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Data Processing and Government Administration: The Failure of the American Legal Response to the Computer

by

PAUL SCHWARTZ*

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Introduction

Computers are now an integral part of government administration. They put a tremendous amount of personal data in the hands of government officials, who base a wide range of decisions on this information. Yet the attention paid to the government's use of data processing has not been equal to the potential dangers that this application presents. Personal information, when disclosed to family and friends, helps form the basis of trust; in the hands of strangers, this information can have a corrosive effect on individual autonomy. The human race's rapid development of computer technology has not been matched by a requisite growth in the ability to control these new machines.

This Article attempts to develop a jurisprudential approach to controlling the use of computers to process personal data in the activist
So long as government bureaucracy relies on the technical treatment of personal information, the law must pay attention to the structure of data processing and its effects on both the individual and the social goals of the state. This Article's perspective is shaped by the reorientation of American administrative law toward "internal" concerns of agency management and by the European development of data protection law. This Article's goal is to formulate a constructive response to computer processing of personal data. The destruction of computers is no more an answer to informatization than the destruction of earlier ma-

1. The term "activist state" refers to those activities that attempt to structure the social, political, and physical environment. See infra text accompanying notes 35-44.


2. See Jerry L. Mashaw, Bureaucratic Justice 15 (1983) [hereinafter Mashaw, Bureaucratic Justice] (describing the search for "an internal law of administration"—a quest that seeks to structure responsibility); William H. Simon, Legality, Bureaucracy, and Class in the Welfare System, 92 Yale L.J. 1198 (1983) (discussion of internal structure of welfare administration). For an earlier example of this approach, see Joel F. Handler, Controlling Official Behavior in Welfare Administration, 54 Cal. L. Rev. 479, 501 (1966) ("An approach that looks to statutory and administrative methods of control focuses on the nature of the causes and conditions of official behavior and then seeks ways of changing the causes and conditions.").

3. For European definitions of data protection law and its goals, see Loi No. 78-17 du Janvier 1978 Relative à l'Informatique, aux Fichiers et aux Libertés, J.O. 7 janvier 1978, J.O. 25 janvier 1978 (The goal of French data protection is to place "informaties" at the service of each citizen, insure its development within a context of international cooperation, and prevent it from damaging human identity, human rights, private life, individual rights, or private rights.); Gesetz zur Fortentwicklung der Datenverarbeitung und Datenschutzes, (Bundesdatenschutzgesetz) vom 20 Januar 1990, BGBl. I S.2954 (defining the role of data protection as safeguarding the individual's "right of personality" from harm caused by the application of personal data). See also Spiros Simitis, Einleitung, in Kommentar zum Bundesdatenschutzgesetz 60-63 (Spiros Simitis et al. eds., 1981) [hereinafter Simitis, German Data Protection Law Commentary] (Data protection safeguards specific conditions for the existence and development of the individual in a highly technical society.).

For an insightful comparative analysis of the development of data protection law, see David H. Flaherty, Protecting Privacy in Surveillance Societies (1989).
achines would have been an answer to industrialization. Accordingly, this Article seeks to understand the results of the government’s processing of personal data and to develop appropriate legal principles to guide this application of computer technology. Meeting this goal is not beyond our power: several Western nations have been at least partially successful in constructing such a body of law.4 From an international perspective, the American response appears muted and incomplete.5

In other countries, this area of legal activity is called data protection law. This Article’s constructive response to the computer is to articulate principles of an American law of data protection. The Article begins by examining the origins of the use of personal information by the government. Part I describes the changing role of the government in the private sphere of the individual. With the decline of mid-nineteenth century notions of classical liberalism, the state has taken a more active role in supervising the market and the family. The state’s expanded role has transformed the private domain into a social sphere of political choice and experimentation and has obliged the state to gather increasing amounts of personal information. Like industry, the government has chosen to process this information in a mechanical fashion. This approach may be described as the data processing model of administrative control. It is characterized by the rationalized handling of data as a flow within administrative bodies that are designed to be processors of information. These administrative organizations are set up to seek the most efficient method of processing information. Any improvements that make data processing more rapid, precise, and complete are believed to bring these bureaucratic entities closer to their assigned goals.

The activist state now relies on a data processing model to carry out its enlarged role in society. Indeed, its management of services has become dependent on its extensive collection of personal information. This administrative role has itself been shaped by the computer’s capacities as a machine. Part I examines three characteristics of the computer that are particularly significant: Its rapid processing and storage of enormous amounts of data; its transformation of information into a "multifunc-


5. For criticisms of the American approach from a comparative perspective, see Flaherty, supra note 3, at 302-70; Paul Schwartz, Die neuesten Entwicklungen im amerikanischen Datenschutzrecht, 5 Recht der Datenverarbeitung 153 (1989).
tional” form; and, finally, its production of output that appears seduc-tively precise.

Part II analyzes the dangers of this kind of government data processing. This type of analysis requires the development of standards with which to assess the potential and actual harms resulting from government data processing. After discussing weaknesses of the “privacy” paradigm, this Article develops two related concepts: bureaucratic justice and human autonomy. Both are applied to gauge the effects of the government’s use of personal data. This analysis is developed through case studies of the bureaucracies that distribute welfare and enforce child support. In each of these programs, the effects of computer applications have been significant and largely overlooked.

After examining these applications of data processing, the Article articulates principles to guide the use of computers in these and other government programs. Part III indicates how an American data protection law can promote bureaucratic justice and protect human autonomy. There are three essential elements to this response: structuring transparent data processing systems; granting limited procedural and substantive rights to the data subject; and creating independent governmental monitoring of data processing systems. Part III develops these essential elements of an American data protection law and discusses how they can be implemented. This Article argues in favor of the creation of a law of data protection that carefully structures the state’s use of personal data.

I. The Data Processing Model and the Computer

The government has come to depend on a form of bureaucratic organization that this Article calls the data processing model of administrative control. This model existed long before the computer, but its most immediate roots lie in technological innovations of the nineteenth century. The data processing model creates bureaucratic structures that are processors of information. These organizations are encouraged to seek a more rapid, precise, and complete method of processing information to better enable them to achieve their objectives. But this unreflective reliance on technology can have a negative effect on both the ability of bureaucracies to accomplish their assigned goals and the autonomy of the individual.

Despite the hazardous effects of this dependence on technology, any perception that something is amiss tends merely to result in the application of ever more sophisticated data processing systems. The computer is an appealing device for bureaucracies that are perpetually seeking to improve their means of processing knowledge. The following sections trace
the origins of the data processing model of administration and examine how the computer functions within the context of this model.

A. The Information Society and the Data Processing Model

Information has become the basis of the American economy. The economic worth of information technology and of the work of the bureaucracies that apply it now exceeds even the net value of manufacturing. As a result, the largest single sector of the labor force in the United States is said to be involved in "the production and distribution of knowledge." The now-common term "information society" expresses the significance of this gathering, coordination, and analysis of data.

The modern information society has various historical antecedents. Its direct origin rests in the industrial revolution of the nineteenth century. During this period, the speed with which goods could be manufactured and transported increased dramatically. As one historian of technology explains, the industrial revolution, and in particular steam-powered machines, created a "crisis of control." This crisis arose from

6. For an influential discussion of the importance of "knowledge production" in the American economy, see Fritz Machlup, The Production and Distribution of Knowledge in the United States 362-76 (1962).


8. Beniger, supra note 7, at 22-24. For the origin of this phrase, see Machlup, supra note 6.

9. See, e.g., Jürgen Reese et al., Die Entwicklung der Informationsgesellschaft aus der Sicht der Bundesrepublik Deutschland, in Informationsgesellschaft oder Überwachungsstaat 17, 19 (Staatskanzlei, Hessischen Landesregierung ed., 1984) ("Information society means above all nothing other than that the majority of employed persons earn their income in the information sector rather than the industrial sector.") (translated from original); cf. Office of Technology Assessment, U.S. Congress, Computer-Based National Information Systems 47 (1981) [hereinafter Computer-Based Systems] ("The more complex a society, the more central information is to its economic activities.").


11. Beniger, supra note 7, at 210-87. In his perceptive analysis of the industrial revolution in America, Thomas Hughes noted that the work of creating modern America was divided among three types of individuals: independent inventors, industrial scientists, and system builders. Thomas P. Hughes, American Genesis: A Century of Invention and Technological Enthusiasm 184-87 (1989).

12. Beniger, supra note 7, at 218-87. See also Hughes, supra note 11, at 298-99 (discussing "crises of control" in this period); Strandh, supra note 10, at 173-86 (tracing the genesis and history of "control systems").
an acute disparity between the speed with which goods could be produced and the ability to coordinate and control their production.\textsuperscript{13} During this period of crisis, various approaches to controlling new technology were tested. Initial attempts at control involved simple methods. For example, control was sought through closer attention to the various stages of production.\textsuperscript{14} A perfect representative of this early period is the ironmaster Rouncewell in \textit{Bleak House}. Rouncewell explains to the immobile Sir Leicester Dedlock: "In these busy times, when so many great undertakings are in progress, people like myself have so many workmen in so many places, that we are always on the flight."\textsuperscript{15}

Eventually, a new approach prevailed: the administrative complexities created by machinery that outpaced conventional nineteenth century control techniques would be mastered by organizing people and constructing machines to process information in a mechanical fashion. This use of information to control production was to be achieved through the application of technology within bureaucratic structures.\textsuperscript{16} Rather than travel, a Rouncewell would create machines and bureaucracies to gather and process information for him. These structures for processing information would be based on the newest forms of industrial production.\textsuperscript{17}

Following the approach of the assembly line, bureaucracies used technology to standardize information and to move it through the workplace.\textsuperscript{18} The data processing model treats information as a data flow within a rationally organized stream of administrative activities.\textsuperscript{19}

\begin{itemize}
\item \textsuperscript{13} \textsc{Beniger}, \textit{supra} note 7, at 218-19.
\item \textsuperscript{14} \textit{Id.} at 240.
\item \textsuperscript{15} \textsc{Charles Dickens}, \textit{Bleak House} 450 (Norman Page ed., Penguin Books 1971) (1853). For an analysis of Dickens' observations regarding technology and developing industrialism, see 2 \textsc{Edgar E. Johnson}, \textsc{Charles Dickens: His Tragedy and Triumph} 794-95 (1952).
\item Railroads, which raised "[d]ramatic problems of control," \textsc{Beniger}, \textit{supra} note 7, at 221, became a particular source of worry for Dickens after he almost died in a rail disaster. 2 \textsc{Johnson}, \textit{supra} at 1018-21.
\item \textsuperscript{16} \textit{See Hughes}, \textit{supra} note 11, at 184-219, 353-442 (comparing production systems of Henry Taylor and Henry Ford with processing of data as a flow in bureaucracies).
\item \textsuperscript{17} \textsc{Beniger}, \textit{supra} note 7, at 370-403.
\item \textit{Id.} at 393-403.
\item \textsuperscript{19} The notion of bureaucracy as a kind of machine can be found in the work of Max Weber. \textit{See Max Weber, \textit{Wirtschaft und Gesellschaft} 561 (5th ed. 1985) (describing "bureaucratic mechanism" and asserting that it has the same superiority that machines have over "nonmechanical kinds of production"); see also id. at 552 ("Modern administration is based on writings (official documents), which are preserved in the original or as a copy, and on a staff of subordinate officials and clerks of all kinds.") (translated from original). Kurt Tucholsky, the great critic of both Weimar Germany and the Nazis, viewed state bureaucracy in these terms:
\begin{quote}
It is a characteristic of the machine age that most people believe that they have ac-
\end{quote}
\end{itemize}
Although the treatment of information within bureaucracies began before the industrial age, the modern form of the data processing model responded to, and was shaped by, industrial revolution in the nineteenth century. This dynamic process took place throughout the new industrial world. James Beniger has shown that railroads in the 1850s were structured around “intelligence gathering, hierarchical communication, feedback, and error detection.”

