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Data Politics.

The Early Phase of Digitalisation within the Federal Government and the Debate on Computer Privacy in the United States during the 1960s and 1970s *

Benedikt Neuroth

In June 1974, Frank T. Cary, chairman of the board of I.B.M., wrote an article suggesting principal guidelines for data protection. Above this article in *The New York Times*, a caricature depicts a magnetic tape recorder with huge tentacle arms squeezing a person below (Cary 1974: 31). The image is rather dramatic, for the tape reels appear as eyes and the person in the grip of the tentacles is struggling for air. This chimaera of monster and machine represented a dystopic vision of computers taking control over personal data and individual privacy. About eight years earlier, Representatives in Congress attributed the metaphor of a “monster” or “octopus” to a proposed National Data Center that was intended to centralise statistics within the federal agencies and allegedly would contain large amounts of citizens’ personal data, as *The New York Times* reported in July 1966 (Robertson 1966: 24; Westin 1967: 319; Regan 1995: 71ff.). In both cases, critics referred to the computer metaphorically as a creature that had gone out of control threatening personal privacy. Later in 1974, Congress passed the Privacy Act covering issues of data protection. Against this backdrop, the key question arises of how the implementation of computers in the public and private sectors, namely digitalisation, shaped the privacy debate.

This paper describes how computer technology was implemented, how an awareness of computer privacy arose and how politics addressed

the problem. It will demonstrate that digitalisation had a significant impact on the privacy debate. In the first section, I will provide an introduction to research and terminology relating to privacy and digitalisation. Secondly, I will describe the implementation of computer technology and electronic databanks for the processing of personal data by the federal government in the United States during the 1960s, drawing on primary sources of the Lyndon B. Johnson Library (LBJL). The principal legislation was the Brooks Bill. The third section covers the debate at the time on how computers would affect individual rights and the proposed solutions. It focusses on studies in which researchers analysed the functioning of databanks at a time when these computers were still “Media in Action”. In the fourth section, I will focus on the politics of the Office of Management and Budget (OMB), formerly Bureau of the Budget (BOB), Executive Office, concerning Automatic Data Processing (ADP), based on sources from the National Archives in College Park, Maryland (NA-MD). “Data politics” in the title of this paper refers to the competing interests and claims linked to the value of information and to the peculiar relationship between transparency, efficiency, and confidentiality. Concerns for the individual’s privacy were raised as soon as personal data was processed with electronic computers. In this paper, I argue that digitalisation and the debates about its social impacts on personal privacy were twin siblings.

1. Research and terminology relating to privacy and digitalisation

In this section, I will discuss the concepts of privacy and digitalisation, and highlight why the 1960s and 1970s were a significant period in shaping these concepts. The concept of a right to privacy dates back to the late 19th century and the often-cited article by Samuel Warren and Louis Brandeis on intrusive reporters. Seventy years later, in 1960, William Rickenbacker, an editor of the *National Review*, boycotted the US census, stating it was an “unnecessary invasion of my privacy”, but lost the case

at a federal appeals court (*United States v. Rickenbacker*, 309 F.2d 462, (2d Cir. 1963); Brenton 1964: 12). In statutory law, the Freedom of Information Act (FOIA, Public Law (P.L.) 89-487) contained provisions for the protection of personal privacy. Yet computers had no impact on the privacy debate before the early 1960s (Westin 1967: 298ff.). Legal scholar Alan F. Westin was one of the first contemporary researchers to study this issue, focussing on the relationship between “the computer and privacy” and the concept of “data surveillance” (Westin 1967: 321, 158). In 1971, Arthur R. Miller examined “cybernetics as an instrument for surveillance” (Miller 1971: 38ff.). It was during the 1960s and 1970s that conceptions of privacy significantly changed from “intrusion” (Long 1967) or “invasion” (Brenton 1964) to self-determination and control. For instance, in 1967, Westin defined privacy as “the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others” (Westin 1967: 7). Likewise, Miller later wrote: “an effective right of privacy is the individual’s ability to control the circulation of information relating to him” (Miller: 1971: 25). The advent of the computer was one of the decisive factors in changing conceptions of privacy.

