals; such rankings may also be established using the footnotes of a scientific

11. Hans Petschar, 'Einige Bemerkungen, die sorgfältige Verfertigung eines Bibliothekskatalogs für das allgemeine Lesepublikum betreffend', in Hans Petschar, Ernst Strouhal, and Heimo Zobernig (eds) *Der Zettelkatalog. Ein historisches System geistiger Ordnung*, Wien-New York: Springer, 1999, pp. 35-36 and 42, FN 65.

12. Rupert Hacker, *Bibliothekarisches Grundwissen*, 4th edition, München: Saur, 2000, pp. 181-195.

13. Helmut Zedelmaier, 'Facilitas inveniendi. Zur Pragmatik alphabetischer Buchregister', in Theo Stammen and Wolfgang E.J. Weber (eds) *Wissensicherung, Wissensordnung und Wissensverarbeitung. Das europäische Modell der Enzyklopädien*, Berlin: Akademie, 2004 (Colloquia Augustana 18), pp. 193 (citation) and 201.

14. Daniel Weidner, "'Wende sie um und um, denn alles ist in ihr.'" Über das Suchen in heiligen Texten', in Thomas Brandstetter et al. (eds) *Vor Google*, pp. 41-72.

15. Thomas N. Corns, 'The Early Modern Search Engine', p 103.

text. A rather useful analogy for these metrics is linking on the internet. Search engines rank the websites found in a query according to the number of links to them. First efforts in this direction already started in the 1920s; since the 1950s, the work of Eugene Garfield gained influence after founding current citation indices, starting with the *Science Citation Index (SCI)* dating from 1963. Such indices, today available in the form of databases, calculate the influence or 'impact' of articles. The higher the 'impact factor', i.e. the more an article is cited in journals judged to be scientifically excellent, the more important that article is considered to be and the higher it is ranked.¹⁶ There also is a similar citation index for the field of humanities, the *Arts & Humanities Citation Index*. Currently attempts are being made to establish such an index for Europe, the *European Reference Index for the Humanities (ERIH)*.¹⁷

Citation analysis is crucial not only in the field of academic research, but also for its important role in our current daily search life, as the ranking processes of search engines work according to this principle. The better a page is linked, the further up on the page it will appear in search results. Linking is one of the factors used to determine the ranking of a website. In the case of Google, this principle is called 'PageRank' – its name also being a pun, as 'Page' is the name of one of Google's founders, Larry Page.¹⁸

Encyclopedias as Repositories of Knowledge

Another form of knowledge storage and indexing that may be regarded as characteristic of early modern times is the major encyclopedia projects, of which I will cite only three exemplary ones. The most famous of these encyclopedias is without a doubt the *Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers*, founded by Diderot and D'Alembert in the 18th century as one of the great projects of Enlightenment. The *Encyclopédie* appeared from 1751 to 1780 and comprises 35 volumes.¹⁹ Even earlier, Zedler's *Universal-Lexicon* was published in German mostly during the first half of the 18th century (64 volumes, four supplement volumes).²⁰ Lastly, the *Encyclopédie Anarchiste*, initiated by the anarchist educator Sébastien Faure, appeared in French in four volumes from 1925 to 1934, running to more than 2,800 pages. The manner of financing such a giant enterprise was rarely employed elsewhere; some of the *Encyclopédie Anarchiste*'s funding came from the famous Spanish anarchist Buenaventura Durutti, who had seized the money from bank robberies.²¹

16. Bernhard Rieder, 'Zentralität und Sichtbarkeit. Mathematik als Hierarchisierungsinstrument am Beispiel der frühen Bibliometrie', in Thomas Brandstetter et al. (eds) *Vor Google*, p. 223-252.

17. For further information on the ERIH, see <http://www.esf.org/hosting-experts/scientific-review-groups/humanities/erih-european-reference-index-for-the-humanities.html>.

18. See e.g. Reppegaard, *Das Google-Imperium*, p 77.

19. Cf. e.g. Robert Darnton, *The Business of Enlightenment: A Publishing History of the Encyclopédie, 1775-1800*, Cambridge, MA: Harvard University Press, 1987 (1979). For the digitized 'encyclopédie', see: <http://portail.atilf.fr/encyclopedie/>.