According to Beniger, the superintendent of the Erie Railroad sought to transform his organization into a “vast information processor” which was operated by the railroad’s employees. This approach involved the systematic gathering and coordination of information to facilitate safe and profitable management of the expansive railroad line. By the end of the nineteenth century, Thomas Edison had applied industrial methods, not to run a railroad, but to administer an enterprise devoted to the production of technological knowledge. This innovative industrial organization is reflected in the nickname of Edison’s headquarters in Camden, New Jersey: the “invention factory.”

The data processing model can be employed to manage information about small groups of machines. It can also be used to control large-scale organizations such as the Erie Railroad and the Edison Company. It can even be applied to manage human behavior. As industrial techniques were applied to more specialized services, more information relating to individuals began to be gathered. Bureaucracies now use data

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20. BENIGER, supra note 7, at 228.
21. Id. at 226-37.
22. For an excellent account of Edison’s application of industrial methods, see HUGHES, supra note 11, at 24-52.
23. Id. at 27.
24. See ARTHUR R. MILLER, THE ASSAULT ON PRIVACY 22 (1971) (“As if spread with a magic nutrient, information systems of every size, shape, and form have sprouted and grown like weeds in recent years.”); Arthur R. Miller, Personal Privacy in the Computer Age: The Challenge of New Technology in an Information-Oriented Society, 67 Mich. L. Rev. 1089, 1103 (1969) (“Ever since the federal government’s entry into the taxation and social-welfare spheres, increasing quantities of information have been elicited from citizens and recorded.”).
processing to manage information about every aspect of human existence. There are records of our physical health, educational achievements, workday performances, reading habits, and use of credit.25 Data are now gathered about every individual before birth, during life, and after death.26 Just as information is used to control machines, it is also used to regulate human behavior.

B. The Service Administration and Its Need for Personal Information

The mid-nineteenth century is significant beyond its distinction as the period when steam machines precipitated the "crisis of control" that would eventually lead to the creation of data processing bureaucracies. It also marks the high point of the liberal age. The evolution from this period of classical liberalism to the establishment of American state activism has been characterized by greater reliance on data processing. The role of the American state during the period that begins with mid-nineteenth century classical liberalism and ends with late twentieth century Reaganism is characterized by the ascendancy of a service establishment dependent on data processing. The triumph of the service administration is an important event in American legal history, but one that has never been fully understood.

Let us begin by considering the limits on the state's role during the age of classical liberalism. Classical liberalism grounded individual autonomy on the market and the liberating effect of family relations.27 To strengthen these two foundations of individual life, the market and the

25. See California Bankers Ass'n v. Schultz, 416 U.S. 21, 89 (1974) (Douglas, J., dissenting) (bank records “mirror not only one’s finances but his interests, his debts, his way of life, his family, and his civic commitments”); COMPUTER-BASED SYSTEMS, supra note 9, at 78 (“There appears to be a trend toward a society in which information about a person's finances, medical and educational histories, habits as a consumer, daily movements, and communications with others through the telephone or the mail will be collected, stored in a computer, possibly sold to others, and used in ways over which the individual may have little or no control.”).

26. See JERRY MASHAW, DUE PROCESS IN THE ADMINISTRATIVE STATE 12 (1985) [hereinafter MASHAW, DUE PROCESS] (“Administrators make decisions that affect us from before the cradle to beyond the grave.”) (emphasis in original); see also ELIZABETH KANE, BIRTH MOTHER: THE STORY OF AMERICA'S FIRST LEGAL SURROGATE MOTHER (1988) (discussing obstetrics as management of data relating to baby and mother); OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, INFERTILITY: MEDICAL AND SOCIAL CHOICES 15-16 (1988) (discussing federal government's current collection of information relating to reproductive health and calling for "national surveillance system" on chlamydial infection).

27. For analysis of these elements of classical liberalism, see JÜRGEN HABERMAS, STRUKTURWANDEL DER ÖFFENTLICHKEIT (1962); MAX HORKHEIMER, AUTORITÄT UND FAMILIE, IN TRADITIONELLE UND KRITISCHE THEORIE 162 (1968); Frances E. Olsen, The Family and the Market: A Study of Ideology and Legal Reform, 96 HARV. L. REV. 1497 (1983).
family were sequestered in a private sphere that was to be free from public authority. A variety of legal norms sought to guarantee the independence of this private domain from the state. Yet the nature of these norms also insured the oppression of those without property (the illusion of "freedom to contract") and of women and children (the patriarchal nature of the bourgeois family). The private sphere was a mixed blessing. Its decline was caused by social and economic changes that forced the state into a different role in relation to the market and the family.

The state's relation to this private sphere changed because of the social and economic problems caused by new industrial development. The most important changes in this relationship occurred during the Progressive Era and the New Deal. The state's first interventions in the "private" domain led to pervasive market regulation. The state came to affect familial "privacy," for example, by guaranteeing the family some level of support, by increasing the instances of socialization outside the family, and by regulating the exploitation and abuse of children by their parents. One important example of governmental support of the family is the federal welfare program Aid to Families with Dependent Children. This Article will examine some of the consequences of this

28. HABERMAS, supra note 27, at 63-74; Olsen, supra note 27, at 1504-07; see MICHAEL GROSSBERG, GOVERNING THE HEARTH 27 (1985) ("Compartmentalizing the home and sequestering it from public life refined the republican concept of domestic governance.").

29. See FRANZ NEUMAN, DEMOKRATISCHEN UND AUTORITÄREN STAAT 31 (Herbert Marcuse ed., 1967) ("The liberal state was always as strong as required by the political and social situation and by the Bürger's interest.") (translated from original); HORKHEIMER, supra note 27, at 211-13 (seemingly natural characteristics of the father that gave him power within the family were his economic position and his physical strength—with a legal backing given to both characteristics); cf. Karl E. Klare, The Public/Private Distinction in Labor Law, 130 U. PA. L. REV. 1358, 1417 (1982) ("The core ideological function served by the public/private distinction is to deny that the practices comprising the private sphere of life—the worlds of business, education and culture, the community, and the family—are inextricably linked to and at least partially constituted by politics and law. . . . The primary effect of the public/private distinction is thus to inhibit the perception that the institutions in which we live are the product of human design and can therefore be changed.").


31. One example of such regulation of the market is found in labor law. See, e.g., Klare, supra note 29, at 1363 (discussing perception that because the "private employment relationship is affected with a public interest," states should limit discharge of employees at will). For a historical analysis of the state's regulation of the market, see Robert L. Rabin, Federal Regulation in Historical Perspective, 38 STAN. L. REV. 1189, 1197-1208, 1216-29 (1986).

32. HABERMAS, supra note 27, at 188-90. For a historical analysis of American social policy regarding family violence, see ELIZABETH PECK, DOMESTIC TYRANNY (1987). For a historical analysis of the movement against child labor, see ROBERT MNOOKIN & D. KELLY WEISBERG, CHILD, FAMILY AND STATE 823-50 (2d ed. 1989).
program in Part II.B. The state’s role in the socialization of children has gained in significance since the mandating of universal, compulsory school attendance. The importance of this socialization is demonstrated, in part, by the opposition to this state activity by those parents who wish to educate their children at home.\textsuperscript{33}

The state’s supervision of market and family has transformed the private domain into a social sphere of political choice and experimentation.\textsuperscript{34} Even the eight years of the Reagan presidency did not restore the original independence of the private domain. In fact, this period saw a renewed governmental reliance on administration through data processing. To understand this continuing reliance on data processing, one must grasp the extent to which some kind of activist state survived Reagan’s presidency. Ironically, one of the best accounts of this survival has been provided by a firm opponent of governmental activism. In \textit{The Triumph of Politics}, David Stockman, President Reagan’s antistatist budget director, recounts devising a multiple-choice budget cutting quiz to help focus the attention of America’s chief executive officer.\textsuperscript{35} President Reagan took the quiz several times, appeared to enjoy it immensely, and yet proved entirely unwilling to make the deep cuts that would match his antigovernment rhetoric—or balance the federal budget.\textsuperscript{36} After noting an American reluctance to acknowledge “the modern tradition of social democracy,” Stockman sheepishly admits the desire of the American electorate for state activity that will “shield it from capitalism’s rougher edges.”\textsuperscript{37} Reagan did assault and modify aspects of the activist state, but he did not inter it.\textsuperscript{38} Moreover, both the maintenance of state activism

\textsuperscript{33} The Supreme Court has created a limited religious exception to compulsory school attendance for Amish children. \textit{See} Wisconsin v. Yoder, 406 U.S. 205, 209 (1972) (Amish parents believed that required attendance at schools until age 16 would place “Amish children in an environment hostile to Amish beliefs with increased emphasis on competition in class work and sports and with pressure to conform to the styles, manners, and ways of the peer group.”).

\textsuperscript{34} Habermas speaks of the family as located within a sphere of “seeming privacy” [\textit{Scheinprivatheit}] that should be seen as a “re-politicized social sphere.” \textit{HABERMAS, supra} note 27, at 190, 195 (translated from original). \textit{See} Olsen, \textit{supra} note 27, at 1517-20 (analyzing techniques of state regulation of the family).


\textsuperscript{36} \textit{Id.} at 386-407, 429-46. For discussion of the roots of Reagan’s opposition to the New Deal and governmental activism, see \textit{GARRY WILLS, REAGAN’S AMERICA} 283-88, 357 (1987).

\textsuperscript{37} \textit{STOCKMAN, supra} note 35, at 425, 428. Stockman adds, “The half-trillion-dollar budget which remains in 1986... is there because the rank and file of GOP politicians want it for their constituents no less than the Democrats do.” \textit{Id.} at 435.

\textsuperscript{38} \textit{See} THEODORE R. MARMOR ET AL., \textit{AMERICA’S MISUNDERSTOOD WELFARE STATE: PERSISTENT MYTHS, ENDURING REALITIES} 31 (1990) (American “insurance/oppor-
and Reagan’s assault on supposedly unnecessary government programs ultimately required the same thing: information processing by the state. This point requires elaboration.

The American state now wavers between adopting a reactive and a preventive role. But when the individual’s pursuit of happiness depends on governmental maintenance of the social, political, and physical environment, the government must gather more and more information from within the boundaries of the supposedly private sphere. Compared to its historic role, the state today depends upon the availability of vast quantities of information, and much of the data it now collects relates to identifiable individuals. Indeed, the fulfillment of many governmental objectives depends on the gathering of such personal information.

The state gathers information because distribution of social services is impossible without detailed information on the citizen as client, customer, or simply person to be controlled. Moreover, the state gathers personal information to better manage itself. Indeed, this is an area where the Reagan revolution led to more government, not less. The Reagan administration’s determination to improve the management of federal programs led to dramatic increases in the use of computer technology to process personal data. Part II of this Article examines two

39. For discussions of these roles of the state, see BRUCE A. ACKERMAN, RECONSTRUCTING AMERICAN LAW 1-6 (1984); Rabin, supra note 31, at 1189, 1315-26. Erhard Denninger’s contribution to this debate is the concept of a “prevention state.” Erhard Denninger, Der Präventions-Staat, 21 KRITISCHE JUSTIZ 1 (1988).