More recent political and legal research on privacy has often explicit normative implications. For instance, Daniel Solove argues that privacy concepts from that time fall short in the information age and proposes to “rethink longstanding notions of privacy” (Solove 2004: 2). Priscilla Regan analyses US legislation from the 1960s to the 1990s and argues that privacy has a “social importance” (Regan 1995: 212ff.). James Rule et al. ask: “How much personal record-keeping is desirable?” (Rule et al. 1980: 7). This paper explores privacy in the context of digitalisation with a historical perspective. In recent years, historians have researched the social history of the computer (Danyel 2012; Frohman 2015; Gugerli / Mangold 2016). Jon Agar for instance explores why computer privacy became an issue in the United Kingdom in the late 1960s (Agar 2003: 343ff.). It is a challenge for contemporary history to decide on how to characterise and

break down the different phases since the advent of the computer. From a technological perspective, the history of the computer can be traced back to an earlier date, for instance to the invention of punched card data processing by Herman Hollerith in the late 19th century and to the development of the electronic computer during World War II. However, Martin Campbell-Kelly and William Aspray point out that in the 1950s “the computer race had scarcely begun” and the industry’s growth was “insignificant” (Campbell-Kelly / Aspray: 20ff.; 79, 130). It was in the 1960s and 1970s when the use of computer technology increased significantly.

The number of computers rose in the 1960s and 1970s with the federal government as a major buyer. According to statistics issued by the National Bureau of Standards (NBS), the federal government in 1966 owned about 3,000 computers counted in Central Processing Units (CPUs). By 1970, the number of CPUs had risen to 5,000 and to 11,000 by 1977. In comparison, the overall number of CPUs nationwide was about 60,000 by 1970 respectively 300,000 by 1977 (Gray 1979: 12ff.). This rapid growth was partly due to so-called minicomputers representing about two thirds of computers in the United States in 1977 (Gray 1979: 49f.). Government institutions held a large portion nationwide, but during the 1970s the number of CPUs in the United States grew faster than the number of government CPUs (Gray 1979: 54f.). Within the government, the share of computers was unevenly distributed. In 1966, about two thirds of the machines or roughly 2,000 were owned by the US Department of Defense (DOD), whereas the National Aeronautics and Space Administration (NASA) and the Energy Research and Development Administration (ERDA) employed several hundred. Other agencies only had a couple of computers (Gray 1979: 22ff.). The numbers show that the government played a crucial role in this technological field.

To describe the impact of the rise of computer technology, historical research could use “digitalisation” as an analytical term. At the time, a distinction between analogue and digital computers was made, but analogue computers or punch-card equipment could be integrated into

digital systems. Accordingly, in 1961, an executive order on the acquisition of ADP equipment set a preference for electronic digital computers: “Analog computers are covered only when computers of this type are being used as equipment peripheral to a digital computer” (BOB 1961: 1). Generally speaking, in contrast to “analogue”, the term “digital” refers to a numeric, discrete and discontinuous description of information (Loleit 2004: 204). The term “computerisation” was used since the 1960s, for instance when Westin stated: “There is no way to stop computerization.” In 1967, the *Saturday Review* magazine published a special issue on the potential of a “New computerized age” (Westin 1967: 326, 314). Altogether, the term “digitalisation” seems appropriate to analyse the social implications and conflicts that arose with the implementation of computer technology. Consequently, this paper describes the 1960s and 1970s as an early phase of digitalisation. In the next section, I will explore the management of ADP in the federal government during this period.

2. Digitalisation in the federal government during the late 1960s

In this section, I will describe the early phase of digitalisation within the federal government. The use of computers soon became part of the political agenda in the 1960s. Congress introduced the Brooks Bill, named after Representative Jack Brooks of Texas, which proposed to coordinate the acquisition of ADP equipment centrally. It was passed in the House of Representatives in 1963, but remained pending in the Senate. Brooks therefore complained to President Johnson that millions of dollars were wasted on inefficient purchases and suggested to put “ADP management on a business-like basis” (Brooks 1963: 1). Rivalries arose almost immediately among agencies about the responsibility for digitalisation. In 1963 Kermit Gordon, director of BOB, told the Comptroller General in a letter: “we are strongly opposed to taking from the department and agency heads the authority and responsibility for decisions as to the procurement and utilization of data processing equipment for their programs”

