

Network Euphoria, Super-Information Systems and the West German Plan for a National Database System

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From the mid-1960s to the mid-1970s, planning was the master concept in the political discourse of the Federal Republic. However, there was a second concept, which is closely related to planning, but which has received much less scholarly attention: information.

Information was the ‘stuff’ or the raw material with which planners worked. As Reimut Jochimsen (Social Democratic Party, SPD), the academic expert for infrastructure and regional planning who served as director of the planning department in the Federal Chancellery from 1970 to 1973, explained, planning was ‘a process in which better information and its processing, the application of criteria, and judgement can provide a foundation for flexible action under constantly changing conditions’.¹ Similarly, for Economics (and sometimes Finance) Minister Karl Schiller (SPD), information was ‘everything’ precisely because ‘the timely detection of macro- and microeconomic trends is the precondition for successful policies’.² The idea of planning—especially comprehensive or ‘global’ social and economic planning, rather than planning for discrete geographical regions or sectors of social life—had been discredited during the early years of the Cold War by its association with Nazism and, later, communism and centralized state control. However, by the mid-1960s it was coming to be seen as the key to sustaining the postwar economic conjuncture and rationally managing the evolution of complex societies. It was in conjunction with this interest in economic and social planning that information first emerged as a distinct policy concern for public officials at the federal, state and local levels.³

At the turn of the 1970s, the most important initiative of the federal government in the informational domain was the plan to automate the local population registries and link them together via a proposed national ID number to create a computerized

¹R. Jochimsen, ‘Planung in der Bundesregierung: Probleme und Perspektiven’, in P. Hoschka and U. Kalbhen (eds), *Datenverarbeitung in der politischen Planung* (Frankfurt/Main, 1975), pp. 7–16, citation pp. 8–9.

²Cited in G. Fehl, ‘Information ist alles ... Anmerkungen zu staatlich-kommunalen Informations-Verbund-Systemen in der BRD’, in G. Fehl, M. Fester and N. Kuhnert (eds), *Planung und Information: Materialien zur Planungsforschung* (Gütersloh, 1972), pp. 264–314, citation p. 264.

³G. Metzler, *Konzeptionen politischen Handelns von Adenauer bis Brandt: politische Planung in der pluralistischen Gesellschaft* (Paderborn, 2005), A. Nützenadel, *Stunde der Ökonomen: Wissenschaft, Politik und Expertenkultur in der Bundesrepublik, 1949–1974* (Göttingen, 2005), M. Ruck, ‘Ein kurzer Sommer der konkreten Utopie: zur westdeutschen Planungsgeschichte der langen 60er Jahre’, in A. Schildt (ed.), *Dynamische Zeiten: die 60er Jahre in den beiden deutschen Gesellschaften* (Hamburg, 2000), pp. 362–401, *Geschichte und Gesellschaft*, 34, 3 (issue ‘Planning im 20. Jahrhundert’, 2008), E. Seefried and D. Hoffmann (eds), *Plan und Planung: deutsch-deutsche Vorgriffe auf die Zukunft* (Berlin, 2018), and M. Christian, S. Kott and O. Matejka (eds), *Planning in Cold War Europe: Competition, Cooperation, Circulations 1950s–1970s* (Berlin, 2018).

national population information system for planning and administrative purposes.⁴ The second pillar of federal information policy—one that has received no scholarly attention over the past half century, but will be the focus of this article—was the short-lived plan to construct a national database or database network.

This database system comprised two separate but overlapping projects. In March 1968 the federal administration charged the newly established Coordinating and Advising Office for Electronic Data Processing in the Federal Administration with constructing an integrated *federal* database or database network (that is, a *Bundesdatenbank* or *-datenbanknetz*), which would bring together the systems being developed at the time by the various federal ministries in a ‘unitary, closed’ system to provide officials with the information they needed to make informed policy choices.⁵ A year later, in March 1969, the Bundestag urged the administration to move more quickly in devising a master plan for this network. However, the legislature also noted that electronic data processing was being increasingly used by business, by the scientific and scholarly community and by ‘society’, as well as by state (*Land*) and local government, and it asked that the master plan be conceived so as to allow for, if not to encourage, the integration of all of these other systems with the federal database to form what I call a general or *national* database network, which was to be constructed on a decentralized, cooperative basis.⁶ Although planning for this national database network immediately took priority over that for the federal system, which was temporarily absorbed into the larger project, the project collapsed—for reasons that were as much conceptual and political as technical⁷—even before it could fully make it onto the drawing board.

These two database projects did not develop in a political or technological vacuum. At the beginning of the 1970s, computers were coming into widespread use for the mass processing of data for routine administrative purposes, and in West Germany virtually every ministry, office and agency in the federal government, including the Press and Information Office, the Patent Office, the Justice, Transportation and Defence

⁴I have addressed the postwar modernization of the population registration system in L. Frohman, *Surveillance, Privacy, and the Politics of Personal Information in West Germany* (forthcoming), chapter 1, and L. Frohman, ‘Population Registration, Social Planning, and the Discourse on Privacy Protection in West Germany’, *Journal of Modern History*, 87, 2 (2015), pp. 316–56.

⁵Drucksache (Drs.) V/3355, 5–6. In October 1969 the Interior Ministry created a new department with responsibility for the federal database system.

⁶Bundestag, *Stenographische Berichte*, 5. Wahlperiode, 226. Sitzung (28 Mar. 1969), 12484, which characterized this as an ‘umfassendes, jedoch arbeitsteiliges Datenbanknetz’; this proposal was endorsed by the administration in April 1970 (Drs. 6/648, 13–14) under the title a ‘general, cooperative information system for the Federal Republic’ (*ein allgemeines, arbeitsteiliges Informationssystem für die Bundesrepublik Deutschland*). This reference to the use of electronic data processing by ‘society’ or ‘the public’ referred to the processing of data by private organizations or associations, by churches and/or by both libraries and the media for informational and journalistic, rather than commercial, purposes. Such an interpretation would link well with the transatlantic debates over the ways in which computers and their networking were altering the nature of libraries, reading and information. See, for example, J. C. R. Licklider, *Libraries of the Future* (Cambridge, MA, 1964), and D. Bell, ‘The Social Framework of the Information Society’, in M. Dertouzos and J. Moses (eds), *The Computer Age: A Twenty-Year Review* (Cambridge, MA, 1979), pp. 163–211.

⁷As we shall see below, although the proponents of the system devoted much attention to the question of user orientation, the ministerial debates ignored the two other problems whose solution was crucial to the subsequent development of computer networking: the coexistence of mainframes produced by different manufacturers and running proprietary, incompatible operating systems, and the formatting of the flow of data between these systems.

ministries, the Federal Chancellery and the Bundestag itself, was constructing one or more database or information systems.⁸ In the social policy domain, the Labour Ministry was building a social database to be used for planning purposes and laying the foundation for the computerization of the pension (and later the sickness) insurance funds. Another high-profile project, which later became the object of intense public controversy, was the construction by the police of the integrated national criminal information system INPOL; the federal and state intelligence agencies were working on comparable, though less ambitious systems.⁹ The national database should also be seen as part of a cluster of national information and planning systems being contemplated at the time, including the Soviet plan to create a national computer network for economic planning and control, the economic decision system designed to support the transition to a socialist economy in Chile under Salvador Allende and the National Data Center, which was the subject of extensive public debate in the United States in the second half of the 1960s.¹⁰ And in West Germany itself, all of the federal states were developing their own information and planning systems.¹¹

⁸Zweiter Bericht der Bundesregierung über die Anwendung der elektronischen Datenverarbeitung in der Bundesverwaltung, Drs. VI/648 (17 Apr. 1970), which provides the most comprehensive overview of these projects, Bundesarchiv Koblenz (BAK) B106, Nr. 54313, vol. 2, Planungsstab/Schmoedel and Günter Wagenknecht to Horst Ehmke, Betr.: Vermerk für ein Gespräch mit Minister Genscher (18 Nov. 1969), and E. Lutterbeck, 'Das Förderungsprogramm "Datenverarbeitung" der Bundesregierung', *Zeitschrift für Datenverarbeitung*, 7, 8 (1969), pp. 552–7, and 8, 2 (1970), pp. 83–93.

⁹F. Bösch (ed.), *Wege in die digitale Gesellschaft: Computernutzung in der Bundesrepublik, 1955–1990* (Berlin, 2018), D. Gugerli, *Wie die Welt in den Computer kam: zur Entstehung digitaler Wirklichkeit* (Frankfurt/Main, 2018), T. Kasper, 'Licht im Rentendunkel': die Computerisierung des Sozialstaats in Bundesrepublik und DDR' (Dissertation, Leibniz-Zentrum für University of Potsdam, 2018), H. Mangold, *Fahndung nach dem Raster: Informationsverarbeitung bei der bundesdeutschen Kriminalpolizei, 1965–1984* (Zurich, 2017), and J. Fleischhack, *Eine Welt im Datenrausch: Computeranlagen und Datenmengen als gesellschaftliche Herausforderung in der Bundesrepublik Deutschland (1965–1975)* (Zurich, 2016), as well as Frohman, *Surveillance, Privacy, and the Politics of Personal Information*, and L. Frohman, 'Redefining Medical Confidentiality in the Digital Era: Healthcare Reform and the West German Debate over the Use of Personal Medical Information in the 1980s', *Journal of the History of Medicine and Allied Sciences*, 72, 4 (2017), pp. 468–99. Many of the early database projects of the federal administration were undertaken with the assistance of either the Study Group for Systems Research, one of the leading organizations in the booming field, or the Society for Mathematics and Data Processing. This latter research institute had been jointly founded by the federal Ministry for Scientific Research and the state of North Rhineland-Westphalia to lay the theoretical foundations for the development of the information processing systems on which the computer revolution in government depended. See A. Brinckmann, *Wissenschaftliche Politikberatung in den 60er Jahren: die Studiengruppe für Systemforschung, 1958 bis 1975* (Berlin, 2006), and J. Wiegand, *Informatik und Großforschung: Geschichte der Gesellschaft für Mathematik und Datenverarbeitung* (Frankfurt/Main, 1993).