In the United States, the notion of a preventive role for the state has never been fully accepted. This refusal is reflected, for example, in certain limits of the Supreme Court’s concept of Due Process. Compare DeShaney v. Winnebago County Dep’t Social Servs., 489 U.S. 189, 196-97 (1989) (“[I]f the Due Process Clause does not require the state to provide its citizens with particular protective services, it follows that the State cannot be held liable under the Clause for injuries that could have been averted had it chosen to provide them.”) with id. at 208, 212 (Brennan, J., dissenting) (“Wisconsin law invites—indeed, directs—citizens and other governmental entities to depend on local departments of social services”; therefore, the State's inaction may lead to liability) and Baltimore Dep't Social Servs. v. Bouknight, 493 U.S. 549, 558-59 (1990) (child found to be in need of state assistance becomes the “particular object of the State’s regulatory interests”; thus, parent cannot invoke Fifth Amendment privilege to resist order to produce child). See David A. Strauss, DUE PROCESS, GOVERNMENT INACTION, AND PRIVATE Wrongs, 1989 SUP. CT. REV. 53, 59 (criticizing reliance on distinction between governmental action and inaction); Amy Sinden, Note, IN SEARCH OF AFFIRMATIVE DUTIES TOWARD CHILDREN UNDER A POST-DESHANEY CONSTITUTION, 139 U. PA. L. REV. 227 (1990).

40. See, e.g., PRIVACY PROTECTION STUDY COMM’N, PERSONAL PRIVACY IN AN INFORMATION SOCIETY 4 (1977) [hereinafter PRIVACY STUDY REPORT] (“Today, government regulates and supports large areas of economic and social life through some of the nation’s largest bureaucratic organizations, many of which deal directly with individuals.”); supra text accompanying note 25.
government programs in which such concerns with accuracy and efficiency have intensified the application of data processing. The state's role in distributing benefits and managing administration is aptly expressed in a term borrowed from German law: the service administration (Leistungsverwaltung). The necessary accompaniment to state activity is a service administration that carries out legislative policy, acts in a just manner, and combats fraud. In both Germany and America, service administrations carry out these functions by processing personal information.

The state, like industry, has come to rely on the data processing model of bureaucracy. It has constructed administrative structures that treat information as flows of data within a rationally organized stream of activities. These organizations move information through themselves as part of their search for the most effective means of decisionmaking. Statistics illustrate the significance of federal information use. The federal government utilizes the world's largest collection of computers—over 13,000 medium and large computers and over 600,000 microcom-

41. See infra Parts II.B-C.

42. See Ingo von Munch, Verwaltung und Verwaltungsrecht in demokratischen und sozialen Rechtsstaat, in ALLGEMEINES VERWALTUNGSRECHT 1, 24-28 (Hans U. Erichsen & Wolfgang Martens eds., 8th ed. 1988) (discussing concept of "service administration"); Christopher Degenhart, Die Bewältigung der wissenschaftlichen und technischen Entwicklungen durch das Verwaltungsrecht, 1989 NEUE JURISTISCHE WOCHENSCHRIFT 2435 (discussing role of administrative law in managing scientific and technical developments). For an American approach to this aspect of administration, see Mashaw, BUREAUCRATIC JUSTICE, supra note 2, at 226 ("We need to be able to think somehow of a 'right' to good administration, without thinking merely of a transformation in the style of litigation. Such a 'right' would have to be 'enforced' through a mechanism that promised technical competence plus the comfort of legitimating symbolism.") (footnotes omitted); Roscoe Pound, The Role of Law and the Modern Social Welfare State, 7 VAND. L. REV. 1, 1 (1953) (arguing for use of term "service state" rather than "welfare state").

43. Cf. von Munch, supra note 42, at 24-26 (administrative distribution of subventions requires parliamentary legitimation and publication of guiding rules).

Federal expenditures for information technology have grown by fifty percent in the last six years. The federal government now spends more than $17 billion per year for information technology; this sum represents almost two percent of the federal budget. The intensity of the federal government's reliance on administration through data processing is best indicated by the large number of its computers that are equipped with communication links to other government computers. In fact, the federal government leads all sectors of American industry or trade in the percentage of its computers equipped with such communication links.

The dynamics of the state require an achievement-oriented service administration that depends on information processing. The challenge is to structure the state's activity and its administration in a fashion consistent with human worth. This Article responds to that challenge not by proposing to abolish data processing, but by seeking to comprehend the results of its current application and develop legal principles to shape the values of bureaucracy and its work. Carrying out the first part of this task—understanding data processing—requires some consideration of the capacities of the computer.

C. Capabilities of the Computer as Machine

In the past, the data processing model functioned without the use of computers. Information was processed using other devices. Even without the technical assistance of computers, bureaucratic organizations managed enormous tasks—for both good and bad purposes. Nevertheless, the computer is a perfect tool to implement the data processing model, and a powerful device for a world that seeks to process knowledge in an industrial fashion. At the same time, the use of computers alters

46. Id.
47. Id.; see DAVID F. LINOWES, PRIVACY IN AMERICA: IS YOUR PRIVATE LIFE IN THE PUBLIC EYE? 81 (1989) ("largest inventory of computers of any single organization in the world" belongs to the federal government).
49. See BENIGER, supra note 7, at 408-22 (discussing governmental information processing systems at the turn of the century). An excellent display of some of these early machines is on permanent exhibition at the Smithsonian Institution's Museum of American History ("The Information Age," Washington, D.C.).
50. See, e.g., MARGO J. ANDERSON, THE AMERICAN CENSUS: A SOCIAL HISTORY 194 (1988) (Census Bureau participated in Japanese internment program "by providing detailed hand tabulations" and by preparing "detailed counts of the Japanese for small geographic areas").
the data processing model by increasing its ability to direct human behavior and influence the decisionmaking process. Indeed, the computer contributes to the alienation of data processing from its original purpose of serving human concerns. Characteristics of the computer shape the way that individuals are handled and power is allocated in our country. This tool is not a neutral device, but no machine is. Such devices alter our relationship to the world and change the way we perceive it.51

The digital computer is an electronic calculating machine that relies on binary numbers and divides its functions among a processing and memory unit.52 The attractiveness of this tool for the data processing model is attributable to its qualities as a machine. Three characteristics of the computer are particularly significant in this context. The first is the computer’s capacity for rapid processing and storage of enormous amounts of data. The second is its capacity to transform information into a “multifunctional” form. The third is its capacity to produce “output” that appears seductively precise.

(1) Rapid Processing of Enormous Data Banks

The computer’s remarkable ability to process and store vast quantities of information results from combining binary math with extraordinary advances in the design of circuits, software, and magnetic storage devices.53 These developments have led to exponential increases in the computer’s ability to manipulate and store strings of binary numbers.54

51. See Joseph Weizenbaum, Computer Power and Human Reason: From Judgment to Calculation 17-25 (1976); George J. Annas et al., American Health Law 347 (1990) (medical technology changes “not only the way we think about medicine, but how we think about ourselves”); Strandh, supra note 10, at 7-32 (discussing early tools and their use and impact in early civilizations).


53. Weizenbaum, supra note 51, at 73-110. For more on developments in computer design, see Beniger, supra note 7, at 399-425; Joel Shurkin, Engines of the Mind (1984), Strandh, supra note 10, at 187-202. See also Laurence Hooper & Jacob M. Schlesinger, Speed of Light: Is Optical Computing the Next Frontier, or Just a Nutty Idea?, WALL ST. J., Jan. 30, 1990, at A1 (Bell Laboratories trying to develop a computer that uses photons rather than electrons to make calculations); John Markoff, Silicon Valley’s Design Renaissance, N.Y. TIMES, Aug. 6, 1989, § 3 (Business) at 1 (discussing recent improvements in software and chip design); John Markoff, A New Way to Speed Computers, N.Y. TIMES, May 31, 1989, at D6 (describing application of hardware or software to achieve “parallel processing,” the linking together of central processing units); John Markoff, The P.C.‘s Broad New Potential, N.Y. TIMES, Nov. 30, 1988, at D1 (computer companies “have introduced high-capacity erasable magneto-optical drives that store 12 to 50 times the amount of information currently packed on magnetic hard disk drives”).

54. See Miller, supra note 24, at 11 (“Perhaps the most dramatic aspect of the electronic age has been the rate at which technology has evolved.”).
Such increases in computer power have encouraged, in turn, the mechanical management of larger and more complex forms of social activity.55

The computer's enormous ability to process information has led to its use in the administration of welfare and child support enforcement programs and has reinforced the strength of the data processing model in these bureaucracies.56 Not only does the state now use the computer to manage activities that were once considered to be in the "private" sphere, it also encourages non-governmental actors to adopt similar applications of this device.57 Recent trends in the practice of medicine provide an example of this intertwining of public and private domains.

Through Medicare, Medicaid, and other programs, the federal government has assumed an important role in financing health care in the United States.58 In addition to furnishing benefits, the government has created an administrative structure to review how government-financed health care services are performed.59 In programs such as Medicare and

55. Cf. Weizenbaum, supra note 51, at 30-31 ("[T]he very erection of an enormously large and complex computer based welfare administration apparatus, however, created an interest in its maintenance and therefore in the perpetuation of the welfare system itself.").

56. See infra Parts II.B-C.

57. This "encouragement" is often provided through paperwork requirements that the state imposes. Consider the likely effects of data collection requirements imposed in the regulation of occupational safety and health. See 29 U.S.C. § 657(c)(1) (1988) (requiring employers to keep such records as prescribed by the Secretary of Labor or of Health and Human Services, in order to develop "information regarding the causes and prevention of occupational accidents and illnesses"). The state has attempted both to reduce informational demands on the private sector, see, e.g., The Paperwork Reduction Act, 44 U.S.C. §§ 3501-3520 (1988), and to insure "adequate" data gathering, see, e.g., Exec. Order No. 12,291, § 2(a), 46 Fed. Reg. 13,193 (1981), reprinted in 5 U.S.C. § 601 (1988) ("Administrative decisions shall be based on adequate information . . . . ").

58. See Rosemary Stevens, In Sickness and In Wealth: American Hospitals in the Twentieth Century 321 (1989) ("Through the fiscal incentives and controls of Medicare, the federal government has become an overt and forceful arbiter of hospital service reimbursement."); Annas et al., supra note 51, at 121-206 ("[B]y the mid-1980s, Medicaid and Medicare, financing health care for one out of five Americans, and representing three-quarters of all public spending for health care, have become the primary vehicles for government health care policy and a source of continuing controversy over their adequacy, impact and cost.").

59. See, e.g., David C. Hsia et al., Accuracy of Diagnostic Coding for Medicare Patients Under the Prospective-Payment System, 318 New Eng. J. Med. 352 (1989) (discussing data processing requirements of prospective payment system overseen by Department of Health and Human Services). Aspects of the administration of Medicaid and Medicare provisions have been challenged on constitutional grounds. See, e.g., Heckler v. Ringer, 466 U.S. 602, 605 (1984) (upholding constitutionality of provisions of Medicare Act making judicial review of claims available only after Secretary of Health and Human Services renders "final decision" on claim); Harris v. McRae, 448 U.S. 297, 311-27 (1980) (upholding constitutionality of Hyde amendment to Medicare Act, which places limitations on public funding for abortion); O'Bannon v. Town Court Nursing Ctr., 447 U.S. 773, 785 (1980) (upholding constitutionality of Medicaid provisions that give recipients the right to choose nursing home services only from "qualified providers") (emphasis in original).
Medicaid, the underlying services are dispensed not by government bureaucrats, but by the medical profession. This body of experts traditionally has been allowed to police itself and to make discrete decisions regarding each case through the individual application of group norms.\(^6\) In spite of this tradition of deference, the state has seized upon the computer's ability to process large banks of data as a way to control doctors,\(^6\) regulate national health expenditures,\(^6\) and help doctors control patients.\(^6\) Private health plans and hospitals also utilize computers in order to strengthen administrative control.\(^6\)

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60. See Annas et al., supra note 51, at 377 (primary role traditionally granted to medical profession in defining and enforcing "quality of care"); Jay Katz, The Silent World of Doctor and Patient 30-47 (1986) (describing the success of physicians in gaining control over medical care and freedom from lay control).