(Gordon 1963: 4). Elmer Staats, deputy director of BOB, mentioned in a letter to President Johnson that the Comptroller General was critical of the ADP management within the federal agencies. He pointed out, however, that an earlier version of the Brooks Bill would have put the General Service Administration (GSA) in an overly strong position, making it the “virtual ‘czar’ over the acquisition, use and disposal of all automatic data processing equipment” (Staats 1965: 3). Meanwhile, the BOB itself was working on a report on ADP management originally initiated under the Kennedy administration. Referring to a draft version, Paul R. Ignatius, Assistant Secretary of Defense, expressed the DOD’s opposition to the pending legislation in a letter to the BOB (Ignatius 1964: 1). The BOB’s report stated that the government would be able to work more efficiently using ADP, but purchase and data processing standards were causing problems. In the fiscal year of 1964, the government spent about one billion US dollars on computers (Bureau of Budget 1965: ii). The lack of coordination and standards pushed the administration into action.

In March 1965, President Lyndon B. Johnson approved the BOB’s report on ADP. In a letter to the Speaker of the House, Johnson stated: “The electronic computer has enabled the Government to carry out programs that otherwise would have been impossible” (Johnson 1965a: 1). Hearings were held in March and April (U.S. House 1965). However, the Comptroller General still expressed a different view from the BOB on how to manage the use of ADP and recommended to establish a central office for this purpose. According to a report of August 1965, the federal government spent three billion US dollars on computer equipment each year, three times more than the BOB estimate for 1964. It is unlikely that the amount had tripled. Assumingly, the basis of the numbers was different. According to the statistics of the NBS, the ADP costs in the fiscal year 1965 were roughly 1 billion US-dollars after the “general management classification” excluding the “Federal ADP special management category” (Gray 1979: 25f.). ADP technology was supposed to have a huge impact on the government: “The information-processing advances stemming from the

computer age bid to drastically change conventional approaches to problem solving and management decision making” (Weitzel 1965: 1). Later in 1965, in a letter to Senator John McClellan, President Johnson expressed his support for the latest version of the Brooks Bill in order to achieve “greater economy and efficiency in the conduct of government’s business” (Johnson 1965b: 1). The US President finally signed the law in October 1965 regulating the “purchase, lease, maintenance, operation, and utilization” of ADP equipment within the government. To the contrary, the use of ADP equipment by agencies should not be influenced. Under the new legislation, an ADP fund was installed under the Department of Treasury, the GSA was responsible for the distribution of ADP equipment, the Department of Commerce (DOC) gave technological advice to agencies and recommended standards, while the BOB, Executive Office, exercised fiscal and policy control (U.S. House 1965: 2; P.L. 89–306). As a result, the management of computer technology in federal agencies was coordinated centrally.

In his budget proposal for 1967, President Johnson demanded the efficient management of investments in this field. Furthermore, Charles Schultze, director of the BOB, advised the President to address the federal agencies in order to improve ADP management (Schultze 1966: 1). In a memorandum in June 1966, President Johnson asked the heads of department and agencies to improve their work by using computers, but to keep the costs low. Johnson emphasised the possibilities of ADP: “The electronic computer is having a greater impact on what the Government does and how it does it than any other product of modern technology” (Johnson 1966: 1). The BOB was asked to report every six months on the progress in ADP. Likewise, Phillip Hughes, acting director of BOB, submitted a first report in January 1967, stating computers had recently been used for collating information on funding in the War on Poverty (Hughes 1967: 1). In 1968, President Johnson agreed to the DOC’s recommendation to introduce a common standard for ADP. Subsequently, all federal government computers had to be compliant with the “America Stand-

ard Code for Information Interchange [ASCII]”, a voluntary standard developed by the United States of America Standards Institute. In addition, from July 1969, federal computer equipment had to comply with the “Standard Code for Information Exchange” as well as standard formats for magnetic and paper tape (Johnson 1968: 1). Under specific circumstances there was the possibility of a waiver (Johnson 1968: 2). In summary, the Johnson administration was a pioneer in digitalisation within the federal government. Its lead impacted on the whole country. Procurement was coordinated centrally, and standards were introduced in order to avoid ineffective incompatibilities among different agencies’ computer systems. The principles behind digitalisation were efficiency, management, and decision-making. However, when personal information was processed in databanks, a conflict between privacy and efficiency arose.