¹⁰B. Peters, *How Not to Network a Nation: The Uneasy History of the Soviet Internet* (Cambridge, MA, 2016), S. Gerovitch, 'InterNyet: Why the Soviet Union Did Not Build a Nationwide Computer Network', *History and Technology*, 24, 4 (2008), pp. 335–50, E. Medina, *Cybernetic Revolutionaries: Technology and Politics in Allende's Chile* (Cambridge, 2011), C. Loughnane and W. Aspray, 'Rethinking the Call for a US National Data Center in the 1960s', *Information & Culture*, 53, 2 (2018), pp. 203–42, and, on cybernetics and social planning in East Germany, P. C. Caldwell, *Dictatorship, State Planning, and Social Theory in the German Democratic Republic* (Cambridge, 2003), 141–84.

¹¹Siemens, *Bayerisches Informationssystem* (Beiträge zur integrierten Datenverarbeitung in der öffentlichen Verwaltung, 1, 1970), and Hessische Zentrale für Datenverarbeitung (ed.), *Grosser Hessenplan: Entwicklungsprogramm für den Ausbau der Datenverarbeitung in Hessen* (Wiesbaden, 1970), both of which can usefully be compared with Lockheed Missiles & Space Company, *California Statewide Information System Study. Final Report* (Sunnyvale, 1965).

Moreover, although most studies of computerization in West Germany have focused on the use of the new information and communication technologies by the public administration, we should not forget that large, information-intensive businesses were also computerizing their operations during these years and that the 1960s was a period of great enthusiasm for, and subsequent disenchantment with, management information systems in the private sector.¹² However, as we shall see, the national and federal database networks were of a different nature to these domain-specific ministerial or departmental systems, and these differences gave rise to unique and ultimately intractable problems.

The national and federal database networks were originally conceived as means for solving the ‘information problem’ of modern societies and their governance. According to Ernst Lutterbeck, president of the German Society for Documentation and beginning in 1972 head of the Interior Ministry department responsible for the federal database, this information problem had four dimensions. The first related to the ongoing process of social differentiation and the simultaneous transition to the welfare state, which had increased both the amount of transactional data collected by the public administration and the amount of information that had to be processed in order to make informed decisions. Second, increasing specialization within the public administration and the ensuing division of policy labour, which reflected the greater complexity of society itself, was exponentially increasing the problems of communication and coordination within the administration. Third, the growing demand for comprehensive, reliable and up-to-date information, which was required to formulate, implement and monitor the success of state policies, was overwhelming available information-processing technologies. Fourth, most policy questions could no longer be answered solely on the basis of administrative data pertaining to the domain of social activity that had to be regulated; planners also required information on both neighbouring policy domains and the environment within which these systems functioned. However, every attempt to collect and analyse such information threatened to overload planning and information systems with more information than they could conceivably process.¹³

Although they were never explicitly justified in precisely these terms, the national and federal database systems were integral elements of the planning apparatus that was being constructed within the Federal Chancellery in the early years of the Social Democratic-Free Democratic (or Liberal, FDP) coalition: they represented plans for satisfying the informational needs of the planning process. Social planning required a normative vision of the desired future state of society and both the social scientific tools and the empirical information needed to anticipate the future course of social change—and to channel it in the desired direction. However, in contrast to planning for an individual social domain or subsystem, such as the economy, the education system, the labour market or foreign relations, comprehensive social planning for complex

¹²T. Haigh, ‘Inventing Information Systems: The Systems Men and the Computer, 1950–1968’, *Business History Review*, 75, 1 (2001), pp. 15–61, C. Schlombs, *Productivity Machines: German Appropriations of American Technology from Mass Production to Computer Automation* (Cambridge, MA, 2019), Martin Schmitt’s forthcoming dissertation on the digitization of the East and West German banking systems, and J. Egger, ‘Ein Wunderwerk der Technik: frühe Computernutzung in der Schweiz (1960–1980) (Zurich, 2014).

¹³BAK B106/54316, O I 6/Lutterbeck, Entwurf: Das Bundesinformationssystem. Vorstudie für eine Konzeption (May 1973), pp. 3–18.

societies, that is, for societies in which developments in each of these domains were dynamically related to developments in other domains, required a central planning office to establish priorities and coordinate the work of the different ministries and departments. Although a planning staff had been established in the Federal Chancellery in early 1967, it had played only a minor role under Kurt Kiesinger (Christian Democratic Union, CDU). However, the Social Democrats who came to power in October 1969 regarded comprehensive social planning as the *sine qua non* of rational government, and the cornerstone of their plan to modernize the Federal Chancellery was the creation of a planning apparatus that would enable the office to perform this coordinating function (*Querschnittsaufgabe*) and carry out the difficult but all-important task of, in Jochimsen's words, 'thinking for the whole'.¹⁴

The great value of planning information systems such as the proposed national and federal database networks was believed to lie in their ability to generate 'transverse' (*Querschnitt*) information, which, by integrating information that had been collected in specific contexts for specific purposes, would capture the dynamic relations between the different domains or subsystems of complex, highly differentiated societies and solve the communication and coordination problems among the increasingly specialized departments of the public administration that had been constructed to govern them. Such information, which would have a common meaning across functionally distinct policy domains, was the existential precondition for the coordinated planning of large-scale social and economic processes.¹⁵ The aspiration to integrate information from a multiplicity of functionally distinct social and policy domains is what distinguished the national and federal database networks from 'domain-specific' systems (patents, policing, pensions, etc.).¹⁶

Cybernetics provided the basic model for such theorizing. These ministerial debates over the national database system were taking place at precisely the same time as the famed confrontation between Jürgen Habermas and Niklas Luhmann over cybernetics and systems theory, and Gregory Moynahan has recently shown that both Habermas and Luhmann argued—based on antithetical assumptions—that cybernetics was incapable of integrating the autonomous systems of modern society into a dynamic whole and giving (transverse) sense to the information through which they are constituted. In this context Moynahan argues that the information age is distinguished not by technology, but rather by the intensification of the functional differentiation of society and the attendant need for coordination among systems, and that the Habermas-Luhmann debate marked the point at which this process had reached 'a level at which

¹⁴Metzler, *Konzeptionen politischen Handelns*, pp. 369–70, and W. Süß, "'Wer aber denkt für das Ganze?'" Aufstieg und Fall der ressortübergreifenden Planung im Bundeskanzleramt', in M. Frese, J. Paulus and K. Teppe (eds), *Demokratisierung und gesellschaftlicher Aufbruch: die sechziger Jahre als Wendezeit der Bundesrepublik* (Paderborn, 2003), pp. 349–77, who explains why the Federal Chancellery was unable to perform this coordinating function (pp. 352–7).

¹⁵For a brief account of the role of such transverse information in the French planning process, see G. Hecht, *The Radiance of France: Nuclear Power and National Identity after World War II* (Cambridge, MA, 2009), pp. 48–52.

¹⁶In 'Staatliche Planung in der Bundesrepublik Deutschland', in R. Löwenthal and H.-P. Schwarz (eds), *Die zweite Republik: 25 Jahre Bundesrepublik Deutschland—eine Bilanz* (Stuttgart, 1974), pp. 843–64, Jochimsen and Peter Treuner contrasted sectoral planning with 'integral' or intersectoral/interdepartmental (*ressortübergreifende*) planning.

earlier cybernetics and systems theory models no longer bore the explanatory weight of complexity in society.¹⁷ Although the ministerial debates did not move at such a rarified theoretical level, they traversed the same territory, at least implicitly, and the West German national and federal database systems were ultimately undone by their confidence in both the ability to integrate such diverse bodies of information and the value of doing so.

The term 'database' had been coined at the turn of the 1960s to describe a collection of data formed by the pooling of different sources of information available to an organization in the expectation that a shared data, knowledge or information *base* would enable users to make better strategic decisions.¹⁸ Both the national and federal database plans were based on a set of interlocking assumptions that reflected an unbounded faith in the combined potential of computers and information science to revolutionize the ways in which information was generated and used: that computers would make it possible to digitize *all* available knowledge (that is, all of the knowledge held by the national community or the federal government respectively), that this knowledge could be classified using a universally valid taxonomy that would capture the infinitely complex semantic links among discrete pieces of information and thus permit electronic data processing to effectively emulate the human thought processes that had given rise to these relationships, that users would, therefore, be able to electronically search the entire data or knowledge base that had been classified in this manner and retrieve all of the relevant information arranged in a manner that would provide a 'meaningful', actionable answer to the question or problem that had structured the query, and that government could be made more rational if decision-makers had direct access to all individual data without any of the information loss inevitably entailed by the use of aggregate data or data that had been filtered through the interests of the agency that had collected it.¹⁹

As we shall see in greater detail below, every attempt to spell out precisely how these assumptions could be put into practice revealed their theoretical fragility. Critics were sceptical of the value to be added by linking disparate and virtually unrelated bodies of information. But since the meaning of information was determined by the pragmatic needs of the office that had collected it, they also argued that the integration of diverse domain-specific information systems into an all-encompassing national or federal system would invariably violate the integrity of the information they contained and give rise to political conflicts over the organization, classification and meaning of the information held in such universal information systems. These conflicts were then

¹⁷G. Moynahan, 'The Habermas/Luhmann Controversy and the "Cybernetics Moment"', *Graduate Faculty Philosophy Journal*, 39, 1 (2018), pp. 131–66, citation p. 152, and J. Habermas and N. Luhmann, *Theorie der Gesellschaft oder Sozialtechnologie: Was leistet die Systemforschung?* (Frankfurt/Main, 1971).

¹⁸T. Haigh, "'A Veritable Bucket of Facts": Origins of the Data Base Management System, 1960–1980', in W. B. Rayward and M. E. Bowden (eds), *The History and Heritage of Scientific and Technological Information Systems* (Medford, 2004), pp. 73–88.

¹⁹This final assumption put the architects of the West German systems at odds with the American administrative scientist and Nobel Prize winner Herbert Simon, who had argued ('Applying Information Technology to Organization Design', *Public Administration Review*, 33, 3 [1973], pp. 268–78) that information systems should be designed in such a way as to minimize the interdependence of the component parts and, by thus limiting complexity, conserve the scarce resource of managerial attention. This prescription was based on the sobering experience with management information systems in the United States. 'There is no magic in "comprehensiveness"', he insisted (p. 271).

amplified by a growing awareness of the constitutional limits on data integration and policy coordination. Although the proponents of the national database network initially sought to finesse these conflicts through organizational means, they quickly proved intractable, and the inability to solve the problem of transverse information prevented the national database network from serving as the informational basis for anticipatory global planning.