62. Annas et al., supra note 51, at 125; Hall, supra note 61, at 478-79.

63. Jay Katz has called for patients and doctors to "talk more with one another," for patients and doctors to acknowledge uncertainty, and for patients to be "trusted to participate more fully in the decisions that affect their well-being." Katz, supra note 60, at 165-206, 229. The use of computers to assist medical decisionmaking, see infra text accompanying notes 65-70, provides doctors a new basis upon which to reassert their authority and demand unquestioning obedience. This point has been explored in Don DeLillo's novel, White Noise (1985).

Consider this discussion between a doctor and the protagonist:

"People tend to forget they are patients. Once they leave the doctor's office or the hospital, they simply put it out of their minds. But you are all permanent patients, like it or not. I am the doctor, you the patient. Doctor doesn't cease being doctor at close of day. Neither should patient. People expect doctor to go about things with the utmost seriousness, skill and experience. But what about patient? How professional is he?"

He did not look up from the printout as he said these things in his meticulous singsong.

"I don't think I like your potassium very much at all," he went on. "Look here. A bracketed number with computerized stars."

"What does that mean?"

"There's no point your knowing at this stage."

"How was my potassium last time?"

"Quite average in fact. But perhaps this is a false elevation. We are dealing with whole blood. There is the question of a gel barrier. Do you know what this means?"

"No."

"There isn't time to explain. We have true elevation and false elevations. This is all you have to know."

Id. at 260.

64. Stevens, supra note 58, at 323.
The computer may be the last best hope to control health care in a rational way. It renders the enormous amounts of information involved in diagnosing, treating, and billing patients accessible to external review. Moreover, all kinds of medical decisions are now being assisted through manipulation of "objective" patient data by the computer. Diagnosis related groups, drug utilization review, and treatment protocols are examples of the ways in which medical practices are being standardized with the help of the computer. Although intended to limit costs and help physicians make correct treatment decisions, such computer-driven standardization has potential drawbacks. It is capable of discouraging communication with patients and of encouraging "cookbook" medicine. More generally, the application of computers in medicine

65. A diagnosis related group is a price control "based on a packaging of all hospital charges into one figure determined by the average cost of treating patients who have the same diagnosis." CHARLES J. DOUGHERTY, AMERICAN HEALTH CARE: REALITIES, RIGHTS, AND REFORMS 149 (1988) (footnote omitted). It is the opposite of "fee-for-service medicine." Id.

66. "Drug utilization review" employs computers with programs that spot "disease markers," which are drugs or combinations of drugs that tend to be used to treat a specific disease. ROBERT F. MARONDE, DRUG UTILIZATION REVIEW WITH ON-LINE COMPUTER CAPABILITY (1973). These computers generate lists of medication that are potentially inappropriate for treatment of the disease. A clinically trained person reviews the original prescription, the computer's speculation as to the diagnosis, and the computer's prediction as to the inappropriateness of the medication. If this review confirms the existence of a conflict, the prescription is sent back to the prescribing physician. Id. at 45-48.

67. Treatment protocols are computer-generated checklists that set "baseline[s] to which physicians must refer in formulating their treatment plan." Hall, supra note 61, at 479.

68. Medical practices are standardized to reduce costs, to increase the benefits of treatment, and to avoid mistakes. The importance of these goals cannot be doubted. See, e.g., Lucian L. Leape et al., The Nature of Adverse Events in Hospitalized Patients, 324 NEW ENG. J. MED. 377 (1991) ("errors in medical practice are common" and hospitals need to carry out "quality-assurance activities"). The difficult choices arise in deriving and applying standards. See generally DeLillo, supra note 63, at 141 (medical diagnosis after toxic disaster by doctor who relies upon computer: "This doesn't mean anything is going to happen to you as such, at least not today or tomorrow. It just means you are the sum total of your data."); Timothy Egan, Oregon Lists Illnesses by Priority to See Who Gets Medicaid Care, N.Y. TIMES, May 3, 1990, at Al (State of Oregon to use computer lists to limit medical treatments for patients whose health care is paid for by the government; lists are to take into account the "cost of treatment, [the] estimated period in years that a patient would benefit, and the 'quality of well-being' after treatment.").

69. See, e.g., STEVENS, supra note 58, at 325 ("Hospital administrators and assorted financial and computer-software experts" first analyze diagnosis-related groups and then encourage physicians to choose one diagnosis rather than another to increase payments to hospital); Paul M. Ellwood, Shattuck Lecture—Outcomes Management, 318 NEW ENG. J. MED. 1549, 1553 (1988) ("A system of appropriate medical standards, guidelines, and hard-and-fast rules that can be used by physicians in caring for their patients—referred to by many physicians as 'cookbook medicine'—continues to be devastatingly controversial, providing a bonanza for litigators, a conundrum when patients do not fit the standards, a bureaucrat's paradise, and the last stand for free physicians."). See generally Alexander M. Capron, Containing Health Care Costs: Ethical and Legal Implications of Changes in the Methods of Paying
illustrates how the computer's ability to process information encourages and strengthens technical management and technical supervision of complex social activities. This technical approach has blurred the distinction between the public and private spheres: the state requires certain kinds of information for use in the private sphere, and data in both spheres are now shared and linked.\(^\text{70}\)

(2) Multifunctionality

A second important quality of the computer is its ability to make multifunctional the information that it processes.\(^\text{71}\) A computer can operate only if humans have presented it with digital data and digital instructions. Transforming our world into binary code requires various human decisions, but once personal information is in this form, the computer can efficiently compare it and combine it with other digital data.\(^\text{72}\) The computer changes personal information into a fluid form, which allows it to be applied at many stages of administrative decisionmaking.

Multifunctionality profoundly changes administration. In his classic work, \textit{Legitimation through Process}, Niklas Luhmann identified a concept that he called "fragmentation of contact" (\textit{Kontaktzersplitterung}).\(^\text{73}\) Luhmann applied this term to an important aspect of complex administrative bodies:

Typical for administrative bodies, which are based on large bureaucracies, a division of labor, and strongly differentiated management, . . . is that contact between citizens and certain public officials comes about only sporadically, without repeating itself in the near future and without solidifying itself into a system that can embrace distinct procedures.\(^\text{74}\)


70. \textit{See Stevens, supra} note 58, at 329-30 ("Coalitions of employers are now using data collected by third party insurers, as well as Medicare and Medicaid, to review hospital admission and treatment patterns among their covered employees.").


72. \textit{Miller, supra} note 24, at 202 ("Computers facilitate the composition of lists of people connected with various types of activities and institutions from widely scattered data that probably could not be brought together manually, enabling previously unknown relationships to be revealed or inferred from seemingly disparate information."); \textit{see United States Dep't of Justice v. Reporters Comm. for Freedom of the Press}, 489 U.S. 749, 762-68 (1989) (computerized federal rap sheet puts an end to "practical obscurity" of scattered bits of public records located throughout the country).


74. \textit{Id.} (translated from original).
Due to the multifunctionality of computer data, Luhmann's observation is no longer true: contact between the citizen and the state now occurs constantly within a dense system of bureaucratic control managed by the computer.\(^7\)

Data matching is an example of this constant, repetitious control. Data matching is the electronic comparison of two or more sets of records to find individuals included in more than one data base.\(^{76}\) The federal government now carries out data matching on billions of records; one survey of only a small portion of federal matching programs found data exchanges in one five-year period involving seven billion records.\(^{77}\) Some single matches have been carried out on as many as fifteen million records.\(^{78}\) Moreover, data matching programs draw on information from private parties, such as employers.\(^{79}\) The government even intends to execute matches for various benefit programs to produce statistical inferences about the suitable level of scrutiny for applicants from different geographical areas.\(^{80}\) Multifunctionality means that data can easily be shared within the government or between the government and organizations in the private sector.

By making personal information fluid, that is, capable of being readily shared and combined, the computer stimulates additional interaction between citizen and state. It also further blurs the distinction between public and private spheres. This regularization of contact and wide sharing of data prevents any abstract, noncontextual evaluation of the impact of disclosing a given piece of personal data.\(^{81}\) A legal distinction has often been made between personal and sensitive information: the former

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75. See the descriptions of Aid to Families with Dependent Children and Child Support Enforcement, \textit{infra} Parts II.B-C.


78. \textit{Electronic Record Systems, supra} note 76, at 53.

79. See the description of data matching in the Child Support Enforcement Program, \textit{infra Part II.C.}

80. See Office of Management & Budget, Final Guidance Interpreting the Provisions of Public Law 100-503, Computer Matching and Privacy Act of 1988, 54 Fed. Reg. 25,818, 25,821 (1989) ("a continuing matching program that shows one geographical area consistently experiencing a higher default rate than others may result in more rigorous scrutiny of applicants from that area").

81. See Miller, \textit{supra} note 24, at 34 ("Even data that are characterized as 'hard' or 'factual' often take on different shades of meaning in different contexts."); Spiros Simitis, \textit{Reviewing Privacy in an Information Society}, 135 U. Pa. L. Rev. 707, 709 (1987) [hereinafter Simitis, \textit{Reviewing Privacy}] ("The boundary between a permissible exchange of facts about people, necessary to avoid misrepresentation, and an impermissible intrusion and surveillance \ldots \) [depends] on the particular purposes of each data collection as well as on the mode of the
merely refers to a specific person; the latter identifies aspects of a person’s life that are intimate and therefore more deserving of legal protection. Legal protection based on the sensitivity of personal data is irrelevant, however, when a computer is utilized. The impact of bureaucratic application of information, whether merely personal or also sensitive, now depends upon the means of processing, the kinds of data bases to be shared, and the ends to which the processed data will be put. If any of these factors change, so will the impact on the concerned party.

(3) Seductive Precision of Output

The final quality of the computer that shapes the social impact of its use is the seductive precision of its answers. The computer’s output—the answers that it gives—is easily accepted as the whole of reality because many people believe that this machine offers a solution to the fatal duality of mind and body. In this view, human reason is limited by human passion, but the computer overcomes this limitation by making cognitive analysis available without the obscuring effect of the corporeal. An advertisement for one computer manufacturer tries to soften this notion by information process and the potential implications of the data use for the person under scrutiny.).

82. Compare Smith v. Maryland, 442 U.S. 735, 742-43 (1979) (telephone numbers a person dials are “routinely used by telephone companies” and are not subject to constitutional protection) and United States v. Miller, 425 U.S. 435, 442 (1976) (“checks are not confidential communications but negotiable instruments to be used in commercial transactions” and are not subject to constitutional protection) and Cantor v. Supreme Court, 353 F. Supp. 1307, 1321 (E.D. Pa.) (upholding state disciplinary rule requiring attorneys to file their Social Security numbers as part of required statement upon payment of annual dues: “[It is impossible . . . to perceive how requiring a Social Security Number either threatens the future of Western civilization or deprives lawyers of basic individual dignity, and certainly it does not rise to a breach of any federal constitutional rights.”), aff’d, 487 F.2d 1394 (3d Cir. 1973) with United States Dep’t of Justice v. Reporters Comm. for Freedom of the Press, 489 U.S. 749, 780 (1989) (protecting police rap sheet from public disclosure on privacy grounds) and Department of the Air Force v. Rose, 425 U.S. 352, 382, 383-84 (1976) (Burger, C.J., dissenting) (material in records of Air Force Academy pertaining to honor and ethics hearing is highly sensitive and worthy of great protection from disclosure) and New York Times v. NASA, 920 F.2d 1002, 1004-05 & n.1, 1009-10 (D.C. Cir. 1990) (en banc) (“voice inflections” of Challenger astronauts are “personal” and meet threshold test for “privacy” exemption of Freedom of Information Act) and National Ass’n of Retired Federal Employees v. Horner, 879 F.2d 873, 879 (D.C. Cir. 1989) (significant interest in fact of annuitant status). See generally Spiros Simitis, “Sensitive Daten”—Zur Geschichte und Wirkung einer Fiktion, in Festschrift zum 65. Geburtstag von Mario M. Pedrazzini 469 (1990) (discussing the “fiction” of the notion of “sensitive data”).

showing a computer's display screen with eyes and a smile. But whether we conceive of the computer as inhumanly rational or attribute some humanity to it, this machine can do no more than apply effective procedures within a digital environment.