3. Safeguarding privacy in the context of digitalisation

In this section, I will focus on the diagnosis and the implemented rules concerning computers and privacy. The debate intensified in 1965 when Congress investigated the matter, notably Representative Cornelius Gallagher and Senator Edward Long, author of *The Intruders* (Westin 1967: 298ff., 315ff., Long 1967). Early applications of ADP discussed in the hearings were, for instance, the New York State Identification and Intelligence System, the National Crime Information Centre of the Federal Bureau of Investigation and a Social Data File of the Urban Planning Organization (U.S. House 1966: 169; U.S. Senate 1968: 279, 309). Furthermore, several empirical studies investigated the relationship between databanks and individual rights (Rule et al. 1980; Regan 74ff.). According to Paul Armer of the Research and Development Corporation (RAND), computer technology (Electronic Data Processing (EDP)) for instance made it more difficult to hide a “poor credit record”. In order to prevent a lack of privacy, Armer suggested implementing technological safeguards (Armer 1966: I-231f.). A study on computer databanks published by the

National Academy of Sciences and supported by the Russell Sage Foundation illustrated on an empirical basis how computers run by government and private organisations actually worked (Westin / Baker 1972: 339f.; Rule et al. 1980: 127). The authors concluded: “computer usage has not created the revolutionary new powers of data surveillance predicted by some commentators.” Organisations did not collect or share more information as a result of computerisation, and decisions were made on the same grounds, irrespective of whether they were based on computerised or manual files. However, the computer made organisations work more efficiently. Policies on individual rights such as “privacy, confidentiality, or due process” had remained unchanged since the introduction of the computer (Westin / Baker 1972: 341). Nonetheless, the study recommended extending the scope of privacy and collecting only relevant data for decision-making, providing “greater rights of access by individuals”, and implementing “new rules for data sharing and confidentiality” (Westin / Baker 1972: 348ff.). An advisory committee of the Department of Health, Education and Welfare (HEW) pointed out that “computerisation” increased data processing capacity, simplified access to personal data within and between organisations and had technical consequences for the processing of data itself (U.S. HEW: 12ff.; Rule et al. 1980: 95). Although the committee chaired by Willis Ware of RAND concluded that a computer was not capable of “taking over” anything it was not specifically programmed to take over”, the report mentioned “updating, merging, and linking operations” and “matching data” that could further be improved by a “standard universal identifier” such as the Social Security Number. Yet a “giant national data bank of dossiers” was not in sight (U.S. HEW: 22ff.). Altogether, the digitalisation of personal records raised concerns about the relevance and accuracy of the information itself, the question of access and confidentiality as well as computer operations able to merge, link or match files.

Scholars and politicians both addressed these issues. For instance, the Fair Credit Reporting Act (FCRA, P.L. 91–508) of 1970 regulated the

use of credit reports and guaranteed some consumer rights (Rule et al. 1980: 88). Even before management of credit records with computers, critics as Myron Brenton described investigators as very intrusive and questioned the way data was handled (Brenton 1967: 25ff.). In 1965, Data Credit Corporation installed a computer system in its San Francisco office for the automatic processing of credit reports, the first of its kind. Several offices of the Associated Credit Bureaus of America followed suit. Consequently, a study funded by the Russell Sage Foundation predicted technological competition and centralisation. The authors suggested a single office would be able to deliver credit reports nationwide in the near future (Rule 1969: 151ff.). Legal scholars and members of Congress argued, for instance, that inaccurate credit data could cause unjustified disadvantages for consumers (Rule 1969: 161ff.). In addition, individuals encountered difficulties accessing files, whereas landlords, employers and law enforcement agencies were able to consult the credit bureaus (Rule 1969: 166ff.). The FCRA was a milestone of data protection. However, no comprehensive privacy legislation concerning the private sector followed.

To safeguard individual rights, a HEW report suggested a “Code of Fair Information Practice” to address the accuracy of and access to personal information (U.S. HEW 1973: 40ff.). Federal legislation was also needed. According to a study of the Subcommittee on Constitutional Rights chaired by Senator Sam Ervin, 756 databases contained more than a billion files on individuals. Approximately 86 percent of the databases were computerised (U.S. Senate 1974: 31ff.). In 1974, Congress passed the Privacy Act that covered data protection issues within federal agencies (Regan 1995: 77–83; P.L. 93–579). A Privacy Protection Study Commission (1977; Rule et al. 1980: 104) was established to address shortcomings of the legislation, but had little impact (Regan 1995: 83–86). Furthermore, jurisdiction did not set a precedent for information privacy. In 1977, the U.S. Supreme Court acknowledged a “threat to privacy implicit in the accumulation of vast amounts of personal data in computerized data banks”, but did not declare a New York databank of patient information uncon-

stitutional (*Whalen v. Roe*, 429 U.S. 589 (1977): 605; Regan 1995: 40). Consequently, both legislation and jurisdiction in relation to privacy had shortcomings.