The collapse of the national database project redirected attention back to the federal database, which until that point had languished in the shadow of its more ambitious cousin. This project quickly shed any remaining aspirations to serve as an information and planning system for the federal government and, instead, focused on the more modest goal of facilitating access to the information held by the federal administration and bringing greater transparency to its operation. However, as we shall see, this transparency programme generated an entirely new set of political conflicts over confidentiality and access rights. In the end all that was left was an index and documentation system in which the connections to social planning, which had provided much of the initial impetus for the national and federal database networks, had all but disappeared. If the symbolic importance of the national and federal database networks had initially been as great as the political and administrative benefits they were expected to yield, the collapse of these projects each reflected in its own way the disenchantment with global social planning and the information systems necessary to support such an undertaking. Moreover, as we shall see, one unanticipated consequence of such attempts to solve the information problem was the politicization of information itself and the emergence of privacy protection (*Datenschutz*) law as a response to these attempts to use personal information as a medium for governing the welfare state.

These debates over the national and federal database networks were often couched in unfortunately abstract language. This was due in part to the fact that the construction of the systems depended on answering a number of theoretical questions regarding the nature of information, its classification and its management, in part to the fact that the relationships between these different domains and social systems were often highly mediated and could, therefore, only be formulated in abstract terms, and in part to the fact that the projects never progressed to the point where their architects could begin thinking in concrete terms about the ways in which this information could be used for social planning.²⁰ Moreover, the key players in the political conflicts over the planning information systems to be recounted in the following were more often bureaucrats than political parties, and the interests that they defended were the informational prerogatives of ministries and their departments, rather than social or class interests.

Although serious work on the proposed national and federal database networks only began under the Social Democratic-Liberal coalition, it would be wrong to link them too closely to either the rise of this coalition, which came to power in 1969, or to its eventual demise. As Gabriele Metzler, Alexander Nützenadel and Michael Ruck have shown, the political realignment of 1969 led to the implementation of planning ideas that had been gaining political traction since the beginning of the decade, and both

²⁰The ideas set out in the plans for the national and federal database systems were far less concrete than the approaches to educational planning analysed in W. Rudloff, 'Öffnung oder Schließung: Bildungsplanung in West und Ost', in Seefried and Hoffmann, *Plan und Planung*, pp. 68–85.

the plan to computerize the population registration system and the idea of a national database system antedated the new coalition.²¹ However, there was both conflict and collaboration between technocratic, modernizing civil servants, whose enthusiasm for planning was limited to measures intended to consolidate the existing social order by promoting administrative efficiency and economic growth, and leftist planners, whose ultimate goal was the transformation of bourgeois society.²² This technocratic element was reflected in the fact that information and planning systems were being constructed by all of the states, including those governed by the conservative parties. Rhineland-Pfalz, whose government was headed by Helmut Kohl, was a leader in this area.²³

I. Information Policy and Social Planning in the Cybernetic Age

The information that social planners regarded as essential for their work related primarily to the vital, productive and reproductive activities of the population, and it coincided with what Foucault would call the domain of biopolitics. In *The Nation-State and Violence*, Anthony Giddens observed that statistics ‘are not just “about” an independently given universe of social objects and events, they are in part constitutive of it’, and he argued that both the social scientific and the administrative construction of such knowledge has been ‘a constitutive aspect of that vast expansion of the reflexive monitoring of social reproduction that is an integral feature of the state’.²⁴ However, the concept of information that informed the planning discourse of the 1960s and 1970s was a decidedly empirical one, which bracketed theoretical reflection on the constitution of such state knowledge. This stance was in part a reaction to both the normative claims of prewar German social scientific traditions and the politicization of knowledge under the Nazis and during the Cold War. It also reflected the fact that ministerial officials operated within a symbolic order constructed by the state and regarded these forms of administrative knowledge as natural and self-evident precisely because they made it possible to carry out essential state functions.²⁵ Although information policy did not neglect theoretical advances in the natural sciences, technology and the social sciences, these were regarded more as positive knowledge to be documented, indexed and disseminated than as intellectual tools to be reflexively applied to planning information.

At the turn of the 1970s, the civil servants responsible for the information policy of the federal government coalition spoke excitedly about the pivotal role of information in modern society. Their thinking was shaped by cybernetics, the erstwhile master science of communication, feedback and control, whose influence was at its zenith at

²¹ Metzler, *Konzeptionen politischen Handelns*, Nützenadel, *Stunde der Ökonomen*, and Ruck, ‘Ein kurzer Sommer der konkreten Utopie’, pp. 379–80, 390–1.

²² Ruck, ‘Ein kurzer Sommer der konkreten Utopie’, p. 391.

²³ J. Stöckle, ‘Die Automation des Einwohnermeldewesens im Rahmen eines Datenfernverarbeitungssystems’, *IBM-Nachrichten*, 21 (1971), pp. 897–904, H. Kohl, ‘Das Landesrechenzentrum Rheinland-Pfalz in Mainz’, *IBM-Nachrichten*, 21 (1971), pp. 862–4, and D. Dietrich, K. Maxeiner and J. Ringhoffer, ‘Das Projekt Landesinformationssystem Rheinland-Pfalz—erste IMS-Anwendung im öffentlichen Bereich von Bund und Ländern’, *IBM-Nachrichten*, 23 (1973), pp. 847–54.

²⁴ A. Giddens, *The Nation-State and Violence* (Berkeley, 1987), pp. 180–1.

²⁵ P. Bourdieu, ‘Rethinking the State: Genesis and Structure of the Bureaucratic Field’, in Bourdieu, *Practical Reason* (Palo Alto, 1998), pp. 35–63.

the time.²⁶ In the words of a memorandum commissioned by the Interior Ministry, ‘information rules our entire life and cannot be thought away without destroying the foundation for progress, the economy, the state, and individual citizens. Society is itself virtually made possible by information [*Gesellschaft wird durch Information geradezu erst konstituiert*].’²⁷ The intellectual appeal of cybernetics lay in the belief that the capacity of systems to ‘learn’, that is, to incorporate—by means of feedback—experience into their functioning, made it possible for complex social processes to regulate themselves without relying upon an external, sovereign source of authority. As the Cologne Working Group for Scientific Political Advising wrote in a 1969 memorandum to the planning staff of the Federal Chancellery, a modern polity

can only fulfil its responsibilities if the state, as [Karl] Deutsch has shown, is held together through communication and if it is organized in such a manner that it continuously channels data from its domain of responsibility so that this data is used both to fulfil its responsibilities and to monitor and adapt its performance. How it continuously secures, renews and rationalizes its informational basis, how it masters and channels the information flood flowing from its domain of responsibility, how it establishes and maintains communication and forestalls disruptions of both the overall system and individual subsystems, especially those resulting from disruptions of communication and gaps in information—all of this is a matter of life and death for the modern state.²⁸

Discursively it was only a small step from here to the characterization—which was meant to be taken quite literally—of state bureaucracies as ‘information processing centres’ (*Informationsverarbeitungsstätte*).²⁹

The primary goal of state information policy was to increase the total amount of information available to the public administration, to make it more expressive by bringing discrete bodies of information into relation with one another, to develop the quantitative tools and analytic methods to exploit this information for administrative, planning, prognostic, decision-making and control purposes, and then to disseminate the results of these analyses to the relevant policy-makers in actionable ‘problem-oriented’ form. It was at this time that officials began to focus on modernizing the *Informationswesen* of the state, a phrase that was used to refer to the offices, institutions and administrative practices involved in the collection, ordering, recording, storage, preservation, retrieval, analysis, evaluation and dissemination of data—regardless of medium or provenance—in ways that would facilitate its conversion into second-order or synthetic data, that is, into ‘information’. It was also at this moment that people began to speak of the information

²⁶B. Seibel, *Cybernetic Government: Informationstechnologie und Regierungsrationalität von 1943–1970* (Wiesbaden, 2016), E. Seefried, *Zukünfte: Aufstieg und Krise der Zukunftsforschung, 1945–1980* (Berlin, 2015), M. Ziegler, *Kybernetisch regieren: Architektur des Bonner Bundeskanzleramtes 1969–1976* (Düsseldorf, 2016), and P. Aumann, *Mode und Methode: die Kybernetik in der Bundesrepublik Deutschland* (Berlin, 2009).

²⁷W. Steinmüller et al., *Grundfragen des Datenschutzes: Gutachten im Auftrag des Bundesministeriums des Innern* (July 1971), Drs. VI/3826, 35, and the almost identical reasoning in A. Osswald, *Der soziale Rechtsstaat als Herausforderung* (Stuttgart, 1974), p. 50.

²⁸Kölner Arbeitskreis für Wissenschaftliche Beratung der Politik to Planungsstab, Arbeitspapier Nr. 3: ... Datenbanksystem (August 7, 1969), B136/26216, vol. 2. The internal reference here is to K. W. Deutsch, *The Nerves of Government: Models of Political Communication and Control* (Glencoe, IL, 1963). This work, which was translated under the title *Politische Kybernetik* (Freiburg, 1969), was one of the central points of reference in German discussions on the information society and the use of cybernetics in the social and policy sciences.

²⁹Steinmüller et al., *Grundfragen des Datenschutzes*, p. 38, and S. Fröhlich, ‘Bessere Verwaltung durch bessere Information’, *Bulletin* (11 Oct. 1974), pp. 1211–15, especially p. 1212.

age, the information society and the ‘informationalization’ of politics, to ponder the consequences of the information deluge (*Informationslawine*) and the ever-shortening half-life of knowledge, and to think more systematically about the social significance of informatics, cybernetics, systems theory and the new information technologies.