20. Digitized version: <http://www.zedler-lexikon.de>. For general information on encyclopedias, see Martin Gierl, 'Enzyklopädie', in Friedrich Jaeger (ed.), *Enzyklopädie der Neuzeit*. Stuttgart: Metzler, 2005 et sequ., vol. 3, 2006, pp. 344-356.

21. Hans Magnus Enzensberger, *Der kurze Sommer der Anarchie. Buenaventura Durrutis Leben und Tod*, 10th edition, Frankfurt am Main: Suhrkamp st 395, 1994, pp. 57, 64. Digitized version: <http://www.encyclopedie-anarchiste.org/>.

Human Information Brokering Institutions

Werner Faulstich identifies those media that work without necessarily using technology as ‘primary media’ or ‘human media’, such as the theater.²² In an analogy, it may be possible to refer to institutions such as contact brokers, agents, or go-betweens, as well as domestics and loan lackeys, servants, and concierges, as ‘human search engines’.

Contact Brokers, Servant Agents, Go-Betweens

The term *Beziehungsmakler* (contact broker) refers to the concept of a broker, a term that today is mostly used in connection with stock exchange brokers. According to a definition provided by Christoph Windler,

brokers’ arrange contacts with individuals who themselves control needed resources or can on their part establish further contacts [...]. They supervise critical connections between a local system and a broader whole [...]. Their position crucially depends on the importance of the contacts brokered by them for the involved parties and the inexistence of alternative channels of communication.²³

Some examples are the so-called *Gesindezubringer* (servant agents), often elderly women; those looking for servants for their household were able to approach them. Servant agents possessed specialized knowledge about who was looking for work and were extremely unpopular with the early modern authorities, because they were accused of poaching servants once they had placed them, in order to collect the brokering fee as many times as possible.²⁴

A similar function was fulfilled by the so-called *Unterkäufer* (go-betweens) in the late Middle Ages and the early modern period, but they were related to the sale of goods. When a foreign tradesman entered a city, he was able to turn to such a go-between, who would help him find resellers against a commission.²⁵

Servants and Loan Lackeys

Servants, too, may be regarded as search engines. Here, we may differentiate between those who worked in one household for a longer period of time, and loan lackeys or porters appearing in bigger towns and cities, whose services usually were enlisted by travelers for a specified period of time.

Regarding the first group, Markus Krajewski has pointed to a literary treatment of this issue by P.G. Wodehouse, who published a series of miniatures about the Butler

22. Werner Faulstich, ‘Medium’, in Werner Faulstich (ed.) *Grundwissen Medien*, München: Fink, 2004, pp. 13, 23-25.

23. Christian Windler, ‘Gemeinde und königliche Gerichte in Spanien im ausgehenden Ancien Régime’, in *Zeitschrift für Historische Forschung* 24 (1997): 56; for general information on go-betweens, see Valentin Groebner, ‘Mobile Werte, informelle Ökonomie. Zur ‘Kultur’ der Armut in der spätmittelalterlichen Stadt’, in Otto Gerhard Oexle (ed.) *Armut im Mittelalter*, Ostfildern: Thorbecke, 2004, pp. 175-180.

24. Statistisches Departement im k.k. Handelsministerium (ed.) *Die Arbeitsvermittlung in Österreich*, Wien: n.p., 1898, p. 26.

25. Eberhard Schmieder, ‘Unterkäufer im Mittelalter. Ein Beitrag zur Wirtschafts- und Handelsgeschichte vornehmlich Süddeutschlands’, in *Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte* 30 (1937): 229-260.

Jeeves in 1923, a manservant who may be regarded as a positive information center. Jeeves functions as an interface between the master of the house and the rest of the staff, and in the course of his work, he gains deep insights into the financial and other affairs of the noble family. It was consistent, then, that one of the search engines competing with Google in the 1990s was called AskJeeves.com; this name also alluded to the ambivalence of these institutions. On the one hand, a human search engine is a helping hand, on the other however, she or he is a bearer of secrets, consistently suspect of being an informer, a spy, and of betraying these secrets to other powers. This suspicious attitude was an especially pronounced phenomenon around 1800, when in those noble or bourgeois families who were able to afford servants, there prevailed a paranoia that servants might spy on them.²⁶ Even today, this anxiety sometimes surfaces, as it did in a short story by Woody Allen in which Allen's nanny plans to write a scandal-mongering novel about him.²⁷