An effective procedure is a set of rules that states all the operations to be executed at all times. To write such commands, a programmer must also express assumptions that underlie his or her base of knowledge. But, as Joseph Weizenbaum has observed, the relationship between understanding and an expression of this understanding is as problematic for a computer programmer as it is for any writer. Weizenbaum notes: "It is in fact very hard to explain anything in terms of a primitive vocabulary that has nothing whatsoever to do with that which has to be explained. Yet that is precisely what most programs attempt to do." Indeed, the computer makes this relationship even more problematic by creating new ways to conceal ignorance and subjectivity.

This concealment can occur through the programmer's expression, in digital form, of the instructions and assumptions required by the computer. It may also occur when different teams of programmers patch together complex systems of software at different times. When such systems are finally put into place, no one individual may understand how they work or be able to predict the effect of malfunctions. Nevertheless, the answers given by such complex systems appear to be extremely accurate.

The seductive precision of the computer results from the difference between the power that we attribute to it and its actual capacities and limitations. This disparity causes an overestimation of the computer's

84. The advertisement is for IBM's PS/2 and ran in German magazines. See, e.g., DER SPIEGEL, Sept. 11, 1989, at 128-29.
85. WEIZENBAUM, supra note 51, at 63-64.
86. Id. at 67-72, 102-110.
87. Id. at 109.
88. Thus, the seductive precision of the computer leads one to forget that "it is the human brain that invented this . . . instrument and that must feed it with the data and pose the problems that are to be solved." MUMFORD, THE PENTAGON OF POWER, supra note 83, at 273.
89. See WEIZENBAUM, supra note 51, at 236-38; JOSEPH WEIZENBAUM, KURS AUF DEN EISBERG 93 (1988); cf. HUGHES, supra note 11, at 463 (discussing "multiple interactive failures" in "tightly coupled systems"). Fear of these kinds of mass system failures led the Federal Republic of Germany to create the Federal Bureau for Security in Information Technology in 1990. See Johann Bizer & Alexander Roßnagel, SICHERHEIT IN DER INFORMATIONSTECHNIK—Aufgabe für ein neues Bundesamt, 23 KRITISCHE JUSTIZ 436 (1990).
90. Under the rubric of "informatics as oracle," the French National Commission of Informatics and Liberties recently made reference to this belief in the computer's seductive precision:
accuracy and applicability. It encourages the belief that disparate social activities are capable of pure technical management, and discourages examination of incongruencies between technical management and the actual goals of the social service. This Article examines examples of this incongruence in Parts II and III: the exclusion of potential clients from welfare because of an increase in data and documentation requirements for program eligibility;91 the possible termination of noncustodial parents’ employment because of wage withholding orders;92 and the creation by government agencies of processing systems that are so intricate the legislative branch may be incapable of understanding them.93

When combined with the computer’s capability for rapid treatment of large amounts of data and its transformation of information into multifunctional form, the seductive precision of the computer’s output encourages the bureaucratic processing of information and heightens its impact. Once personal information is in digital form, the computer offers the state and society a powerful way to control the behavior of individuals. The next part of this Article presents two case studies that demonstrate the computer’s ability to establish such control.

II. The Danger to Bureaucratic Justice and Autonomy

This part examines two government programs: Aid to Families with Dependent Children (AFDC) and Child Support Enforcement (CSE). These programs exemplify governmental activities in the formerly “private” sphere, and both depend on data processing for their administration. Understanding and assessing the impact of data processing in these contexts requires a paradigm by which to measure government administration and human behavior; a paradigm provides a way of seeing, a guide for arranging and giving meaning to experience.94 To understand the impact of data processing technology, this Article first discusses the limitations of the paradigm of “privacy,” an idea upon which American data protection law now depends, and then develops

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91. See infra text accompanying notes 159-180.
92. See infra text accompanying notes 249-250, 312-315, 319.
93. See infra text accompanying notes 286-293.
two principles, bureaucratic justice and human autonomy, that will frame the discussion of these programs. The question is not whether one is in favor of more privacy or less. Rather, the attempt to conceptualize the threat of the service administration’s application of the computer in terms of the paradigm of privacy is misplaced.

A. Possible Paradigms

(1) Privacy

Paradigms concerning privacy have provided a way to organize certain areas of law. With mixed success, they have been used in such fields as family law, abortion law, and tort law. But the concept of privacy consists of at least two elements that complicate its use in organizing the legal regulation of the computer’s processing of personal data. First, privacy is conceptually linked to the notion of a private space. Second, privacy is limited to intimate or familial activities or information about such activities.

The notion of “spatial privacy” conceives of a limited physical area within which information and objects are protected from governmental intrusion. This space is meant to be the irreducible physical remnant of the traditional private sphere of the market and family. Within it, the individual is to be free to develop his personality and live his life. But

95. See supra text accompanying notes 27-33; infra text accompanying notes 107-109.
96. See infra text accompanying notes 108-109.
97. Tort law uses concepts of privacy in such areas as defamation and invasion of privacy. See, e.g., Cox Broadcasting v. Cohn, 420 U.S. 469 (1975) (discussing constitutional limits on a cause of action for invasion of privacy caused by publication of deceased rape victim’s name); New York Times v. Sullivan, 376 U.S. 254 (1964) (discussing constitutional limits on state’s power to award damages for libel); Diane L. Zimmerman, False Light Invasion of Privacy: The Light That Failed, 64 N.Y.U. L. REV. 364 (1989) (conceptual emptiness of false light tort matched by inadequacy of constitutional protections borrowed from defamation model). The concept of privacy was introduced into tort law by a famous, and still controversial, article in the Harvard Law Review. See Samuel D. Warren & Louis D. Brandeis, The Right to Privacy, 4 HARV. L. REV. 193 (1890). For criticism of this article, see Harry Kalven, Jr., Privacy in Tort Law—Were Warren and Brandeis Wrong?, 31 LAW & CONTEMP. PROBS. 326, 327 (1966) (“Although privacy is for me a great and important value, tort law’s effort to protect the right of privacy seems to me a mistake.”).
99. The private sphere is implicated, for example, when one stays as an overnight guest in someone’s home. In a recent Supreme Court opinion, Justice White described the “privacy” interest involved in such a stay in terms of the development of personality and the relation to the person’s life:
the idea of a physical dimension of privacy retains little value today. Its decline can be traced through the development of the Supreme Court's Fourth Amendment methodology.\footnote{100}

The Fourth Amendment places a bar on certain kinds of governmental snooping. It protects a domain of human activities from governmental observation by requiring that the government obtain a valid warrant, by showing "probable cause," before intruding into this private domain.\footnote{101} Unfortunately, the Supreme Court has responded to technological invasions of the private domain by guarding against particular types of intrusion only when the citizen can reasonably expect to be protected from such intrusions. According to the Court, the Fourth Amendment protects only those subjective expectations of privacy that society is willing to accept as reasonable.\footnote{102} Once technology diminishes these expectations, the Court will not attempt to restrict incursions into the private sphere.\footnote{103} But even if the Supreme Court were to restrict the use of intrusive technologies, its methodology, which defines privacy in

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\textit{Staying overnight in another's home is a longstanding social custom that serves functions recognized as valuable by society. We stay in others' homes when we travel to a strange city for business or pleasure, when we visit our parents, children, or more distant relatives out of town, when we are in between jobs or homes, or when we house-sit for a friend. We will all be hosts and we will all be guests many times in our lives.}

\textit{From the overnight guest's perspective, he seeks shelter in another's home precisely because it provides him with privacy, a place where he and his possessions will not be disturbed by anyone but his host and those his host allows inside. We are at our most vulnerable when we are asleep because we cannot monitor our own safety or the security of our belongings.}

\textit{Olson, 495 U.S. at 98-99.}

\textit{100. The Fourth Amendment to the U.S. Constitution provides:}

\textit{The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.}

\textit{U.S. CONST. amend. IV.}


\textit{103. See Riley, 488 U.S. at 451-52 (plurality opinion of White, J.) ("[T]here is nothing in the record or before us to suggest that helicopters flying at 400 feet are sufficiently rare in this country to lend substance to respondent's claim that he reasonably anticipated that his greenhouse would not be subject to observation from that altitude."); California v. Ciraolo, 476 U.S. 207, 215 (1986) ("In an age where private and commercial flight in the public airways is rou-
terms of a physical area and the information found within it, would still handicap an American response to the computer.

The computers that process personal data for the information society and service administration are located outside the individual space that is traditionally protected as private. Furthermore, once these computers record information, this data can no longer be considered part of the private preserve of the data subject. The information will, after all, be viewed by a number of other people. The Supreme Court has already held that the Fourth Amendment's protections are not applicable to lists of telephone numbers,\textsuperscript{104} copies of personal checks,\textsuperscript{105} or files containing an accountant's tax worksheets.\textsuperscript{106} These records are not in the possession of the individual to whom they refer, and thus are considered outside the limited sphere protected by spatial privacy. Therefore, reliance on the spatial aspect of privacy will not support the protection of personal information in government data banks.

The second problematic legal interpretation of privacy views it in terms of certain intimate or familial activities.\textsuperscript{107} These activities are meant to form the essential domain of individual life. This interpretation of privacy is particularly open to judicial manipulation that seeks either to absolve the state of responsibility or to justify its actions. For example, the Supreme Court is in the process of finding that one particular activity, abortion, is both private and not private. When the Court sees abortion as a private act, it allows the state to prohibit the use of its funds, facilities, or employees to perform abortions.\textsuperscript{108} And as it comes to agree with Chief Justice Rehnquist that abortion is a medical operation that "is not 'private' in the ordinary sense of the word," the Court permits the state more power to impose restrictions on the procedure.\textsuperscript{109}

\textsuperscript{104} Smith v. Maryland, 442 U.S. 735 (1979).
\textsuperscript{107} These activities include educational decisions of parents, Wisconsin v. Yoder, 406 U.S. 205 (1972); Pierce v. Society of Sisters, 268 U.S. 510 (1925), and reproductive decisions of the married or unmarried individual, Eisenstadt v. Baird, 405 U.S. 438 (1972); Griswold v. Connecticut, 381 U.S. 479 (1965).
\textsuperscript{108} See Webster v. Reproductive Health Servs., 492 U.S. 490, 510 (1989) (plurality opinion of Rehnquist, C.J.) ("Nothing in the Constitution requires States to enter or remain in the business of performing abortions.").
\textsuperscript{109} This argument was first made in Justice Rehnquist's dissent in Roe v. Wade, 410 U.S.
But even if the Supreme Court develops a more consistent jurisprudence as to which types of behavior are to be protected from state regulation, information relating to this behavior will still be collected and stored in government and commercial data banks. The creation of records that detail one's existence and way of life is a permanent condition of modern society.

Thus, the initial trouble with the notion that privacy protects "intimate" activities is that even if it does, records about these personal activities will still be produced and processed. For example, important decisions about medical conditions are recorded by doctors and insurance companies and are sometimes reviewed by governmental agencies. One might try to organize legal rules for data banks based either on the intimacy of the information they contain or on the importance of the choice to which this information relates. But here, too, the computer weakens the effectiveness of a privacy paradigm. The multifunctionality of computer data means that legal protection cannot depend merely on the area of life to which the information refers. Legal attention must be directed to the context and goals of information processing—not merely to whether data refers to intimate activities or sensitive choices.110

Because the computer allows information that is not especially personal to be used in ways destructive of the human personality, any approach that bases protection solely on the data's sensitivity is irrelevant.