II. Planning the National Database Network

The first reflections on what a national database network might look like were drafted in the winter of 1968/69 by Reinhard Schmoeckel of the planning staff of the Federal Chancellery. Schmoeckel, who as *Wahlkreisreferent* had originally been responsible for managing Kiesinger’s relations with his electoral district in Baden-Württemberg, was one of a group of officials, who had been appointed to the planning staff under the CDU-SPD coalition, but who had gone on to play important roles in the expanded and upgraded planning department after 1969.³⁰ Inspired by cybernetics, Schmoeckel began by declaring that ‘the intensity of the exchange of knowledge is decisive for the progress of society’, and he envisioned the national or ‘general’ (*allgemeines*) database network as a means of promoting the generalized exchange of information throughout society. Schmoeckel believed that the flood of information being generated in the modern world was hindering social communication and making rational public debate impossible, and he claimed that conflict and the misuse of power in contemporary society were due ‘for the most part’ to differential access to information. The electronic processing of this information represented, he insisted, the only way to eliminate these obstacles to progress in the political realm. His belief that the public administration, business, the scientific and scholarly community and the general public should be integrated into a single national database system was neither additive nor contingent. Rather, he argued that the expanding parameters of state action meant that decisions in the political and economic domains were so deeply intertwined that the proposed database would have to include information from both sectors. Moreover, one of the abiding concerns of social theorists across the industrial world was the ways in which scientific discovery and technological innovation were accelerating the pace of social change in virtually every sphere of society.³¹ Therefore, to bring the future under control, the proposed system would also have to include scientific and technical knowledge because the government, the business community and the general public increasingly depended on such knowledge to understand social change and the social problems resulting from technological innovation. The question, Schmoeckel insisted, was no longer whether society needed an all-encompassing database system, but how best to organize one under existing constraints.³²

³⁰Süß, “‘Wer aber denkt für das Ganze?’”, p. 365. According to an organization plan from July 1971, Schmoeckel was responsible for overseeing efforts to modernize the work of the executive and the administration.

³¹This was one of the constitutive insights of the new discipline of futurology. See Seefried, *Zukünfte*, and A. Schmidt-Gernig, ‘Das “kybernetische Zeitalter”: zur Bedeutung wissenschaftlicher Leitbilder für die Politikberatung am Beispiel der Zukunftsforschung der 60er und 70er Jahre’, in S. Fisch and W. Rudloff (eds), *Experten und Politik: wissenschaftliche Politikberatung in geschichtlicher Perspektive* (Berlin, 2004), pp. 349–68.

³²BAK B136/26216, vol. 2, Bundeskanzleramt/Planungsstab, Überlegungen für ein umfassendes, arbeitsteiliges Datenbanksystem (14 Feb. 1969), and *ibid.*, vol. 1, Bundeskanzleramt/Planungsstab, Beitrag zum deutschen Datenbanksystem (Nov. 1968). On the integration of science-technology, the state and the economy, see E. Seefried and A. Malycha, ‘Planen, um aufzuschliessen: Forschungsplanung in der Bundesrepublik und der DDR’, in Seefried and Hoffmann, *Plan und Planung*, pp. 35–67, J. Bähr, ‘Die “amerikanische Herausforderung”: Anfänge der Technologiepolitik in der Bundesrepublik Deutschland’, *Archiv für Sozialgeschichte*, 35 (1995), pp. 115–30, and R. Gilpin, *France in the Age of the Scientific State* (Princeton, 1968), pp. 222–4, 229–34.

To sell the project to Interior Minister Hans Dietrich Genscher (FDP), the modernizing head of the Federal Chancellery Horst Ehmke (SPD), who was the most influential proponent of social planning, and Chancellor Willy Brandt (SPD) himself, Schmoeckel argued that the economic and social consequences of electronic data processing would be no less revolutionary than those that followed upon the invention of the railroad and the construction of a nationwide track network a century before. However, he was obsessed with the chaos of technical standards that had led to the construction of track networks of different gauges, and he worried that a similar process might lead to the construction of ‘many large, separate databases, which can only be combined through the greatest of exertions’. He called upon the federal government to play an active role in standardizing and coordinating the development of the new technology. The failure to do so, he warned, would result in enormous waste, which he estimated was costing the United States 1–2 per cent of its annual GNP.³³ Although state dirigisme in this areas was incompatible with a free-market system, Schmoeckel argued that public interest was great enough to justify establishing mandatory technical compatibility standards, uniform procedures for accessing information and a generally accepted system of descriptors to facilitate access to information across the network without otherwise infringing on the autonomy of the individual databases that made up the system. In Schmoeckel’s eyes, the economic costs of collaborating in the construction of a general, national database network were minimal or non-existent, while the potential savings were substantial, and it was simply a question of whether the relevant stakeholders could be convinced to make the effort.³⁴

At this stage, the planning staff proposal already raised a number of questions. First of all, it was not clear whether the federal or the national system should take priority. On the one hand, *Ministerialdirigent* Alfred Faude—an expert on organizational matters in the Interior Ministry, deputy head (and later head) of the high-level task force that had been established to assist in the reorganization and modernization of the work of the executive and the administration, and chair of the interministerial coordinating committee on electronic data processing in the federal government (whose responsibilities overlapped with those of the Coordinating and Advising Office)—argued that the top priority had to be constructing an information system to meet the immediate needs of the federal government and that work on what he called a ‘total’ or ‘general’ information system (*Gesamtinformationssystem*), which would not be completed until some point in the indefinite future, could not begin until substantial progress had been made on systems for the federal government and for the entire public administration (including state and local government). On the other hand, Herbert Auernhammer,

³³BAK B136/26216, vol. 2, Schmoeckel/Wagenknecht to Genscher, Betr.: Koordinierung des Aufbaus von Datenbanksystemen (18 Nov. 1969). According to BAK B136/26217, vol. 3, Minister to Abteilungsleiter I/MR Hans Hegelau (4 Dec. 1969), Brandt had written on his copy of this memorandum that the project should be actively or aggressively (*mit Nachdruck*) pursued. The problems involved in ensuring the interconnections among railroad lines later became a metaphor for those relating to the interoperability of computer networks, that is, of the internet. On this and the more fungible connections between railroads and the internet, see Tung-Hui Hu, *A Prehistory of the Cloud* (Cambridge, MA, 2015), chapter 1. Hu argues that the plan to connect all networks, and the information they contain, can be conceptualized as a product of the paranoid imagination and that such networks exist primarily as a state of desire (pp. 10–11).

³⁴Bundeskanzleramt/Planungsstab, Überlegungen für ein umfassendes, arbeitsteiliges Datenbanksystem.

who at the time headed both the information technology and policy department in the Interior Ministry and the Coordinating and Advising Office, echoed Schmoeckel's argument that, even though the federal government might be most directly interested in a database system to meet its own needs, it was necessary to quickly draft a master plan for the national network because the rapid, unregulated development of the technology might make it prohibitively costly, if not impossible, to later integrate domain-specific databases that had been constructed in the interim.³⁵ There were also disagreements over the balance between autonomy and authority within the proposed system. While Schmoeckel accused Auernhammer and the Interior Ministry of advocating a 'centralist, dirigist' approach, instead of a decentralized, cooperative one, Auernhammer argued that the individual subsystems had to be more tightly 'integrated' into the proposed system because the mere coordination of independent databases was 'not sufficient'.³⁶ Political conflicts such as these were of central importance to the fortunes of the national database network, and the repeated characterization of the system as 'federative' or 'collaborative' (*arbeitsteilig*) only served to mask the underlying problem, rather than to resolve it.³⁷

Other questions were also raised at the time. While Schmoeckel had distinguished between a general database network, which would bring together published or publicly available information, and specialized systems, which would contain confidential administrative data, Interior Ministry officials envisioned an integrated system in which the federal administration would be able to directly access—via the planned national ID number—the individual micro-data generated by state and local government.³⁸ The Cologne Working Group was critical of these proposals. On the one hand, the organization warned that the Interior Ministry plan would evoke memories of the totalitarian past and raise the same privacy concerns that had dogged the American National Data Center. On the other hand, the Cologne Working Group also noted that there was no such thing as 'the' business sector, and it doubted that individual companies (or, for that matter, individual ministries in the public sector), which regarded information as a means of competitive advantage, would have much interest in making their data available to others. The group also noted the absence of a central

³⁵BAK B106/54313, vol. 1, V II 3/Auernhammer, Vermerk, Betr.: Planung und Aufbau eines allgemeinen automatisierten Datenbanksystems ... (14 Feb. 1969).

³⁶BAK B136/26216, vol. 2, Planungsstab/Schmoeckel, Vermerk, Betr.: Gesamtkonzeption für die Koordinierung der elektronischen Datenverarbeitung (20 Oct. 1969), and B136/26217, vol. 3, Auernhammer, Bemerkungen zur Planung und zum Aufbau von Informationssystemen im öffentlichen Bereich ... (October 1970). It should be noted that Auernhammer was speaking here of public sector databases, where the administration could well be expected to exert greater control.

³⁷BAK B106/54313, vol. 1, E. Hölder, Vermerk, Betr.: Einrichtung eines Fachbeirates 'Datenbank' (25 Sept. 1968), for example, spoke of a 'federative' but 'unified database system'. This characterization was taken over by Interior Minister Ernst Benda (CDU), 'Politische Führung und Verwaltungsorganisation', *Bulletin. Presse- und Informationsamt der Bundesregierung* (2 Nov. 1968), pp. 1307–12, who explicitly distanced himself from the notion of a single, centrally constructed database (p. 1310). Wiegand, *Informatik und Großforschung*, reports (p. 138) that the first detailed proposal for a federal information system had been drafted in 1964 by IBM at the company's own initiative—in part to showcase the potential public-sector uses of its new System 360. Although this proposal described by Wiegand was not mentioned in any of the later correspondence relating to the project, it staked out the territory on which much of the subsequent debate would take place.

³⁸BAK B106/54313, vol. 1, Kurzprotokoll über die erste Sitzung des Interministeriellen Ausschusses ... am 10. Dezember 1968.

documentation system. All in all, they regarded the proposed system as a nebulous, utopian plan devised by persons with little practical experience in building information and documentation systems.³⁹

These problems were made even more explicit by the abortive attempt to conduct a systems analysis of the federal administration to determine what information-collection offices existed in each ministry, what information was already being collected, by whom, from whom and for what purposes, whether it was being collected electronically, whether the information that was not being collected electronically lent itself to automation and whether there were any identifiable informational needs that were not being met.⁴⁰ This kind of preliminary analysis was crucial for identifying the functional domains of knowledge that would be used to classify the information to be held in the integrated system and the key to capturing the efficiencies of integrated data processing.