The second group, loan lackeys, made their knowledge available only temporarily, and their services were mainly enlisted by travelers, as examples from Vienna and Prague show. The travel writer Johann Kaspar Riesbeck reported that within three days of his arrival in Vienna, he had found rooms for rent with the help of such a loan lackey.²⁸ A travel guide of Prague dated 1817 contains the following advice:

When [the stranger] wants to be instructed about the places he wishes to visit, he should turn to the attendant at the tavern, in general called a loan lackey, who will accompany the guest to his desired destination. The loan lackey will also make all provisions so the stranger will be supplied with all the articles he asks for.²⁹

Concierges

Another type of 'human search engine' in larger towns and cities were concierges; in a travel report by Friedrich Nicolai from Vienna in the 1780s, he says: 'Who therefore has to look for someone in a big house, only has to ask for the concierge, who will know all the tenants, who often are not acquainted with each other.'³⁰ Also when looking for an apartment, concierges could play an important role, as they kept in touch with each other and therefore knew about empty apartments, which made them a 'central con-

26. Markus Krajewski, 'Ask Jeeves. Servants as Search Engines', trans. Charles Marcrum, *Grey Room* 38 (Winter 2010): 6-19.

27. Woody Allen, 'Nanny Dearest', in Woody Allen, *Mere Anarchy*, New York: Random House, 2007, pp. 55-64.

28. Johann Kaspar Riesbeck, *Briefe eines Reisenden Franzosen über Deutschland an seinen Bruder zu Paris.*, vol. 1 s.l.: n.p., 1784, pp. 191-194.

29. *Prager Wegweiser zum Unterricht und Bequemlichkeit der Fremden und Kenntniß der Einheimischen (...)*, Prague: Betteerl v. Wildenbrunn, 1817, p 19: 'Wenn derselbe [der Fremde, AT] von den Oertern, die er besuchen will, unterrichtet zu werden wünscht, so verwendet er sich an den Aufwärter des Gasthauses, insgemein Lehnlacquaui genannt, welcher den Gast nach dem Bestimmungsorte begleitet. Dieser Lehnlacquaui trifft auch Veranstaltung, damit der einkehrende Fremde mit allen Artikeln, die er verlangt, versehen würde.'

30. Friedrich Nicolai, *Beschreibung einer Reise durch Deutschland und die Schweiz, im Jahre 1781*, Berlin-Stettin: n.p., 1783. Reprint: Hildesheim: Olms, 1994 (Collected Works 16, Edited by Bernhard Fabian and Marie-Luise Spieckermann), p. 142 et sequ.: 'Wer also in einem grossen Haus jemand zu suchen hat, muß nur nach dem Hausmeister fragen, welcher alle Miethsleute kennet, die sich oft untereinander nicht kennen.'

tact point for accommodation seekers not connected to the house'.³¹ Their services, however, are not as innocent as they seem at first glance, as the writings of Josef Richter, another chronicler of Vienna, show. In 1785, he called the concierges a proper 'plague of the houses'. 'Most unbearable and rude are the concierges, who are at the same time friends, advisors, and spies for the house inspectors and administrators, even though they be imperial and royal.'³²

The profession of a concierge emerged in Vienna when large tenant houses were built, and the owner of the house often no longer lived in the house himself. The institution of the concierge was created as a link between him and the tenants. The concierge would collect the rent, and his duties included '[knowing] everything about any events in the house and if need be, to report to the owner. He knew all tenants in person, often he knew all personal and professional affairs of a family before they had even moved in.' The Viennese concierges also cooperated with the police in a reciprocal relationship. The police were informed about suspect tenants, and the concierge got advance information about prospective tenants.³³

Institutions of Information Brokerage

Archives, libraries, and museums, as well as schools and universities, are the classic sites of occidental knowledge and information communication. Especially the catalogs of libraries with their different systems of registering and allowing access to books stored in them have informed our understanding of searching and finding for centuries. Manuscript catalogs in book form, which for a long time had been the ideal, were only replaced by index cards in the course of the 19th century, before online electronic catalogs were established at the end of the 20th century.³⁴

By contrast, those sites and institutions that served to broker everyday information have attracted less interest. A selection of these will be presented in this article.