4. Further digitalisation in the federal government in the early 1970s

Unconcerned with the privacy debate, digitalisation within the federal government continued under the principle of efficiency. New standards were set and the Brooks Bill was implemented. According to an internal OMB memorandum, in 1971, Representative Brooks held hearings on the implementation of the law referring to issues such as “individual privacy” that admittedly went beyond the scope of the law (Ink 1971: 2). In August of the same year, OMB Director George P. Shultz answered an inquiry from Representative Brooks concerning the Legislative Reorganization Act. In his answer he stated that a “computerized budget preparing system” based on the input of all agencies had been introduced several years earlier. As a result, Shultz pointed out, “a greater standardization in coding and classification of budgetary data” became necessary (Shultz 1971b: 1). In October, Shultz sent departments and agencies a circular concerning an “ADP Management Information System (ADP/MIS)” and a related inventory as well as financial management data. There were several exemptions to reporting, for instance, concerning EDP equipment “which is both integral to a combat weapons or space system and built or modified for special government design” (Shultz 1971a: 1, 5). Another bulletin sent to the heads of executive departments and agencies referred to the “Deferment of Agency Personnel Data System Acquisition”. In order to avoid duplication, the OMB took the lead in issuing policy and instructions for the implementation of these systems (Schultz 1971d: 1). However, many agencies requested an exemption for current projects, for instance the HEW (Richardson 1971: 1) or the DOD (Jones 1971: 1). Under a new name and leadership, the OMB continued to be responsible for the central coordination of ADP.

Shultz asked President Richard Nixon to grant the OMB overall authority for the implementation of standards (Shultz 1971c). In a letter dated January 1972, Shultz informed the GSA that he had approved a “Federal Standard Common Business Oriented Language (COBOL)” as proposed by the NBS, DOC (Shultz 1972: 1). Later in August 1972, in a letter to the GSA, Caspar Weinberger, then Director of OMB, approved a “Federal Information Processing Standard for Synchronous Signalling Rates Between Data Terminal and Data Communication Equipment” as proposed by the NBS (Weinberger 1972b: 1). In a letter to Congress written in 1972 Weinberger concurred with a report of the Comptroller General entitled “Opportunity for Greater Efficiency and Savings Through the Use of Evaluation Techniques in the Federal Government’s Computer Operations” (Weinberger 1972a: 1). The Nixon administration followed the path set under President Johnson concerning ADP management. From a technological point of view, digitalisation was a bipartisan issue.

5. Conclusion

In summary, the 1960s and 1970s saw an early phase of digitalisation in both the public and private sectors. Moreover, the federal government was one—if not the principal—driving force for early digitalisation. Not only did the government invest billions of dollars in the new technology and was a major buyer, but it also centralised and standardised its ADP management. In this respect, Congress passed legislation concerning the acquisition of ADP equipment, and the Johnson administration implemented a central coordination and unified standards such as ASCII. At the same time, a debate on personal privacy in the context of using computerised databanks took place. Congress held hearings, and several studies examined the impact of computers on privacy. With computer technology, personal data could be easily collected, stored and exchanged as well as processed, linked and matched. There was, however, no evidence that computer programmes by themselves made decisions or judgements about individuals. According to a maxim at the time, com-

puters worked on the basis of the principle: “garbage in, garbage out” (GIGO)” (Miller 1971: 37). In terms of civil liberties, inaccurate data could be replicated and errors could be amplified, potentially leading to negative consequences for individuals. From a legal point of view, the question arose how individuals could gain control over their personal information. From a technical perspective, computers could also provide privacy safeguards. However, solutions to address these problems fell short. Instead, voluntary guidelines and the concept of fairness dominated the debate. Regardless of the privacy debate, digitalisation continued under the Nixon administration, and new standards were implemented that made the exchange of personal data easier. In conclusion, the computer was neither a hyper-efficient government machine nor the octopus-like monster represented in the caricature mentioned earlier (Cary 1974: 31). Computer technology certainly revolutionised information processing, but the privacy debate showed the flipside of the coin. Understanding the foundations of digitalisation helps putting the privacy debate into a historical perspective.

Notes

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