Federal ministries, their divisions and their departments were all complex organizations, and they were involved, almost by definition, in collecting information. Not only did they generate information through their administrative, regulatory and revenue-generating activities, but information also flowed into these organizational entities from many other government agencies and from their respective social environments. To ask them to describe their information-collection activities was an impossibly broad undertaking, and the responses to the survey sent out by Auernhammer in March 1969 were so vague, fragmentary and off-point that they could not provide even the most minimal starting point for a systems analysis of the federal administration. The Federal Chancellery, for example, simply reported that it maintained a registry of correspondence, but that this was supplemented by informal collections and card files, that it collected information pertaining to practically every topic of political interest etc. The Economics Ministry responded with a twenty-page list of data collected on every major sector of the economy. And the Interior Ministry noted that it supervised four agencies that were responsible for collecting information: the Federal Criminal Police, the Domestic Intelligence Agency, the Federal Statistical Office and the Federal Office of Administration. In contrast, the Defence Ministry argued that the value, and even the very existence, of information could only be determined in relation to a specific practical problem or field of action. However, since the delimitation of such domain-specific

³⁹B136/26216, vol. 1, Kölner Arbeitskreis, Deutsches Datenbanksystem ... Stellungnahme zu dem Entwurf einer Konzeption ... (3 Jan. 1969), B136/26216, vol. 2, Kölner Arbeitskreis, Arbeitspapier Nr. 3: ... Datenbanksystem (7 Aug. 1969), and BAK B196/4380, Martin Cremer/Institut für Dokumentationswesen to Ministerialrat Lechmann, Betr.: Einrichtung eines umfassenden Informationssystems ... (23 June 1969).

⁴⁰BAK B106/54321, vol. 1, V III 4/Auernhammer to oberste Bundesbehörde, Betr.: Planung eines integrierten automatisierten Datenbanksystems (18 Mar. 1969). 'Systems analysis' was one of the most popular buzzwords of the period. It involved determining the most rational and efficient means by which an organization could achieve its stated goal or purpose and the information required to do so. For those organizations whose responsibilities could be described in a more or less comprehensive manner (the patent office, for example), systems analysis might involve no more than identifying the most efficient means for achieving a given end. However, in many instances these ends were not known or easily defined. Helmut Krauch, one of the leading figures in the field, developed the practice of 'maieutic systems analysis' to define or make explicit the purposes or objectives of the organization in order to establish a provisional starting point for rationalizing its work. See H. Krauch, 'Wege und Aufgaben der Systemforschung', and A. Jentsch, 'Systemanalyse im Regierungsbereich und Reorganisation von Regierung und Verwaltung', in H. Krauch (ed.), *Systemanalyse in Regierung und Verwaltung* (Freiburg, 1972), pp. 27–48 and 49–72 respectively.

uses was entirely absent from the overview of the universal information base network that had been distributed by Auernhammer, the ministry dismissed as wasteful the request for a list of its information collection offices and activities.⁴¹ Although the failure to complete this preliminary analysis was a fatal error and a classic example of how not to plan a planning system, it was foreordained by the underlying idea of a general or universal information network that knew neither boundaries nor specific purposes. These problems were equally glaring in the first full-scale master plan for the national database network.

III. Drafting the Master Plan

Work on the national database reached its decisive stage in 1970/71. Entirely apart from the problems involved in carrying out the systems analysis, the Coordinating and Advising Office did not have the manpower to devise a master plan for the national database network, and in April 1970 the cabinet established a fifteen-member interministerial Working Group 'Database System' to push the project forward. The Working Group was expected to complete its work within a year, and it published its three-volume report right on schedule, in May 1971.⁴² However, instead of charting a viable path forward, the report marked the beginning of the end of the national database.

In 1970, Luhmann, who had written an important early study of the impact of computers on the public administration, warned that comprehensive or global planning mechanisms for complex social systems could not be designed in the abstract, but only constructed through the reform of existing systems.⁴³ The Working Group report appeared to bear out his warning. While the Coordinating and Advising Office had decided to suspend work on its own systems analysis pending the submission of the Working Group report, the report began with a disingenuous apology for not conducting such a study. It explained that such an analysis would be out of date before the proposed system could be completed. More importantly, in the absence of a preliminary classificatory schema, which would permit the delimitation of the functional domains and the assignment of information to one database or the other, it would be impossible to analyse the results of such a survey.⁴⁴ The resulting absence of an empirical grounding left the project floating on a sea of generalities.

The report set out fifteen principles that the Working Group believed should guide the construction of a national database system. Political, scientific, cultural, economic and technological development depended, the first principle declared, on better

⁴¹The responses to Auernhammer's March 1969 survey, which dribbled in through May 1970, can be found in BAK B106/54322, vol. 1.

⁴²*Das Informationsbankensystem: Vorschläge für die Planung und den Aufbau eines allgemeinen arbeitsteiligen Informationsbankensystems für die Bundesrepublik Deutschland*, 3 vols (Cologne, 1971). The most important critique of the report is U. Dammann, 'Zum Vorschlag eines "Informationsbankensystems"', *Datenverarbeitung im Recht*, 1 (1972–73), pp. 209–36.

⁴³N. Luhmann, 'Reform und Information: theoretische Überlegungen zur Reform der Verwaltung', in N. Luhmann, *Politische Planung* (2nd edn, Opladen, 1975), pp. 181–202, citation p. 185, and N. Luhmann, *Recht und Automation in der öffentlichen Verwaltung: eine verwaltungswissenschaftliche Untersuchung* (Berlin, 1966).

⁴⁴*Das Informationsbankensystem*, vol. 1, p. 9.

information. Better information, according to the second principle, depended on the use of information technology, which could be used, as principle three explained, to access the common knowledge base needed by the state, the business world and the scientific and scholarly community. This knowledge base, according to principle four, had to include information from *every* domain of disciplinary knowledge and social life. However, while Schmoeckel had at least made a prima facie case for the interdependence of the four sectors and their need for a common information base, the report impaled itself on the contradiction between principle four and principle five, which recognized that choices would have to be made. The authors sought to escape from this predicament by suggesting that as the system was perfected, it would gradually come to include information on 'every conceivable' domain, from Egyptology to marine biology, international law and economic statistics.⁴⁵ However, the report made no attempt to explain how these diverse domains of knowledge might fit together or to demonstrate the value of such integration, and in the end it remained little more than an undigested digest of the commonplaces of the planning and information community. As a result, it failed to chart a concrete path forward.⁴⁶

Although the title of the Working Group report implied that the proposed network would be constructed on the basis of the classificatory principles of information science, the master plan woefully underestimated both the problems involved in ensuring the technical compatibility of the component systems and those involved in developing a centralized data classification and retrieval mechanism. It also sidestepped the political question of determining what information was to be included in the system, by whom this decision was to be made and on what basis. Instead, it argued in windy, repetitive language that the specialized databases that were to make up the network could be established through the collaboration of the relevant stakeholders. This collaborative, bottom-up process would culminate, the report argued in entirely unpersuasive terms, in the establishment of a German Commission for Information Base Systems as an umbrella organization responsible for coordinating the exchange of information among these specialized databases.⁴⁷

The principles that informed the Working Group master plan were far less concrete than those that had shaped the state information system that was being constructed at the time in Rheinland-Pfalz. The database that supported this system was organized into eighteen functional areas (territory and population; population movements; public health; employment; trade, commerce and tourism; finances and taxes; state economic accounts, etc.), and access to this information was facilitated by a hierarchical catalogue, which described the content of the individual categories of information held under each of these classifications, a directory of keywords, which would direct the user to the proper location in the hierarchical catalogue, and a territorial directory, which would permit the user to access information according to level of government and the city, rural district or regional administrative body that held it.⁴⁸ The databases contained in this state system corresponded to the existing ministerial structure, and it

⁴⁵ *Ibid.*, vol. 1, pp. 25–7.

⁴⁶ *Ibid.*, vol. 1, pp. 15–23.

⁴⁷ *Ibid.*, vol. 1, pp. xiii–xiv, 45–74.

⁴⁸ Dietrich, Maxeiner and Ringhoffer, 'Das Projekt Landesinformationssystem Rheinland-Pfalz'.

was not at all clear how the multiple, interlocking, collaborative databases proposed by the Working Group report were to improve on this.

While capturing the efficiencies of integrated data processing and ensuring user access to all information relevant to a specific question or problem depended on assigning all information to one domain of knowledge and storing it in the designated database, it was not clear how such an organic, collaborative approach could lead to the systematic classification of all of the information held in the network. One of the outside opinions solicited by the Working Group addressed this problem. In this essay, the philosopher and information scientist Alwin Diemer suggested—drawing on the language of structural linguistics that was so influential at the time—that information could be broken down into stable, elemental units of knowledge or signification ('infomemes'), which could be sorted and rearranged according to the pragmatic needs of the user without any need to take account of the context, institutional origin or ownership of this information.⁴⁹ Such efforts to identify the smallest addressable units of meaning and make their study into the theoretical foundation of information science drew on a modernist documentarian tradition that reached back to Paul Otlet.⁵⁰ In reality, though, it was impossible to establish an exhaustive catalogue of the meanings that could be assigned to discrete pieces of information. Although the Working Group found Diemer's proposal to be of theoretical interest, they concluded that it was entirely unsuited as a foundation for the information base system.⁵¹

The reception of the Working Group report was uniformly critical. Planning officials from the federal states complained that the report was so abstract that they could hardly understand what it actually meant, and they dismissed the plan as a utopian intellectual exercise with little practical application.⁵² Many of the other comments argued in one way or another that the authors of the report had succumbed to the naïve technological belief that it was possible—and desirable—to integrate every conceivable form of information and information processing into a single super-system. For example, one official in the Federal Chancellery noted that the report provided no rationale for lumping together such different information systems as the population registries, product catalogues, economic statistics, documentation of advances in chemical research, and the data generated by hospital information systems; nor was it clear that enough information was exchanged among any of these systems to justify the labour involved in integrating them. He also complained that grouping such different activities as routine data processing, planning systems, information and process control systems for business and industry, credit systems and documentation systems for a

⁴⁹Diemer, 'Raster zur sachlogischen Klassifizierung des gesamten Wissens nach fachlichen und funktionalen Gesichtspunkten mit hierarchischer Gliederung für ein universales Informationsbankensystem', in *Das Informationsbankensystem*, vol. 2, pp. 207–35.

⁵⁰W. B. Rayward (ed.), *European Modernism and the Information Society* (Farnham, 2008), W. B. Rayward, 'Visions of Xanadu: Paul Otlet (1868–1944) and Hypertext', *Journal of the American Society for Information Science*, 45, 4 (1994), pp. 235–50, and A. Wright, *Cataloging the World: Paul Otlet and the Birth of the Information Age* (Oxford, 2014).

⁵¹*Das Informationsbankensystem*, vol. 1, pp. 43–4.