Inns and Coffee Houses

The activities of inns and coffee houses extended far beyond serving drinks and offering food. Historians of these public houses report auctioneers offering their wares, dentists practicing their profession, and travelers looking for information about foreign places. The English diarist Samuel Pepys wrote in his diary that he went to the inn solely to satisfy his desire to hear the news.³⁵ Inns served as information and contact exchanges. Contracts were concluded, news passed on, disputes were held,

31. Konstanze Mittendorfer, *Biedermeier oder: Das Glück im Haus. Bauen und Wohnung in Wien und Berlin 1800-1850*, Wien: Verlag für Gesellschaftskritik, 1991, p. 146.

32. [Joseph Richter], *Wienerische Musterkarte ein Beytrag zur Schilderung Wiens. 6 Stück*, Wien: n.p., 1785, pp. 7, 9: 'Am unerträglichsten und größten sind die Hausmeister, die zugleich Freunde, Rathgeber und Spione der Hausinspektoren und Administratoren sind, falls sie auch k.k. wären.'

33. Peter Payer, *Hausmeister in Wien. Aufstieg und Niedergang einer Respektsperson*, Wien, 1996 (Wiener Geschichtsblätter Beihefte 1996, Nr. 4), p. 7: 'über alle Vorkommnisse im Haus Bescheid zu wissen und dem Hausherrn im Bedarfsfall Meldung zu erstatten. Ihm waren alle Parteien persönlich bekannt, oft wußte er über eine Familie schon bevor sie einzog sämtliche privaten und beruflichen Verhältnisse'.

34. For a concise overview on the history of libraries and their catalogs, see: Uwe Jochum, *Kleine Bibliotheksgeschichte*, Stuttgart: Reclam U-B 8915, 1993.

35. Beat Kümin, 'Drinking and Public Space in Early Modern German Lands', in *Contemporary Drug Problems*, 32 (2005): 16-20.

and protests were organized; inns were (and are) at the same time meeting points, transit points for goods, banks, employment agencies, and gathering spaces. State functions, too, were held there. In some villages that didn't have a courthouse, court sessions were held in the presence of the public at the inn. The inn also sometimes served as a place for publicizing laws. The inn was also used as lodgings for traveling diplomats, and finally, it held the media function of a point of exchange for news. No wonder, then, that clerical powers tried again and again to stigmatize the inn as a place of sin.³⁶

The coffee house's distinction was as a site of political debates. As early as the mid-18th century, to be more exact in 1743, one observer, Theodor Johann Quistorp asserted that 'a coffee house was as it were a political stock exchange, where the bravest and most spirited heads from all cities converged'.³⁷

Intelligence Offices: the Example of the Paris Bureau d'Adresse, 1630-1643

Emerging in the 17th century and lasting until the early 19th century, so-called intelligence offices were another specific type of information exchange in addition to inns and coffee houses. These institutions brokered employment, apartments, wares, and money against a fee, and occasionally published advertisers.³⁸

The earliest and at the same time most famous of these intelligence offices was the *Bureau d'adresse* established by Théophraste Renaudot in Paris circa 1630. Renaudot – who is known as the founder of one of the first French newspapers, the *Gazette (de France)* – was convinced that, beyond detention of the poor in workhouses – the *grand enfermement* as described by Foucault – it was also necessary to provide suitable institutions for the placement of workers. After having secured the support of Cardinal Richelieu, Renaudot was able to open his *Bureau d'adresse* at the Maison du Grand-Coq on the Quai du Marché Neuf in the Rue de la Calandre.

The activities of this *bureau* were numerous and diverse. First, it provided information for people who were looking for it. Those who looked for street addresses or a traveling companion, who needed to learn the names or residences of famous

36. Susanne Rau and Gerd Schwerhoff, 'Frühneuzeitliche Gasthaus-Geschichte(n) zwischen stigmatisierenden Fremdzuschreibungen und fragmentierten Geltungserzählungen', in Gert Melville and Hans Vorländer (eds) *Geltungsgeschichten. Über die Stabilisierung und Legitimierung institutioneller Ordnungen*, Köln-Weimar-Wien: Böhlau, 2002, pp. 181, 186, 190, 199; Martin Scheutz, "'hab ichs auch im würrthshauß da und dort gehört [...]" Gaststätten als multifunktionale öffentliche Orte im 18. Jahrhundert', in Martin Scheutz, Wolfgang Schmale, and Dana Štefanová (eds), *Orte des Wissens*, (Jahrbuch der österreichischen Gesellschaft zur Erforschung des 18. Jahrhunderts 18/19), Bochum: n.p., 2004, pp. 169-203.