Privacy is not an ideal normative concept for the computer age. It might protect the individual who has retreated from the world; it might limit access to certain highly sensitive data. But it cannot guide a legal response to the danger of the computer. A claim of privacy tends to collapse in the face of the weighty reasons the state advances for seeking personal information. Privacy does not help once the issue becomes not whether, but how personal data should be collected and processed. Alter-

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113, 128 (1973) (Rehnquist, J., dissenting). See Webster v. Reproductive Health Servs., 492 U.S. 490, 501 (1989) (upholding state law that declares "[t]he life of each human being begins at conception" and requires a physician, prior to performing an abortion on any woman whom he has reason to believe is twenty or more weeks pregnant, to perform "such medical examinations and tests as are necessary to make a finding of the gestational age, weight, and lung maturity of the unborn child"); cf. Frances Olsen, Comment: Unraveling Compromise, 103 HARV. L. REV. 105, 132 (1989) ("The devaluation of women implicated in antiabortion laws and policies leads to a multitude of coercive policies against women.").

110. See Whalen v. Roe, 429 U.S. 589, 602 (1976) (New York State creates centralized data bank that contains information pertaining to prescription of certain drugs; Supreme Court notes the difficulty in distinguishing intergovernmental use of this data bank from "a host of other unpleasant invasions of privacy that are associated with many facets of health care"). See also supra text accompanying notes 58-70.

111. See supra text accompanying notes 81-82.
native paradigms must be explored. This Article proposes that two paradigms should form the basis for an American data protection law: bureaucratic justice and human autonomy.

(2) Bureaucratic Justice

In defining bureaucratic justice, this Article utilizes Jerry Mashaw's neo-Weberian perspective. Mashaw's work is perhaps best known for its examination of the characteristics of the activist state that lead to difficulties when traditional adjudicative conflict resolution is imposed on bureaucracy. But Mashaw's ultimate concern is fashioning an "internal" administrative law—an approach that combines uniform administration with a "vision of justice."

In pursuit of ideal administration, bureaucratic justice requires accurate decisions made in a cost-efficient fashion. According to Mashaw, the first two elements of bureaucratic justice—accuracy and efficiency—are dependent on the structuring of knowledge within bureaucracy. This structure must provide a "connection between a particular decision, given the factual context, and the accomplishment of one or more of the decisionmaker's goals." Not surprisingly, this approach is dependent on data processing. Only the treatment of data as a flow within a stream of rationally organized administrative activities seems capable of providing the necessary knowledge in a precise fashion and at an affordable price.

The final element of bureaucratic justice goes beyond accurate application of efficient information retrieval. Bureaucratic justice requires not only accuracy and efficiency, but also attention to the dignity of the participants. Dignity is protected through the appropriate process. This notion is developed by Mashaw through a description of bureaucratic administration that operates through a mysterious, unexplained process that seems designed to humiliate participants. The experiences of these participants resemble those of K. in Kafka's The Trial.

112. See Mashaw, Bureaucratic Justice, supra note 2, at 23-40.
113. Id. at 46.
114. Id. at 26.
115. Id.
116. Id. at 49.
117. Id. at 26, 195-97. See supra text accompanying notes 14-26.
119. Mashaw, Due Process, supra note 26, at 177-80.
120. Franz Kafka, Der ProzeB (M. Brod. ed., 1983); see id. at 103 ("All officials are irritated, even if they seem to be calm."). See infra text accompanying notes 204-206.
Mashaw describes how such an administration makes applicants and beneficiaries feel:

They know only that they seem to be involved in an important decision concerning their lives. But they have no idea what is relevant . . . [or] what precisely the decision is about. Perhaps the only thing that becomes clear in such a process is that if and when a decision is made, the participants will not be given any understandable reasons for it.¹²¹ This kind of process diminishes the participants' feelings of self-worth. It also makes participants question the legitimacy of the decisions that are made.¹²² In such a bureaucracy, justice becomes impossible.

Bureaucratic justice is administrative decisionmaking that pays appropriate attention to accuracy, cost-effectiveness, and the dignity of the participants. These values often compete with one another, but bureaucratic justice becomes impossible without respect for all three of them. In some instances, the dignity of the participant may not only be neglected, but actually attacked. The kind of neglect present in the preceding description of Kafkaesque procedures will, over time, have a significant effect on the program participant. Under these conditions, administration not only has a destructive effect on bureaucratic justice, but also undermines the autonomy of the individual.

(3) Autonomy

Underlying this Article's paradigm of autonomy is John Stuart Mill's conception of liberty. In On Liberty, Mill makes explicit the connection between human autonomy and the survival of a democratic order.¹²³ He begins with a discussion of the opposite of the autonomous: the automaton.¹²⁴ Mill uses this figure, an object of fascination throughout his century,¹²⁵ to illustrate the importance of self-determination to critical reflection: "Human nature is not a machine to be built after a model, and set to do exactly the work prescribed for it, but a tree, which

¹²¹. Mashaw, Due Process, supra note 26, at 175.
¹²². For a psychologist's empirical exploration of the connection between the behavior of people towards the law and the way that they are treated, see Tom R. Tyler, Why People Obey the Law (1990). For development and discussion of "process values" from a legal perspective, see Frank Michelman, Formal and Associational Aims in Procedural Due Process, 18 Nomos 126 (1977).
¹²⁴. Id. at 59.
¹²⁵. See, e.g., Edgar Allen Poe, Maelzel's Chess Player (1836), in Works of Edgar Allen Poe (New York, Century 1909) (review of "wonderful automata" and discussion of whether this chess-playing machine is a "pure machine" or fraud). This fascination with automatons has, more recently, been a theme of a series of stories by the American writer Steven Millhauser. See, e.g., Steven Millhauser, August Eschenburg, in In the Penny Arcade (1986).
requires to grow and develop itself on all sides, according to the tendency of the inward forces which make it a living thing.\textsuperscript{126} The organic is preferred to the mechanical; the individual person to the machine. For Mill, "[o]ne whose desires and impulses are not his own, has no character, no more than a steam-engine has a character."\textsuperscript{127}

Mill's concept of autonomy includes a capacity for critical reflection regarding one's values and preferences.\textsuperscript{128} The tie between this personal quality and democracy is a close one. Mill argues that a people that are able to carry on "public business with a sufficient amount of intelligence, order, and decision . . . will never let [itself] be enslaved by any man or body of men."\textsuperscript{129} Thus, autonomy matters for both the individual and society.

Although Mill discusses the autonomous as well as the automaton, he does not explicitly consider the effect of mechanical devices on the individual. Therefore, it is necessary to reconsider and develop Mill's definition of autonomy. A conception of autonomy as a capacity for critical reflection is not incompatible with limitations on one's ultimate exterior choices (as Mill himself admits).\textsuperscript{130} Sometimes these limitations may even be self-imposed. Autonomous behavior can be exercised, for example, by followers of a religion who choose to live according to its tenets.\textsuperscript{131} Just as autonomy is not precluded by some restrictions on choice, it likewise is not precluded by various unconscious and irrational influences on decisionmaking. All human thought and action are, in fact, subject to these factors.\textsuperscript{132} Nonetheless, Mill's definition of autonomy must be extended in one important way.

Millian critical reflection depends upon the maintenance of an expansive private sphere secure from the workings of the state; it is this refuge that provides the citizen with the opportunity to engage in the critical reflection upon which his or her participation in public life depends.\textsuperscript{133} Yet the public and private spheres have now been transformed

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\item \textsuperscript{126} \textit{Mill}, supra note 123, at 59. \textit{See generally Karl Britton, John Stuart Mill 71 (1969)} ("The key to Mill's doctrine is his concern for individual character.").
\item \textsuperscript{127} \textit{Mill}, supra note 123, at 59.
\item \textsuperscript{128} \textit{See id.} at 13 (importance of "inward domain of consciousness" to liberty); \textit{Gerald Dworkin, The Theory and Practice of Autonomy} 28-29 (1988) (critical reflection as basis of autonomy in Mill's work).
\item \textsuperscript{129} \textit{Mill}, supra note 123, at 114.
\item \textsuperscript{130} \textit{See id.} at 5 ("discussion of rules of conduct" to be imposed by law and rules of conduct to be imposed by opinion).
\item \textsuperscript{131} \textit{Dworkin, supra} note 128, at 17.
\item \textsuperscript{132} \textit{See Katz, supra} note 60, at 114-21 (discussing mental processes).
\item \textsuperscript{133} Mill discusses the extent of this sphere in setting out the proper and improper areas
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into a single social arena.\textsuperscript{134} Little remains of the private refuge. As a result, autonomy must be defined not as isolated thought in a private domain, but rather as critical thought that asserts itself through communicative competence in the social sphere.

In one of the most significant philosophical undertakings of our era, Jürgen Habermas explores the development of a theory of communicative action. He examines how the state and other social actors carry out a "colonialization of the lifeworld" of the individual and thereby hinder the development of democratic values.\textsuperscript{135} Habermas believes that democratic forms both create and depend on a discursive building of consensus.\textsuperscript{136} For our purposes, it suffices to draw from these studies a view of autonomy that includes not only the ability to make personal assessments but also the capacity to participate in social and political life.\textsuperscript{137}

With the concepts of bureaucratic justice and autonomy in mind, this Article will now examine data processing in the context of Aid to Families with Dependent Children (AFDC) and Child Support Enforcement (CSE). These programs have been chosen for two reasons. To begin with, a few studies have already pointed to problems with the current American constitutional right of informational privacy and with the Privacy Act.\textsuperscript{138} The constitutional and statutory standards furnish general norms that guide the regulation of many kinds of data processing activities. Equally important, however, are the sectoral regulations that govern specific administrative operations. These regulations have been subject to scant scholarly attention. Thus, American data protection law for state action. Mill, supra note 123, at 95-118. He concludes this discussion with a warning:

The mischief begins when, instead of calling forth the activity and powers of individuals and bodies, [government] substitutes its own activity for theirs . . . . The worth of a State, in the long run, is the worth of individuals composing it; and a State which postpones the interests of their mental expansion and elevation, to a little more of administrative skill, or of that semblance of it which practice gives, in the details of business; a State which dwarfs its men, in order that they may be more docile instruments in its hands even for beneficial purposes—will find that with small men no great thing can really be accomplished.

\textit{Id.} at 117-18 (emphasis in original).

134. See supra text accompanying notes 27-44.
135. 2 Jürgen Habermas, Theorie des Kommunikativen Handelns (1981).
136. \textit{Id.} at 221.
137. See Jürgen Habermas, Technologie und Wissenschaft als "Ideologie" 131 (1969) (difficulties of participatory role for public in discussions between politicians and experts).
currently requires an evaluation of the impact of data processing as it is actually carried out in specific programs.

A second reason for carrying out case studies of AFDC and CSE is that these programs are emblematic examples of state service administrations. Their weaknesses may well be representative of the shortcomings of data processing in other government programs, and understanding these weaknesses may, therefore, help to develop a more precise understanding of how government administration actually functions. The purpose of this Article here is to refine the approach of those scholars of administrative law who seek to use law to structure the application of agency expertise.139

B. Aid to Families with Dependent Children (AFDC)

AFDC, one of our most important social programs, is a federal grant program that assists needy families with children.140 It responds to the tremendous poverty in America by targeting children who are in need of help.141 AFDC was first enacted in 1935 as part of the Social Security Act.142 It initially provided assistance only to families where one parent was absent, incapacitated, or deceased.143 Currently, AFDC also provides assistance to children in needy families that are considered “intact.”144 Responsibility for administering the program rests with the states.
Another response to poverty that targets children for help is Child Support Enforcement (CSE). CSE, which was established in 1975 as part D of Title IV of the Social Security Act, seeks "to strengthen families and reduce welfare spending" by making noncustodial parents pay their share of child support.\textsuperscript{146} The CSE and AFDC programs are, thus, related in a number of ways. Both attempt to keep children out of poverty. Moreover, by seeking to make delinquent parents pay child support, CSE is a social program that seeks to reduce the amount of money paid by the AFDC program.\textsuperscript{147} Both programs also rely on the data processing capability of computers.