⁵²BAK B136/26218, vol. 6, Hamburg Senator Otto Hackmack to Horst Ehmke, Betr.: Interministerielle Arbeitsgruppe Datenbanksystem (10 June 1971), and BAK B106/54387, vol. 3, Protokoll über die Sondersitzung des Kooperationsausschusses Bund/Länder/Gemeinden am 12. Januar 1971.

variety of scholarly domains under the general rubric of ‘information manipulation’ (*Informationshandhabung*) made it impossible to say anything concrete about the possible benefits of the proposed system for each of these areas.⁵³ Many of the responses complained that the report had sought, without success, to solve information-theoretical problems through organizational sleight of hand.⁵⁴

The Ministry of Economics and Finance was similarly sceptical of the aspiration to create a network of databases to collect information on ‘all domains of knowledge and all areas of social life’.⁵⁵ In fact, this memorandum argued that the proposed system should be constructed on principles that were the precise opposite of those proposed by its original proponents. One official in the Federal Chancellery argued with respect to the Working Group report that ‘information cannot be understood when it is uncoupled from the information system of the specific domain in which it is produced, transmitted, and used’.⁵⁶ The memorandum from the Ministry of Economics and Finance argued along the same lines that only an ‘essentially pragmatic’ (*äusserst pragmatisch*) approach that was oriented towards the informational needs of specific users could provide a practicable solution. The author of this latter document cited physicist and information scientist Horst Teichmann, who had recently written that ‘a universal database that is accessible to all kinds of users is the product of illusory wishful thinking’. He then went on to argue that it made equally little sense to try to satisfy the informational needs of specific domains by means of an information system that integrated information from all domains of knowledge—and thereby uncoupled it from the context in which it had acquired its original meaning.⁵⁷ This line of thinking implied that the national database would have to be constructed in a very different manner—with individual, domain-specific databases coming first and integrated networks only being later established if and to the extent that there was a demonstrated value in linking independent systems. Such a strategy, however, was bluntly rejected by Egon Hölder, the senior Interior Ministry official who had chaired the Working Group, who insisted that it would be wrong to wait until more specialized information systems had been built. ‘The need for integration and cooperation’, he insisted, ‘can already be clearly felt today’.⁵⁸

The administration was unwilling to put its name on the Working Group report, and Jochimsen noted that it would be ‘extraordinarily dangerous’ to publish it in its original form.⁵⁹ Instead, a list of eighteen substantive questions deserving of further debate was drafted to serve as a preface to the report and thereby distance the administration from its own unsatisfactory product. Although the tenure of the Working Group was extended to the autumn of 1972 in the expectation that it would devise concrete answers

⁵³BAK B136/26220, vol. 12, V5/Thomas, Betr.: Überlegungen zur Stellungnahme des BK zum Bericht der Arbeitsgruppe ‘Datenbanksystem’ (10 Feb. 1972).

⁵⁴E. Lutterbeck, ‘Totale Information—totaler Staat?’ *Die Zeit* (25 Aug. 1972), took the occasion to warn that the ‘total information’ resulting from the linkage of all existing database systems might give rise to a ‘total state’ unless measures were taken to limit the informational power generated by such super-systems.

⁵⁵BAK B136/26220, vol. 13, Stellungnahme zum Bericht ... Anlage zum Schreiben des BMWF vom 15. Juni 1972.

⁵⁶BAK B136/6131, vol. 2, IV A 4, Stellungnahme zum Bericht ‘Das Informationsbankensystem’ (12 June 1972).

⁵⁷BAK B136/26220, vol. 13, Stellungnahme zum Bericht ... Anlage zum Schreiben des BMWF vom 15. Juni 1972, citing Teichmann, ‘The Possibilities and Limitations of Data Banks’, *Universitas*, 27, 4 (1972), pp. 361–5.

⁵⁸Protokoll über die Sondersitzung des Kooperationsausschusses Bund/Länder/Gemeinden,

⁵⁹BAK B136/26218, vol. 8, Vermerk, Betr.: Erste Stellungnahme zum Bericht ... (24 June 1971).

to these questions, the group made little progress before its charge expired. The initial enthusiasm for global social planning was already beginning to wane by 1971/72; the same can clearly be said of the proposed national database network to support such global planning.

IV. A More Modest Proposal: The Federal Information System

By this point, the national database network was dead in all but name. No explicit decision was ever taken, but, as one document noted laconically in 1975, the project ‘was no longer being pursued’.⁶⁰ However, as interest in the national database network began to wane, the federal database, which had been put on the back burner, moved to the fore.

At the time there was not even a raw draft of a master plan for the federal information system.⁶¹ To kick start work on the project, in April 1972 the Interior Ministry commissioned a study by management expert Adolf Angermann. A year before, Angermann, who had played a key role in the design of the Bavarian state information system, had submitted a memorandum in which he had warned that the private sector had been chastened by its attempts to design and build large-scale management information systems from scratch, and he was sceptical of the proposed national database system, which was larger than any private sector system by orders of magnitude.⁶² The larger study, which was submitted at the end of 1972, reflected the same scepticism, and it ultimately undermined much of the *raison d’être* for an integrated information and planning system for the federal government.

The key features of Angermann’s proposal can be summarized fairly easily.⁶³ It limited the scope of the federal information system to the information that was essential to the work of the federal government and that lay within its competence; data from state and local government, as well as the private sector, was excluded in principle, but could be included by arrangement. If previous plans had sought to determine the informational needs of the government and take steps to ensure the collection of the information needed to meet them and/or the further dissemination to other potential users of information that was already being collected, the core of the system proposed by Angermann was a central index and reference system, which would tell the user what information relating to a specific problem or question existed within the federal administration, where it could be found and how it could be accessed. Most of the study was devoted to detailed consideration of index systems for the two major categories of information: the numerical data collected by the administration and the papers, records and files that documented the thought processes and decisions of the administration—and that eventually ended up in the Federal Archive. The functioning of this system depended on a thesaurus, which provided an exhaustive list of concepts and their descriptors for framing inquiries, and a complementary data collection catalogue, which

⁶⁰BAK B106/54314, vol. 6, Ergebnissniederschrift der Besprechung über die Finanzierung von Projekten des ‘Arbeitsprogramms zur Verbesserung ...’ am 8. Januar 1975.

⁶¹BAK B106/54316, Lutterbeck, Zum Bundesdatenbanksystem. Weitere Gedanken und Vorschläge (9 June 1972).

⁶²BAK B106/54313, vol. 3, Angermann, Überlegungen zum Aufbau einer Bundesdatenbank (May 1971).

⁶³A revised version of his memorandum was published as Angermann et al., *Das Bundesinformationssystem: Studie zum Aufbau eines Informationssystems für Bundesregierung, -verwaltung und Parlament* (Beiträge zur Datenverarbeitung und Unternehmensforschung, 9, 1974).

contained guidelines for the documentation of different types of documents (both published and archival) according to formal and substantive criteria.⁶⁴

The initial reaction to Angermann's study was cautiously favourable. For Interior Ministry officials, the most important advantage was that it would bring greater transparency to the work of the administration and facilitate access to information that might otherwise have remained unknown to the user. The most important disadvantages were its failure to promote communication among these departments, its potential to hollow out the federalist structure of the state, and—of central importance here—the fact that, unlike all previous versions, it made no claim to serve as a *planning information* system.⁶⁵

The lengthy and carefully worked-out preliminary study for a master plan for the federal information system that was completed in May 1973 by Lutterbeck incorporated many of Angermann's ideas. This draft still conceived of the federal information system as a 'management and planning system' (*Führungs- und Planungsinstrument*). Drawing on the work of British cybernetician and management expert Stafford Beer, who was the architect of the Chilean system, Lutterbeck argued that the task of government in modern societies was the mastery of complexity, and he regarded the proposed information system as a means for 'improving both the information processing and planning capacity of, and communication among, the legislature, the executive, and the administration, between the federal government, the states, and local government, and with the scientific community and the business world'. Lutterbeck considered the solution of the 'information problem' to be one of the most important administrative reforms that had been undertaken in many years. The problem, as *The Limits to Growth* (1972) had shown, was that the origins of present-day social problems often lay ten to twenty years in the past, and the challenge was to develop a planning system that would make it possible to predict—and pre-empt—social problems that would not arise until ten to twenty years in the future.⁶⁶

For Lutterbeck, what distinguished his proposal from the Working Group report was that he approached the system from an informational, rather than a technical, perspective, and his goal was to teach the administration to think 'informationally'.⁶⁷ Despite the breadth and complexity of the information problems facing the administration, Lutterbeck justified the project because he believed that the legitimacy and success of democratic government depended on solving the different dimensions of

⁶⁴See Bundesministerium des Innern (ed.), *Bundes-Dachthesaurus: Untersuchungen zur Vereinheitlichung der Ordnungssysteme von obersten Bundesbehörden und Einrichtungen des nachgeordneten Bereichs* (Bonn, 1974), and U. Krischker, E. Lutterbeck and K.-H. Meyer-Uhlenried, 'Der Allgemeine Datenerhebungskatalog für Dokumentation (ADEK)', *Nachrichten für Dokumentation*, 22, 6 (1971), pp. 262–5.

⁶⁵BAK B106/54314, vol. 4, Ergebnisprotokoll über die Klausurtagung vom 16. und 17. Januar 1973 über Planung und Aufbau des Bundesinformationssystems.

⁶⁶BAK B106/54316, O I 6/Lutterbeck, Entwurf: Das Bundesinformationssystem. Vorstudie für eine Konzeption (May 1973), pp. 3–14. On scenarios as a technology for planning under conditions of uncertainty and on the role of cybernetics and systems theory in the development of this approach, see F. Maelshagen, 'Das Zeitalter der Ungewissheit: Zukunftsszenarien und globale Bedrohung nach dem Zweiten Weltkrieg', in N. Hannig and M. Thießen (eds), *Vorsorgen in der Moderne: Akteure, Räume und Praktiken* (Berlin, 2017), pp. 78–103.