37. Quoted from: Hans Erich Bödeker, 'Das Kaffeehaus als Institution aufklärerischer Geselligkeit', in Étienne François (ed.) *Sociabilité et société bourgeoise en France, en Allemagne, et en Suisse, 1750-1850. Geselligkeit, Vereinswesen und bürgerliche Gesellschaft in Frankreich, Deutschland und der Schweiz, 1750-1850*, Paris: Editions Recherche sur les Civilisations, 1986, p. 72: 'daß ein Cafféhaus gleichsam eine politische Börse sey, wo die wackersten und witzigsten Köpfe aus allen Ständen zusammenkommen'.

38. For an overview on address bureaus: Astrid Blome, 'Offices of Intelligence and Expanding Social Spaces', in Brendan Dooley (ed.) *The Dissemination of News and the Emergence of Contemporaneity in Early Modern Europe*, Farnham: Ashgate, 2010, pp. 207-222; Anton Tantner: *Adressbüros*.

individuals such as theologians, physicians, or attorneys, were able to turn to the *bureau* and hope for an answer. The *bureau* also served as a sales agency. Whoever had something to sell was able to have his or her wares entered into a register against a fee of three *sous*; whoever looked for certain goods, was able to take a look into the register, also for a fee. On sale were not only mobile goods such as antiques, books, or machinery, but also animals – once, even a dromedary was offered – as well as real estate including country estates and houses. The *bureau* was also used as an employment agency. Open positions were entered into a separate register, and teachers, servants, and journeymen looking for work were able to direct their requests to the *bureau*. The *bureau* occasionally published its own journal, the *Feuille du Bureau d'Adresse*, in which excerpts of register entries were published. In addition to this, the *bureau* supported medical care – Renaudot was a physician by education – which was mainly directed at the poor. After a first consultation, the sick were referred to physicians, surgeons, or apothecaries who treated them *pro bono*. The *bureau* also worked as a pawnshop. When someone needed short-term funds, they were able to deposit property at the office and mortgage it. Finally, the office assumed the role of a scientific academy. From 1633, lectures were held in the rooms of the bureau every Monday at two pm – the *conférences du Bureau d'adresse*, which covered a number of different subjects, such as medicine, physical phenomena, or economics. On 3 February 1642, a question was discussed that famously has been of tremendous interest to humanity since time immemorial: ‘What was made first, the egg or the chicken?’³⁹

Because of the extensive activities of the *bureau*, it repeatedly ran afoul of individuals whose business it interfered with. Thus, the journeymen’s associations, which traditionally served as employment agencies, were by no means happy about the competitor that the *bureau* constituted for them in this area. Above all, however, it was the medical faculty that took action against the *bureau*, especially when Renaudot wanted to further extend his medical counseling activities. Nevertheless, Renaudot’s adversaries only succeeded when his protector, Cardinal Richelieu, died. In 1643, Renaudot’s *Bureau d'adresse* had to abandon most of its activities.⁴⁰

The Universal Register Office, London 1750

One successor of the Bureau d’Adresse was the Universal Register Office founded by the Fielding brothers in 1750. According to its self-description the office’s declared aim was ‘to bring the World [...] together into one place’.⁴¹ This sounds quite similar to

39. ‘Qui a esté le premier fait de L’Oeuf ou de la Poule?’, in Eusèbe Renaudot (ed.) *Cinquiesme et dernier tome du Recueil général des questions traitées ès conférences du Bureau d'adresse (...)*, Paris: Besogne, 1655, pp. 91–94.

40. On Renaudot and his *Bureau d'adresse* see: Howard M. Solomon, *Public Welfare, Science and Propaganda in Seventeenth Century France: The Innovations of Théophraste Renaudot*. Princeton: Princeton University Press, 1972; Justin Stagl, *Eine Geschichte der Neugier*, pp. 175–187; Gilles Feyel, *L’Annonce et la nouvelle. La presse d’information en France sous l’ancien régime (1630–1788)*, Oxford: Oxford University Press, 2000, pp. 11–308; Gérard Jubert (ed.) *Père des journalistes et médecin des pauvres. Théophraste Renaudot (1586 – 1653)*, Paris: Champion, 2005.