\textbf{(1) Reasons for Reliance on the Data Processing Model}

In the initial decades after its introduction in 1935, AFDC was administered by professional staffs that personally scrutinized applicants and often relied upon local norms.\textsuperscript{148} These managers had frequent opportunities to make discretionary judgments.\textsuperscript{149} Today, AFDC is administered by a centralized state bureaucracy that depends on computer scrutiny of data instead of an individual evaluation of each applicant.\textsuperscript{150} The processing of claims is carried out by low-level clerks, whose own performance is evaluated by a small number of upper echelon officials using the statistical models of AFDC's so-called "quality control system."\textsuperscript{151}

The parallels with industrial production suggested by the name of this supervisory plan are not accidental. In both industry and government, there has been an emphasis on reducing all treatment of information, whether relating to production or the delivery of human services, to a mechanical flow. But when the state relies on the model of a machine to shape a particular form of social interaction, some justification is felt to be necessary. Three specific explanations have been given for the transformation of AFDC into a processor of personal data.

\textsuperscript{146} OFFICE OF CHILD SUPPORT ENFORCEMENT, DEP'T OF HEALTH AND HUMAN SERVS., CHILD SUPPORT ENFORCEMENT: THIRTEENTH ANNUAL REPORT TO CONGRESS 1 (1988).

\textsuperscript{147} Id. at 8-9.

\textsuperscript{148} Simon, supra note 2, at 1201-03; Jerry L. Mashaw, Welfare Reform and Local Administration of Aid to Families with Dependent Children in Virginia, 57 VA. L. REV. 818, 821 n.8 (1971).

\textsuperscript{149} Simon, supra note 2, at 1204; Mashaw, supra note 148, at 823.

\textsuperscript{150} Simon, supra note 2, at 1211-17.

\textsuperscript{151} The system is mandated by 42 U.S.C. § 608 (Supp. I 1989).
The primary explanation is that scarce resources must be distributed among a high volume of applicants. This situation encourages exploitation of the computer's rapid treatment of enormous data banks and its multifunctionality. In addition, the abuses of administrative discretion within the old system are believed to call for the transformation of AFDC into a processor of personal data. These abuses included midnight searches of the homes of welfare recipients and the application of widely different local norms within the same state. In some rural areas, the hostility of local administrators towards aid applicants caused them to deny meritorious applications and to ignore procedures secured by law for applicants. The computer appears to offer a way to control such abuses of discretion.

The final explanation for the reliance of AFDC on the data processing model is related to the need to respond to bureaucratic abuse of discretion. The Supreme Court's decisions in Goldberg v. Kelly and its progeny sought to control unstructured discretion by granting hearing rights to those citizens who had cognizable interests in certain benefits. But the Supreme Court's insistence on the enforcement of hearing rights diminishes once subjective judgments about individual cases are replaced by seemingly objective criteria. Agencies can seek to avoid the demands of Goldberg v. Kelly by relying on computerized data processing that has a seductive precision which seems to offer the desired objectivity.

152. For discussion of this argument, see Simon, supra note 2, at 1252-53. See also Marmor et al., supra note 38, at 35-36 (U.S. spends more than twice as much on social insurance than social welfare; only 14% of means-tested benefits are in the form of welfare assistance); id. at 69-70 (AFDC and Food Stamps programs "are simply too small to have much bearing on the affordability of the welfare state").


155. The computer controls this discretion by providing seemingly objective standards to be applied through analysis of personal data.


157. Id. at 263-71; Califano v. Yamasaki, 442 U.S. 682 (1979).

158. See Heckler v. Campbell, 461 U.S. 458, 465-68 (1983) (upholding reliance of Secretary of Health and Human Services on medical-vocational guidelines); Richardson v. Perales, 402 U.S. 389, 406 (1971) (pointing to "sheer magnitude of the administrative burden" and upholding benefit decision that relies on hospital records and written reports of physicians); see also Stephen G. Breyer & Richard B. Stewart, Administrative Law and Regulatory Policy 806 (3d ed. 1992) ("there might seldom be any need for due process mandated hearings" following the establishment of "clear, readily verifiable objective criteria for eligibility for entitlement").
(2) AFDC and the Computer

There were, then, reasons enough to shift to a data processing model, but reliance on this model has shaped the form and effect of AFDC. By allowing the reduction of personal information to a standardized flow, the data processing approach increases the extent to which mechanical rules control decisionmaking. It also allows the replacement of professional workers who have extensive training with clerks who are only expected to process paper and run machines. More powerful technology is then sought to further speed the processing of the data flow and to control the machines already in place and the clerks who work with them.

The most recent changes in AFDC, implemented by the Family Support Act of 1988 (FSA or Act), illustrate this pattern. Most of the discussion of this law has centered around its "workfare" provisions. But this Act also compels states to increase their computer facilities, provides federal grants to help fund these facilities, creates new links between these facilities through increased sharing and matching of data, and requires all parents to obtain a social security number for their children at birth.

The administrators of AFDC now use computers to scrutinize a variety of computer records held in the public and private sectors. Crucial to this scrutiny is the social security number. This number, which is now required before acceptance into AFDC and other government pro-

159. Simon, supra note 2, at 1217.
160. Id. at 1211.
164. The social security number was developed as part of the Social Security Act, one of the first laws that put the federal government into the business of gathering large amounts of personal information. BENIGER, supra note 7, at 408-11; PRIVACY STUDY REPORT, supra note 40, at 607-08. As part of the establishment of a federal program of old age insurance for workers, Congress required the government to maintain employment records relating to the employment histories of twenty-six million people. The technical task has grown: the Social Security Administration currently maintains records on almost all Americans, provides administrative services for four federal agencies, and administers ten programs other than Social Security. OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, THE SOCIAL SECURITY ADMINISTRATION AND INFORMATION TECHNOLOGY 75 (1986) [hereinafter SOCIAL SECURITY & TECHNOLOGY]. In the pre-computer age, this bureaucracy depended upon the use of
grams, helps identify and consolidate data about citizens stored in various government files.\textsuperscript{165} It aids computer matching and the discovery of "hits," which is the term for an apparent match between the identity of a welfare recipient and membership in a group to which the recipient should not belong, such as income tax refund recipients or owners of cars worth more than the maximum allowed.\textsuperscript{166} Once the computer discovers this match, further investigations are carried out by the state agency.\textsuperscript{167}

punched cards to handle data, a system invented by Herman Hollerith at the end of the nineteenth century.

The most important bureaucratic innovation of the Social Security Act was the rigorous assignment of nine digit numbers to all participants in the program. BENIGER, supra note 7, at 409. These numbers, which were adopted to increase the ability of government to process data, disturbed many because of their impersonal nature and their potential to become a national identity number. \textit{Id}. At the time, the Social Security Administration promised that the social security number would be treated as confidential and would be limited to use in the social security program. This promise was not kept: submitting this number has become a prerequisite for access to numerous government program benefits. See, e.g., Disclosure and Verification of Social Security Numbers and Employer Identification Numbers by Applicants and Participants in HUD Programs, 54 Fed. Reg. 39,680, 39,680-92 (1989) (codified at 24 C.F.R. §§ 200.1001-200.1125 (1991)) (requiring submission of social security numbers in federal housing programs by all assistance applicants and "each member of the applicant's household who is at least six years of age").

165. The social security number has facilitated the creation of a national identification system; in governmental nomenclature, this number becomes a "personal identification number," or PIN. By providing a de facto national identification number, the government has encouraged the creation of a series of decentralized national data banks. ELECTRONIC RECORD SYSTEMS, supra note 76, at 111-12. Data banks that rely on the social security number exist in both the public and private sectors. For purposes of obtaining consumer credit, for example, the social security number has become the key to establishing one's identity and resources.

Legal challenges to such use of the social security number have been consistently unsuccessful; the association of technological management with progress and efficiency has led courts to be reluctant to handicap information-processing bureaucracies. See McElrath v. Califano, 615 F.2d 434, 438 (7th Cir. 1980) (upholding requirement that welfare recipients obtain and disclose social security numbers as "rationally related and essential to... effective administration"); Green v. Philbrook, 576 F.2d 440, 445-46 (2d Cir. 1978) (upholding federal and state regulations that, as part of eligibility for welfare, require children to obtain and furnish social security numbers); Cantor v. Supreme Court, 353 F. Supp. 1307 (E.D. Pa. 1973) (upholding state bar requirement that attorneys file their social security number at time of payment of annual dues). \textit{But see} Greater Cleveland Welfare Rights Org. v. Bauer, 462 F. Supp. 1313 (N.D. Ohio 1978) (requiring government to make "meaningful disclosure" of planned use of social security numbers).


167. \textit{Id}. at 145.
AFDC has progressed from midnight searches of the welfare beneficiary’s home to continuous searches of the beneficiary’s personal data. Unlike residential searches, data searches are carried out in the absence of the program applicant or participant, and far away from his or her home. A list of data sharing and matching carried out by the Arkansas Department of Human Services in administering AFDC is set out in Table A.168 This table shows the enormous amount of information to which AFDC offices have access.

From the Social Security Administration, AFDC receives access to the BENDEX and SDX data systems. BENDEX, or the Beneficiary Data System, contains information relating to Title II payments (Federal Old Age, Survivors and Disability Insurance Benefits) and Wage and Pension payments.169 SDX lists the names of those eligible for Medicare as well as Supplemental Security Income payment data.170 From the Internal Revenue Service, AFDC receives data relating to the tax interception and parent locator programs.171 Within state government, AFDC receives information from the Employment Security Division (worker’s compensation and employment) and the Child Support Enforcement Unit (child support payments).172 AFDC offices also receive information about unemployment payments from other states.

These Arkansas data comparisons are typical of the extensive data bases that are manipulated in administering the AFDC program. They illustrate how the capabilities of the computer have affected government administration through the encouragement of technical management and the solidification of contact with the state. The connection between the citizen and the state is made closer each time a data base is updated or a data search is carried out. Arkansas data use also indicates that data processing and sharing are likely to engender confusion among program applicants and beneficiaries. In Arkansas, caseworkers explain some of

168. See infra page 1389. This list was developed in a series of interviews with state AFDC officials and through study of official documents. See, e.g., 45 C.F.R. § 205.51 (1991) (income and eligibility verification requirements); Memorandum to EMS Field Representatives Relating to Workers Compensation Match (Oct. 19, 1989); Social Security Enumeration Requirement (FA 2250) (Dec. 15, 1988); Memorandum from Arkansas Office of Program Operations to All County Directors Relating to Social Security Numbers (Dec. 6, 1982) (on file with author); Executive Directive No. ED MS 82-3 from Arkansas Social Services (Feb. 10, 1982) (on file with author).


these data exchanges orally to program applicants; nothing is presented
to them in written form.173 AFDC applicants will, therefore, receive or
be denied aid based on factors that they are unlikely to know of or
understand.

The AFDC program manipulates data to compare personal infor-
mation collected for different purposes at different times. Once the
AFDC bureaucracy is viewed as a processor of data, that is, as a kind of
machine, it may seem worthwhile to try to improve the product (the per-
sonal data) through data exchanges. As on an assembly line, the product
is treated to be free from impurities. There are, however, two important
objections to this approach: the first questions the value of data match-
ing; the second criticizes the way in which extensive data processing in-
creases the burden of gaining access to the AFDC program.

Data matching has been defined as electronic comparison of two or
more sets of personal records.174 Despite the popularity of this tech-
nique, its efficiency is uncertain. In a detailed analysis of matching pro-
grams, the Office of Technology Assessment noted that there is no
evidence that computer matching is always cost effective. It also con-
cluded that the efficacy of computer matching in detecting fraud is over-
rated,175 and that client fraud comprises only a small percentage of the
total waste in federal programs. One official estimate attributes ninety-
seven percent of the losses in the distribution of health and human ser-
vice benefits to "management inefficiency and program misuse" rather
than client fraud.176 But if the value of data matching is contested, some
of its less desirable effects are perfectly clear.