⁶⁷Lutterbeck, Entwurf: Das Bundesinformationssystem, pp. 3, 12, 16. VIII 4/Lutterbeck, Zum Bundesdatenbanksystem. Weitere Gedanken und Vorschläge, warned that Angermann was likely to propose what was organizationally and technically feasible, but that he would be deaf to the larger political concerns surrounding the project.

the information problem and ensuring that the political leadership would be—at every moment—better informed than the best-informed social group.⁶⁸

It was in this context that Lutterbeck broached the question of ‘transverse’ information. He argued that the need for information that cut across bureaucratic boundaries was ‘the most important justification’ for a federal information system.⁶⁹ However, every plan to overcome these bureaucratic barriers and bring order to a fundamentally disordered *Informationswesen*, whose component systems focused exclusively on the needs of the office or agency that collected the information, immediately ran up against a number of constitutional barriers, including the policy autonomy of the federal ministries, the division of powers between the legislature and the executive, and the autonomy of the different levels of government. While the Working Group had ignored or downplayed these problems, Lutterbeck recognized that these constitutional provisions imposed real limits on the extent to which the information held by the public administration could be integrated, and he suggested that the prevailing ‘informational anarchy’ could be overcome through the use of the tools of information science—that is, ‘compatibility norms’,⁷⁰ by which he meant the thesaurus and data collection catalogue that had been the pivot of Angermann’s proposal—and the remainder of Lutterbeck’s exposition adhered closely to the recommendations that Angermann had made in his memorandum.

The problem of transverse information was examined most closely by the political scientist Fritz Scharpf, whose work drew on his experience as a member of the task force charged with the reorganization and modernization of the work of the executive and the administration.⁷¹ In its classic form, Scharpf argued, the structure and function of the public administration had been based on certain assumptions regarding the relationship between information and administration. The most basic of these was that the problems that had to be mastered were discrete, well known and relatively stable so that if officials in the department responsible for a specific policy domain were adequately informed regarding the initial state of affairs, their experience and professional expertise would enable them to anticipate with a relatively high degree of accuracy the consequence of any political decision. Under such conditions, the responsible minister could make informed decisions without the need for either information from other domains or a staff to interpret this information and make policy recommendations.

The development of the welfare state, argued Scharpf, who was a former student of Ehmke, altered these assumptions in fundamental ways. In the German federal administration, individual departments are responsible for policy planning in specific areas, and at the time the basic problem faced by both the planning staff and those responsible for the national database network was coordinating the work of 1,500 individual departments, which were distributed across fourteen different ministries. The acceleration

⁶⁸Lutterbeck, Entwurf: Das Bundesinformationssystem, pp. 5, 18; see also BAK B106/54314, vol. 5, Bundesinformationssystem. Entwurf eines kooperativen Verbundsystems für Parlament, Bundesregierung und Bundesverwaltung (Stand: 18. April 1974), pp. 2–3, 7.

⁶⁹Lutterbeck, Entwurf: Das Bundesinformationssystem, pp. 33, 38ff.

⁷⁰*Ibid.*, pp. 3, 48.

⁷¹F. W. Scharpf, ‘Informations- und Planungssysteme im politischen Prozeß’, in G. Jasper (ed.), *Tradition und Reform in der deutschen Politik* (München, 1976), pp. 222–40, F. W. ‘Komplexität als Schranke der politischen Planung’, *Politische Vierteljahresschrift, Sonderheft 4* (1972), pp. 168–92.

of socio-economic change was leading to the rapid transformation of the problems to be solved by the political-administrative system while devaluing the experience and expertise of those responsible for policy formulation.⁷² At the same time, the increasing interdependence of economic and social developments meant that policies adopted in any single domain now affected—and were in turn affected by—developments in neighbouring domains, which implied that the political-administrative system ultimately had to assume responsibility for both these interdependencies and the externalities of its own decisions.

The increasing interdependence of social processes also meant that, to a greater extent than ever before, political decisions had to be grounded in the integrated use of information from multiple departments. Since the failure to reflexively incorporate the social and policy logics of other domains entailed the risk that one's own policies might fail because of the unanticipated consequences or spillover from these 'neighbouring' domains, planning, Scharpf argued, depended to a greater degree than ever before on 'transverse' information, which was created through the integration of information from multiple domains. However, such integration required not only the technical and organizational linkage of separate information systems, but also, and more importantly, their conceptual linkage in ways that would allow the integrated system to emulate real social forces.⁷³

In this form, transverse information was the Holy Grail for integrated information and planning systems. The key question was how the meaning of this information, which had originally been collected by different departments for their specific purposes, was to be determined. The ideal solution lay in what Scharpf called 'positive coordination'. Although competition between ministerial departments served as the mechanism through which the values and interests of different social groups were represented in the political process, one of the chief functions of centralized decision-makers was to formulate overarching goals and priorities that would authoritatively establish the meaning of transverse information and thereby make it possible for ministries and their departments to work together to realize these goals.

The problem, Scharpf argued, was that such centralization created information management problems that it was incapable of solving. On the one hand, it exponentially increased the informational needs of the political centre, which was now responsible for managing larger problem complexes, rather than discrete, self-contained policy domains. On the other hand, since the specialized knowledge needed to analyse and make recommendations regarding these complex problems was held by officials in the departments that made up the base of the administrative hierarchy, decision-makers were forced to choose between refusing to take the expertise of these officials into account or increasing the number of staff reporting directly to them. However, this latter alternative threatened to lead to the reproduction

⁷²R. Koselleck, *Futures Past: On the Semantics of Historical Time* (Cambridge, MA, 1985), pp. 267–88, describes this process in terms of the increasing disjunction between the space of experience and the horizon of expectation. Muelshagen, 'Das Zeitalter der Ungewissheit', p. 101, similarly notes how the acceleration of scientific and technological change diminished the value of the experiential knowledge on which traditional prognoses had been based.

⁷³For a description of the mechanism created to coordinate the policy labours of the different ministerial departments, see Süß, "'Wer aber denkt für das Ganze?'" , pp. 366–72.

at the political centre of both the specialized, decentralized departmental structure that had been the original impetus for this centralization and all of the communication and coordination problems associated with such a structure. In view of both the intrinsic difficulties involved in achieving positive coordination and its unsustainable costs, Scharpf argued that the default practice had become 'negative' coordination, in which the department that was formally responsible for a specific policy domain would limit itself to seeking 'input' from other departments, whose own policy labours might be impacted by its policies. While this strategy allowed each department to retain control over the definition of the problem and the meaning of its information, it limited the involvement of related departments to the negative role of blocking policies that they felt would have a detrimental impact on their own policy domains.

Luhmann was even more critical of the possibility of a comprehensive planning information system. Meaning, he argued, had to be understood as a permanently accessible, intersubjectively constructed complex of possibilities of experience and action, which made possible the constitution of the 'world' as a pattern of generalized expectations and which normalized all of the data that might flow into such a system. However, he argued, data could only have informational value to the extent that it conveyed something that was unexpected and surprising in relation to these structures of expectation. While positive cooperation presumed a stability and self-evidence of meaning, Luhmann argued that structural planning could never be stabilized in this way because information revealed the contingency of these structures of meaning and thus forced planners to reflexively incorporate into the planning process decisions concerning the complex of decision premises upon which such structures of meaning were based.⁷⁴

V. Documentation and the Illusion of Transparency

Lutterbeck had no solution to either the constitutional issues that he had highlighted or the theoretical problems diagnosed by Scharpf, and subsequent drafts made no reference to the federal information system as a cybernetic system. This retreat from the original vision of the federal database network as a planning information system, which paralleled the broader disenchantment with planning itself, was accelerated by the economic downturn and fiscal retrenchment by the government. Since the end of 1973, the administration had felt constrained to show how the proposed information system could save money in the short run by rationalizing its work, and the new name given to the project, the Programme for Improving the Quality of Information in the Federal Administration, reflected the new economic situation. Although the term 'federal information system' was appended at the end of the title as an indicator of provenance and continuity, the revised programme gave priority to the development of the thesaurus and other informational tools. In this final incarnation, the work that had originally been seen as necessary to lay the foundation for an integrated network increasingly became the primary focus, and the political questions that had so vexed the project

⁷⁴Luhmann, 'Reform und Information'.

appear to have receded almost entirely from view—and with them the last connections to planning.⁷⁵

Planning for a statistical database in the Federal Statistical Office had been underway since the late 1960s, and it was hoped that the database would be operational by the turn of 1976.⁷⁶ However, Angermann's plan to extend the indexing system to the documents produced by ministerial administration generated its own controversies over the access to and use of information in the public administration.

Like the system created in the Federal Chancellery to coordinate the planning efforts of the individual ministries and departments, Angermann's goal was to bring greater transparency to the administration so that officials could have undistorted access across bureaucratic borders to all of the information relevant to their work. In theory, the need for information and its flow through a ministerial department were determined by the responsibilities of the department, so that if these responsibilities were clearly defined and if communication was not disrupted, any official who was familiar with the organization of the ministry should at any time be able to access all of the information relevant to his or her own policy work. The problem is that these ideal-typical conditions never hold: the responsibilities of any department are never defined in such a univocal and unchanging manner that they only use specific pieces of information, and departments almost always have a proprietary attitude towards their information. Similarly, archival documents are a written record of the information collected by an organization to carry out its designated responsibilities and memorialize the thought process through which this information was used to arrive at a decision. However, since they have historically been organized on the basis of ad hoc problem complexes, it is impossible to deduce the informational needs of a department directly from its nominal responsibilities. To secure access to current and historical information, Angermann proposed that the federal information system register every individual document produced by the administration in the course of its policy labours.

While Angermann argued that the proprietary attitude of departments and ministries towards their information diminished the efficiency of the administration, Hans Booms, the president of the Federal Archive emphasized the positive rationale for the informational autonomy of ministerial departments. 'If the division of political and administrative labour within the political system is to retain its significance,' he argued, 'the individual departments must possess a certain autonomy, a specific body of knowledge [*eine spezifische Informiertheit*]. That is, they cannot disclose all of the information they possess at any given point.' A system such as that proposed by Angermann, Booms warned, would not promote transparency and communication in nearly as direct a

⁷⁵BAK B106/54314, vol. 6, O I 6/Lutterbeck to oberste Bundesbehörde, Betr.: Arbeitsprogramm zur Verbesserung des Informationswesens der Bundesverwaltung ('Bundesinformationssystem') (26 July 1974). Officials were also concerned that any attempt to develop a comprehensive master plan for the federal information system would provoke the same scepticism that had greeted the national database network. See BAK B106/54317, Ergebnisprotokoll über die Beratung des Entwurfs der Konzeption für das Bundesinformationssystem ... 12. Juni 1974.