41. Henry Fielding, ‘A Plan of the Universal Register-Office’, in Bertrand A. Goldgar (ed.) *The Covent-Garden Journal and A Plan of the Universal Register-Office*, Oxford: Clarendon Press, 1988, pp. 3–10; on this institution see also Miles Ogborn, *Spaces of Modernity. London’s Geographies 1680–1780*, New York/London: Guilford Press, 1998, pp. 201–230, 295–302.

the well-known self-description of Google: 'Google's mission is to organize the world's information and make it universally accessible and useful.'⁴² The self-description of the Universal Register Office continues: 'In large and populous cities [...] every human Talent is dispersed somewhere or other among the Members; and consequently every Person who stands in Need of that Talent, might supply his Want, if he knew where to find it; but to know this is the Difficulty, and this Difficulty still increases with the Largeness of the Society.' The Fielding brothers' Universal Register Office promised to afford remedy: It would bring together buyers and sellers, teachers and pupils, tradesmen and their partners, finally masters and apprentices or servants.⁴³

Like its Parisian predecessor the Universal Register Office served as a sales agency, a labor office, a pawnshop and also a travel agency. Anyone wishing to have their names entered onto, or to consult the Universal Register Office's registries could do so for a fee between three pence and one shilling. One of the main tasks of this institution was labor exchange; the Fielding brothers understood this service also as a means of fighting crime: According to them depraved servants were responsible for most crimes; potential masters were informed, that no servant would be registered who seemed suspicious or who was living in a disreputable place. Dismissed servants would not be registered any longer if the former masters informed the office. By doing so the Universal Register Office would be a 'public eye' concerning servants.⁴⁴ In addition the methods adopted by the Fielding brothers were also directed at crime prevention by protecting newcomers from the countryside from fraud. To that end, Henry Fielding set up an information office exclusively concerned with uncovering crimes: All facts on fraud and crimes, all criminals, every robbery committed, any object lost were to be gathered at one place, and the names and descriptions of offenders recorded in a register;⁴⁵ so the Universal Register Office was also designed as a government utopia contributing to a surveillance society.

The Anfrage- und Auskunftskomptoir, Vienna, 1819

An institution similar to the information offices developed at the beginning of the 19th century, namely the offices of inquiry and information (*Anfrage- und Auskunftskomptoir*). So far, such institutions are known for Vienna, Wrocław/Breslau and Munich. Joseph Jüttner and Baron Karl von Steinau founded the *Anfrage- und Auskunftskomptoir* in Vienna in 1819, and they offered its services by arguing, amongst others reasons, that loan servants were unreliable. An 1822 travel guide has the following to say:

For a modest fee of 20 kr[euzeur]. to 1 fl. [guilder], the managers [of this establishment] offer information on resident citizens and foreigners, doctors of medicine and of the law, about civil servants, scholars, artists etc., on local affairs and the facilities of public institutes; on the authorities and state officers; on all kinds of company trading; on loans on mortgages and commodities; on available products of nature and artifice for buyers and sellers; on opportunities for travel; on employers and domestics looking for employment; on purchases and leases of houses,

42. See, <http://www.google.com/corporate/>.

43. Fielding, 'A Plan', pp. 3-6.

44. Ogborn, *Spaces*, p. 217.

45. Ogborn, *Spaces*, pp. 219-221.

realities etc., on apartments, warehouses, stables, factories etc., in short, on all civil and social dealings and affairs, of which knowledge is permitted.⁴⁶

A satire aimed at this information office was published in *Eipeldauer* magazine in 1820:

About the *Auskunftscomptoir*, which fortunately was established in Vienna a short while ago, I happen to know a few anecdotes. For one day, a Hungarian hay farmer went there and said: "Gentlemen, I would like to know, if my young wife, while I am in Vienna and sell my hay, is faithful to me in my Hungarian land! So please, be so kind, and look it up." Another came and wanted to know whether his rich cousin in Günz was going to die this year, and make him his heir. Oh my lord and cousin, if only the gentlemen at the *Comptoir* could find all such things, they would undoubtedly be even busier. I for my part, I would have looked up whether the public will be satisfied with me for long, and whether the *Eipeldauer* will continue to increase its readership.⁴⁷

– Here, the *Comptoir* was alleged to be able to supply information about the future; as is often the case, a new medium triggered utopias of omniscience.