⁷⁶BAK B106/54321, vol. 6, Abteilung R/Hans-Joachim Ordemann to Minister/Genscher, Betr.: Ausbau des Statistischen Bundesamtes zu einem zentralen Informationsinstrument von Bundesregierung und Bundesverwaltung (8 May 1972), and BAK B106/54314, vol. 4, Statistisches Bundesamt, Der numerische Teil des Bundesinformationssystems (20 Feb. 1973).

manner as Angermann assumed because officials who were unwilling to commit controversial ideas or tentative policies to paper or who did not wish to relinquish the power that flowed from control over specific bodies of information would engage in various forms of everyday resistance—such as storing documents in personal files (*Handakten*)—in order to protect themselves from such surveillance.⁷⁷

Booms also argued that any attempt to make the federal administration completely transparent would also make the system both excessively costly and excessively complex. In view of the (in)frequency with which many documents were used, their documentation could only be justified in exceptional cases. Moreover, since the meaning of information was always defined according to pragmatic needs of the office that had generated it, it could never be fully captured by any abstract data retrieval schema. That is, even if individual documents could be accessed by users in other departments, such access would only be of limited value because these parties would require, as Scharpf had argued, additional expertise and experience to make sense of them. This is why Booms insisted that

the result of a query that does not take account of the processes that have given rise to the document will, therefore, bring to light misleading or unclear fragments, which in the end can only be re-situated in their original context on the basis of the knowledge possessed by the administration.

Conversely, the only information that could be successfully retrieved in this manner was information whose meaning was so stable and widely accepted that it could be understood without making reference to the context within which it had been generated.⁷⁸

Ministerial or departmental control over access to and the meaning of information was precisely the problem that Angermann hoped to overcome, and Booms proposed an alternative strategy, which he believed would avoid the problems inherent in Angermann's plan. Instead of increasing system complexity and the interpretive inadequacy of decontextualized information, Booms proposed to reduce both by constructing a directory of the responsibilities of each department, and perhaps even of each individual official, rather than by indexing all of the individual documents they produced. This was a compromise proposal. Although it would not have made the administration and its information completely transparent, it would have avoided many of the problems of the Angermann plan by directing queries not to existing information, but rather to other officials who knew what information was available, who could use their judgement (rather than a rigid schema of graduated access rights) to determine what information to disclose, and who could draw on their experience and tacit knowledge to explain the meaning of the information.⁷⁹

In 1974/75 a pilot project was carried out to determine whether a records management system like that proposed by Angermann would be feasible given both current

⁷⁷ BAK B106/54314, vol. 4, Booms, Zur Einbeziehung von amtlichen Unterlagen, insbesondere von Behördenschriftgut in eine Bundesinformationssystem nach dem Angermann-Modell (26 Feb. 1973). In recent years officials have apparently taken to setting out their views on easily removable Post-it notes attached to important documents, rather than annotating the documents themselves or composing their own memoranda, in order to avoid having to make public their views in response to freedom of information requests. See A. Semsrott, 'Geheimdienste noch geheimer: Novelle des Archivgesetzes schwächt Informationsfreiheit [Update]', 6 June 2016, <https://netzpolitik.org/2016/geheimdienste-noch-geheimer-novelle-des-archivgesetzes-schwaecht-informationsfreiheit/>.

⁷⁸ Booms, Zur Einbeziehung von amtlichen Unterlagen.

⁷⁹ *Ibid.*

technology and current archival methodology and whether it would yield greater benefits than the perfection of current manual archival practices, whose rationalization potential was nowhere near exhausted. The final report concluded—in terms that were applicable to every database system that sought to facilitate user-oriented access to information across the entire federal administration—that

given the current state of records administration technology and methodology, an acceptable way of identifying—from the perspective of all possible questions that could be asked—the totality of all information contained in a body of records in such a way that all of this information can be returned by an automatic search is not apparent, so that traditional methods of locating information in such records cannot be replaced by computers.⁸⁰

VI. The End of the Dream

In October 1974, State Secretary Siegfried Fröhlich delivered an address at the conference of the German Society for Documentation. He began by surveying the evolving informational needs of the government, the strategies that had been employed to meet them and the possibilities for rationalizing the government's *Informationswesen*, and he then gave a very public burial to the plan to build an integrated information system for the federal government. Fröhlich immediately distanced himself from the 'networking euphoria' (*Verbundsystem-Euphorie*) that had prevailed in many quarters until quite recently. 'We think that super information systems', he declared, 'possibly even those constructed as centralized systems, may one day be technically feasible, but we do not think that they are either expedient or sensible.' The urgent need for transverse information that cut across departmental and administrative boundaries, Fröhlich argued, could be met through the use of compatibility tools, and the two tools that he deemed worthy of mention were the documentarian mechanisms that we first encountered in Angermann's proposal: the federal thesaurus and the data collection catalogue.⁸¹

Although the Programme for Improving the Quality of Information in the Federal Administration limped on into the second half of the decade, the project no longer possessed the political urgency that it had once had. The rationale for having the federal information system—or at least what was left of it—within the Interior Ministry was diminished in 1974/75 as a growing proportion of the project focused on the development of documentation tools, and, as Lutterbeck's department was starved of funds in this period of retrenchment, most of these projects were absorbed by the new Ministry of Research and Technology as part of the ambitious scientific and technological documentation programme, which was approved by the cabinet in October 1974.⁸² This

⁸⁰BAK B106/54321, Bundesarchiv, Vermerk, Betr.: Modellversuch Schriftgut- und Kompetenznachweis. Abschlussbericht (10 May 1975). This pilot project also explored the potential value of a catalogue of administrative responsibilities (*Kompetenznachweis*), such as that proposed by Booms. The study concluded that the problems posed by the openness and variability of departmental responsibilities were comparable to those posed by traditional archival administration by the organization of records according to individual problem complexes, but that the value of such a catalogue could not be denied to the same extent as the use of electronic data processing for the administration of archival records.

⁸¹Fröhlich, 'Bessere Verwaltung durch bessere Information'.

⁸²Bundesministerium für Forschung und Technologie, *Programm der Bundesregierung zur Förderung der Information und Dokumentation, 1974–1977* (Bonn, 1976). These developments can be followed in BAK B106/54314, vol. 6.

spelled the effective end to the plan to build an information and planning system for the federal government.

Beyond the systems theoretical language used to frame the debate and—perhaps—the residual Hegelian desire to construct a system that would embrace the totality of all knowledge, little of the story told in the preceding pages is unique to West Germany. The acceptance of Keynesian economic policies, the desire to make the social problems of the welfare state the object of rational management, the expansion and computerization of the country's informational and statistical apparatus, the appeal of cybernetics, and the rapid realization that the exaggerated hopes that had initially been placed in the computer, social planning and information science could not be fulfilled—all of these were shared across Western Europe and on both sides of the Atlantic. The original vision of global social planning quickly faltered for a number of reasons: the intrinsic complexity of modern society, the administrative apparatus created to govern it, and the planning process itself; the conflict between planning, expertise and democracy; fiscal constraints and the inability to link programme and resource planning in an integral manner; the essentially political nature of planning and the impossibility of maintaining a consensus across levels of government and electoral periods; disillusionment with the vision of material progress and prosperity that underlay the project; the impossibility of anticipating, and thus planning for, externalities and contingencies; and—as we have seen—the limited success in solving the different dimensions of the information problem. The database projects discussed in this article suffered from corresponding problems, and Scharpf's judgement of limited success of global planning applies equally to the efforts to link information across systems and domains that have been described above:

Even though the political system—with its information and decision system—attained a degree of differentiation of its internal structure that corresponded to that of its environment, it has so far only been possible to a relatively limited degree and with extraordinary difficulties to reproduce the real interdependence of problem complexes in the socio-economic environment through corresponding linkages within the political-administrative apparatus created to master these complexes.⁸³

It should be noted in conclusion that the fortunes of the German database systems diverged in one important respect from those of the other main pillar of federal information policy, the proposed population registration system. As we saw above, one of the reasons why the proposed database networks were structurally incapable of functioning as their architects had intended was that they removed the information held in the individual domain-specific systems from the context in which it had originally been collected and made it available for secondary use in new contexts, where its meaning was altered in unexpected and often contested ways. Privacy advocates had made the exact same point when they argued that personal information should only be used for the purpose for which it had originally been collected because this was the only way to ensure that the original balancing of privacy and access rights that had underlain the authorization to collect the information would not be upset by such secondary uses. This claim, which was known as the final purpose principle, became one of the theoretical cornerstones of privacy protection law.

⁸³Scharpf, 'Komplexität als Schranke der politischen Planung', p. 169.

Although privacy was addressed in a more or less perfunctory manner in every draft master plan for the national and federal databases, it never became a major point of contention because planning for these systems never progressed to the point where officials could propose that personal information be used in specific ways for social planning. In the United States, the plan for a National Data Center came to grief on privacy concerns, while in West Germany the privacy concerns raised by the proposed reform of the population registration system, which would have laid the basis for the exchange of personal information across the public administration, became the catalyst for the politicization of privacy at the turn of the 1970s and the drafting of the Federal Privacy Protection Law.⁸⁴ These concerns about the collection and use of personal information by the state and the emergence of a privacy-based social movement, which contested the use of such information to enhance the surveillance capacity and administrative power of the state, ultimately posed a challenge to federal information policy that was just as serious, if not more so, than the challenges that had arisen in conjunction with the national and federal database networks.

Abstract

Much attention has been devoted to planning as the key concept in political discourse of the Federal Republic from the mid-1960s to the mid-1970s. Much less attention has been paid to the closely related notion of information. At the turn of the 1970s, one of the most important initiatives of the West German government in the informational domain was a proposed national database network. The conception of politics that underlay this project bundled the utopian aspirations associated with the use of computers to integrate and analyse information with the conviction that more, better and different kinds of information would make complex, industrial societies like the Federal Republic more governable. The West German database network embodied two complementary modernist visions: the dream of total data integration and the antithetical but equally seductive documentarian belief that the problems of information management could be solved by reducing the symbolic field within which information was always embedded to stable, elemental units of meaning. However, the plan for a national database network collapsed before it could even fully make it onto the drawing board. This article argues that the project failed not because of privacy concerns, but because these modernist visions quickly ran up against limits that were as much political and conceptual as technological. In the end all that was left was a documentation system for the federal government in which the connections to social planning, which had provided much of the original impetus for the system, had all but disappeared.

⁸⁴Frohman, *Surveillance, Privacy, and the Politics of Personal Information*.