Press Clipping Services

Press clipping services constitute an additional specialized institution of information exchange.⁴⁸ The initial problem these institutions promised to redress was quite clear and was expressed for example by one of Dostoyevsky's characters at the beginning of the 1870s. There was a mass of newspapers appearing daily that reported on a number of interesting events, but finding them after some time was nearly impossible.⁴⁹ Press clipping services were finally created not for retrospective use, but for searching for a subject at the current moment in time. The first such office to become famous was founded under the name *Argus de la Presse* in Paris in 1879. According to

46. Johann Pezzl, *Neueste Beschreibung von Wien*, 6th edition, Wien: Armbruster, n.d. (1822), p. 166: "Die Unternehmer [dieser Anstalt] geben, gegen das mäßige Honorar von 20. kr. bis zu 1 fl. Auskunft über hier sich aufhaltende In- und Ausländer, über Doctoren der Medicin und der Rechte, über Beamte, Gelehrte, Künstler tc., über das Locale und die Einrichtung öffentlicher Institute; über Behörden und Staatsbeamte; über alle Arten von Compagnie-Geschäften; über Darlehen auf Hypotheken und Waaren; über vorhandene Natur- und Kunstproducte für Käufer und Verkäufer; über Reisegelegenheiten; über Dienstgeber und Dienstsucher; über Käufe und Pachtungen von Häusern, Realitäten tc., über Wohnungen, Magazine, Stallungen, Fabriken tc., kurz, über alle bürgerliche und gesellschaftliche Geschäfte und Verhältnisse, welche zu wissen erlaubt ist."

47. [Adolph Bäuerle], *Briefe des jüngsten Eipeldauers an seinen Herrn Vetter in Kakran*, 5th issue, Wien: n.p. 1820, p. 230 et sequ.: "Von dem in Wien seit einiger Zeit, mit sehr vielem Glück bestehenden Auskunfts-Comptoir weiß ich auch ein Paar Anekdoten. Da ist nämlich die Tag ein ungarischer Heubauer hinkommen und hat g'sagt: "Meine Herren, möchte ich gern wissen, ob mein junges Weibel, während ich in Wien bin und mein Heu verkauf, mir in Ungerland treu ist! Gehens's seyn's so gut und schlagens einmal nach." Wieder ein anderer ist kommen, der gern hat wissen wollen, ob sein reicher Vetter in Günz heuer noch stirbt, und ihn, zum Erben einsetzt. O mein Herr Vetter, wann die Herren in dem Comptoir lauter solche Sachen auffinden könnten, sie müßten noch mehr zu thun bekommen. Ich z.B. ließ mir aufschlagen, ob das Publikum mit mir recht lang zufriednen seyn, und ob der Eipeldauer immer mehr und mehr Leser bekommen wird".

48. Anke te Heesen, *Der Zeitungsausschnitt. Ein Papierobjekt der Moderne*, Frankfurt am Main: Fischer, 2006.

49. Fyodor Dostoyevsky, *Demons*, trans. Richard Pevear and Larissa Volkhonsky, New York: Vintage Classics, 1995 (1872), p. 128f.

its founding legend, its inventor, Comte François-Gaston-Auguste de Chambure, often watched artists while they were looking through the newspapers at newsstands for articles about their work. De Chambure proceeded to cut reviews from a few newspapers and to forward them to the respective artists, and this evolved into a real enterprise. From Paris, press clipping services spread to other cities. For example, an employee of the *Argus de la Presse*, the writer and journalist Max Karfunkel, established this service for Berlin.⁵⁰ From a description of the early days of these services, it appears that the job of reading the newspapers was mostly done by women:

Finally, 60 young women sat in Romeike's New York house, bowed over 1,090 newspapers and 5,000 magazines. Whenever they raise their eyes from the columns, they are caught by the list of names and subjects they have to consider; but this list contains only those which are most difficult to remember, all others they need to know by heart; 7,000 names and subjects in all. All girls have to make use of their lynx' eyes for all clients. Twice a day, a bell sounds, an overseer appears and reads off new customers and subjects. These girls don't cut out, they only mark with a pencil. The cutting is done by a group of boys. Then there is another group of girls who sort the clippings into pigeonholes.⁵¹

Conclusion

Obviously, this historical overview is far from complete; one could for example add the finding aids used for people search, such as address books including Nicolas de Blegny's *Livre Commode* dating from 1691/1692, state calendars, or the Red Cross Tracing Service dedicated to the search for missing people after the world wars.⁵² What this survey has clearly shown, however, is that although the tools for searching can be very useful, they are not innocent. Loan lackeys and concierges provided their clients with helpful information but sometimes revealed their desires to police officers. Intelligence offices facilitated the exchange of goods but were suspected of making public what should stay secret within the families.⁵³

50. Anke te Heesen, *Der Zeitungsausschnitt*, pp. 78-80.

51. P.A., 'Herr der tausend Scheren. Der Letzte der Romeikes, Zeitungsausschnitt', in *Sammlung Feldhaus*, Akten 7253, I. Depositum 40 Feldhaus, Blatt 1-3; my thanks to Anke te Heesen for giving me access to photocopies; the source given by te Heesen, p. 82 et sequ. – *Daheim* 36 (1899/1900), no 28, p. 22 et sequ. – is unfortunately erroneous.

52. Abraham Pradel, (= Nicolas de Blegny), *Les Adresses de la Ville de Paris avec le Tresor des Almanachs. Livre Commode En tous lieux, en tous temps, & en toutes conditions*, Paris: n.p., 1691; Reprint of the 2nd edition 1692: Abraham du Pradel (= Nicolas de Blegny), *Le livre commode des adresses de Paris pour 1692*, Édouard Fournier (ed.) Vol. 1-2, Paris: Paul Daffis, 1878. Digitized version: <http://gallica2.bnf.fr/ark:/12148/bpt6k27823x> and <http://gallica2.bnf.fr/ark:/12148/bpt6k278248>; Volker Bauer, 'Herrschaftsordnung, Datenordnung, Suchoptionen. Recherchemöglichkeiten in Staatskalendern und Staatshandbüchern des 18. Jahrhunderts', in Thomas Brandstetter et al. (eds) *Vor Google*, pp. 85-108; for a bibliography on the Red Cross Tracing Service compiled by three students in my seminar 'Digitale Medien in der Geschichtswissenschaft. Suchmaschinen im analogen Zeitalter' during the winter term of 2008/09, see: http://www.univie.ac.at/igl.geschichte/tantner/wiki/index.php?title=Suchdienst_des_Roten_Kreuz.

53. This was the case for the poet François Colletet's short-lived Bureau d'adresse: Quatorzième Journal et Suite des Avis et des Affaires de Paris. [29.10.1676], in: *Le Journal de Colletet, premier Petit journal parisien (1676)*. Supplement to: *Le Moniteur du Bibliophile. Gazette littéraire, anecdotique et curieuse*, 1.1878, p. 201.

Concerning this ambivalence, internet historian Mercedes Bunz uses the term ‘frenemy’ to describe the oscillation of applications such as Google between friendly usefulness and hostile control of users’ desires:

Because of their dangerously detailed knowledge, net companies possess a new form of power – it is not for nothing that Google is described as a ‘frenemy’. These internet companies are dangerous like enemies because of their knowledge – and knowledge is power, today more than ever – but they appear to be friends. They make life easier. They are no rulers in a Hegelian sense. Theirs is a different form of power, and this power is dangerous – but it is not automatically subjugating, bad or evil.⁵⁴

It appears that this Janus-faced quality can already be demonstrated of the search aids of the ‘analogue age’, which explains why they were sometimes met with some skepticism. Concierges, servants, information offices, and the like are situated in the contested field between private utilization and the authorities’ claims, which are renegotiated with the appearance of each new search aid.

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54. Mercedes Bunz, ‘Sozial 2.0: Herr, Knecht, Feind, Freund. Soziale Netzwerke und die Ökonomie der Freundschaft’, in *De:Bug. Elektronische Lebensaspekte* 120 (11 March 2008), <http://de-bug.de/mag/5422.html>, short version reprinted in: *analyse & kritik*, 541 (21 August 2009): 14.

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