173. The list of data exchanges was prepared through independent research and discus-
sions with state officials. For examples of written material given to the welfare applicant, see
Arkansas Div. of Economic Medical Servs., Application for AFDC/Medicaid Assistance
EMS-95 (R 4/92) (on file with author) [hereinafter Application for AFDC/Medicaid Assist-
ance]; Aid to Families With Dependent Children, Information Booklet (SS-Pub.-013 (R 1/86)-
190130) (on file with author).

174. See supra text accompanying notes 76-80.

175. ELECTRONIC RECORD SYSTEMS, supra note 76, at 50-53; see U.S. GENERAL AC-
COUNTING OFFICE, COMPUTER MATCHING: ASSESSING ITS COSTS AND BENEFITS 72-79
(1986) (survey of seventeen federal agencies shows consideration or assessments of costs and
benefits for these matches varied considerably in nature and timing).

176. ELECTRONIC RECORD SYSTEMS, supra note 76, at 50 (citing INSPECTOR GENERAL,
DEP'T HEALTH, EDUCATION & WELFARE, 1978 ANNUAL REPORT); see PRESIDENT'S COUN-
CIL ON MANAGEMENT IMPROVEMENT AND THE PRESIDENT'S COUNCIL ON INTEGRITY AND
EFFICIENCY, MODEL FRAMEWORK FOR MANAGEMENT CONTROL OVER AUTOMATED IN-
FORMATION SYSTEMS iii (1988) ("A recent examination of actual instances of fraud, waste,
and abuse shows that the majority of problems are usually employees who said they had no
fear of being caught because they were aware of the inadequacy of existing system controls and
management oversight."); MARC BENDICK ET AL., THE ANATOMY OF AFDC ERRORS 23, 55
The current application of the data processing model of administration engenders the belief that accuracy and efficiency can be improved only by more complex schemes of information use. These new schemes require more detailed paperwork and more extensive documentation by the applicant. Thus, instead of forming part of a strategy to identify the needy and to give them the kind of aid that they need, data processing renders acceptance into the AFDC program a complex and technical ordeal. Data matching seeks to improve the quality of information submitted by those who wish to receive social services. Yet the socially disadvantaged who seek access to AFDC are often ill-equipped to fill out the required forms and provide all the necessary documents.

There is a striking contrast between the millions of dollars spent on computerized data processing and the scant resources devoted to helping potential welfare recipients fill out paperwork and comply with documentation requirements. Attempting to improve the efficiency of the AFDC system by increasing its technical capacity ignores the reason why most applicants are refused welfare. A study of AFDC, sponsored in part by the Southern Governors' Association and the Southern Legislative Conference, shows that less than a quarter of all denials of assistance can be attributed to excess personal income. The majority of such denials are due, rather, to “Failure to Comply with Procedural Requirements.”

(1978) (largest factor in errors in distribution of AFDC is “administrative practices”; client fraud present in only about two percent of cases).

177. See Richard Kusserow, Inspector General, Dep't Health & Human Servs., Computer Matching in State Administered Benefit Programs: A Manager's Guide to Decisionmaking 7 (1983) (“Without proper managerial oversight, computer matching can easily assume a life of its own. The technological imperative can take over, cranking out data and generating organizational activity that gives the appearance of progress but actually accomplishes little.”); Bendick et al., supra note 176, at 9 (“[W]e found a tendency in some circumstances for reduced errors to be achieved at the expense of inordinately increased administrative costs or reduction in the accessibility of AFDC benefits to persons legally entitled to them.”).


179. Shuptrine & Grant, AFDC/Medicaid Availability, supra note 178, at 5-6; see Southern Regional Project on Infant Mortality, An Examination of the Barriers to Accessing WIC, AFDC, and Medicaid Services 22 (1989) [hereinafter Barriers to Access] (follow-up report based on state site visits finds “[s]ince negative errors are not considered in . . . management reviews the message to the eligibility worker is that inappropriate denials are less important than inappropriate approvals.”); see also Bendick et al., supra.
successful at keeping deserving applicants from obtaining welfare than at identifying the undeserving. The bureaucratic structure of the data processing system through which social services are currently delivered forms a bar to helping the needy.\textsuperscript{180}

(3) Effects on Bureaucratic Justice and Autonomy

This analysis of data processing within the administration of AFDC suggests some negative effects on bureaucratic justice and autonomy. The current system of data processing has a complex impact on the first two elements of bureaucratic justice—accuracy and efficiency. This Article has already mentioned the Office of Technology Assessment's identification of an overestimation of the value of matching in detecting fraud in the distribution of social services. Other studies have criticized the computer's impact on accuracy and efficiency when it is employed to derive a "case error rate" as part of a "quality control system."\textsuperscript{181}

In the AFDC program, a social worker's "case error rate" is audited by checking the original familial data and the worker's decisions against the program's norms.\textsuperscript{182} Some evidence indicates, however, that this rate sometimes varies more because of changes in how the case error rate is derived than because of anything social workers do or do not accomplish.\textsuperscript{183} Thus, the case error rate, the way that AFDC judges its achievements, can depend on technical factors that may have only a tangential relationship to anything other than the system's internal data structure.

As currently applied in the AFDC program, the computer's data processing also has a negative effect on the third element of bureaucratic justice, the dignity of the program participant. Mashaw has observed that a decisional process will contribute to a participant's sense of alienation, terror, and self-hatred if it does not give "adequate notice of the

\textsuperscript{176} at 58 (only 11\% of documents given to AFDC clients written at a level where three-quarters of clients can understand them).
\textsuperscript{180} Indeed, those individuals who are most in need of assistance may be among those least capable of dealing with the paperwork requirements. BARRIERS TO ACCESS, supra note 179, at 21; see SHUPTRINE & GRANT, AFDC/MEDICAID AVAILABILITY, supra note 178, at 8 ("Forty-five percent of all denials across the nation occurred in the South, even though the South renders a decision on only 35\% of all applications. The probability is greater in the Southern States that a person will be poor, . . . and that an application for benefits will be denied.").
\textsuperscript{181} Simon, supra note 2, at 1208-09; Evelyn Brodkin & Michael K. Lipsey, Quality Control in AFDC as an Administrative Strategy, 57 SOC. SERV. REV. 1 (1983).
\textsuperscript{183} Simon, supra note 2, at 1208-09.
issues to be decided, of the evidence that is relevant to these issues, and of how the decisional process itself works."\textsuperscript{184}

The AFDC decisionmaking process provides no such notice. Applicants are unlikely to understand where their data will be matched or how it will be used in decisionmaking. They must fill out a bewildering series of forms and are expected to supply extensive additional documentation. They are then given only an incomplete oral explanation of where their data will be matched. The state requires applicants to provide the name of every member in their household; inquires as to applicants' resources (including whether they have a burial plot or crypt and whether they own any vehicles or tools); and reminds applicants that "family planning (birth control)" is a service for which they may be eligible.\textsuperscript{185} In a comprehensive study of the AFDC program, David Ellwood concludes that "[t]he current system offers modest benefits while imposing a ridiculous array of rules that rob recipients of security and self-esteem."\textsuperscript{186}

The dignity of the AFDC caseworker is also affected by data processing. William Simon aptly describes the effect on the government employee:

The worker's success depends on compliance with coercively enforced, intensely monitored rules that primarily require her to police the claimant's paper Pushing and bureaucratic hoop-Jumping . . . . [T]he worker encounters the claimant as either a threat or a nuisance—a threat to the extent the claimant is a potential source of damaging information to supervisors monitoring the worker's performance, a nuisance to the extent that the claimant makes requests that the system disables or penalizes the worker for responding to.\textsuperscript{187}

Whether or not the dignity of more highly placed bureaucrats is affected by this data processing, their behavior certainly is. At a local department of human services that I visited in Arkansas, the chief administrator's wall was covered with a blackboard listing the federal and state "error rates" permitted by various support programs.\textsuperscript{188} Monthly audits let the bureau chief know if "production" is meeting the official "quality" standards.

Although application of the computer in the AFDC program may hinder the achievement of bureaucratic justice, the state has not critically

\textsuperscript{184} MASHAW, DUE PROCESS, supra note 26, at 176.
\textsuperscript{185} Application for AFDC/Medicaid Assistance, supra note 173.
\textsuperscript{186} DAVID I. ELLWOOD, POOR SUPPORT 4 (1988).
\textsuperscript{187} Simon, supra note 2, at 1221. See BARRIERS TO ACCESS, supra note 179, at 20 (quoting staff of state human service agency: "Process and procedural requirements focus the case worker on accuracy of information rather than on helping the person become eligible.").
\textsuperscript{188} Interview with Roy Edson, Chief Administrator, Arkansas Department of Human Services, Fayetteville Branch (Oct. 1990).
assessed the computer's effect on the program applicant and the program's objectives. Rather, the state relies on a simplistic belief in "instrumental rationality." Max Horkheimer uses this term to describe a belief in the perfection of machines and the need to master nature. The state assumes that the application of ever more powerful computers to carry out more data processing is the best means to fulfill the objectives of AFDC. What is needed is critical thought by state officials as to how the computer's data processing can meet the demands of bureaucratic justice in the AFDC program. This kind of analysis requires a weighing of the implications of social policies and of how computers are used to carry out these policies.

The state must also consider how data processing in the AFDC program affects autonomy. This Article has defined autonomy as the ability to make decisions and to act on these decisions through participation in social and political life. Interestingly enough, the AFDC program claims to support such participatory values. The policy behind AFDC, as expressed in a recent report of the Senate's Committee on Finance, is to improve "family responsibility and community obligation." The Supreme Court recognized this purpose when it stated: "Welfare, by meeting the basic demands of subsistence, can help bring within the reach of the poor the same opportunities that are available to others to participate meaningfully in the life of the community." Yet AFDC, as a wide variety of critics have observed, has fostered dependence in many program participants. Rather than leading to participation in the community, it has led to passivity and dependency on the state. It is worth speculating as to how the computer may have contributed to this effect.

Instead of Mashaw's proposed "bureaucracy with a human face," AFDC offers control through the computer. The computer enables the government to inventory extensive, detailed knowledge of virtually all aspects of a program participant's existence. AFDC applicants are asked a wide variety of personal questions; computers constantly verify this personal data. By allowing information to be shared and combined
throughout government and society, this digitalization of personal information heightens the ability of bureaucracies to “adapt an individual to a predetermined, standardized behavior that aims at the highest possible degree of compliance.” By using personal data to shape behavior patterns, the state may repress the ability of individuals to make free decisions about values and preferences and to act on these choices.

Although John Stuart Mill seemed to place men and women beyond the influence of machines, these devices in fact exert pressure on humans to conform to their rules. In Mill’s time, the steam engine had already started to change the way people lived and worked. In our age, the computer pressures men and women to conform to digital reality. This pressure, which is dreadfully exacerbated by uncertainty as to the government’s processing of personal data, can have a negative effect on the human ability to make free choices.

It may be possible to explain how this repression occurs. The reduction from critical, social actor to an earlier, more passive stage of human development may occur by reversing an important aspect of childhood development—the gradual separation of the developing individual from the caregiver. This separation between one’s self and that of others depends, in large part, upon the degree of control over concealment and exposure of personal information. Personal information can be shared to develop a basis for trust, but the mandatory disclosure of personal information can have a destructive effect on human independence.

Though the nature of the psychological basis for human autonomy is

194. Simitis, Reviewing Privacy, supra note 81, at 707, 710.
195. See Strandh, supra note 10, at 121 (in the nineteenth century, “effects of steam power were felt not only in the field of technology but also in most areas of human civilization”).
196. This digital reality is created through the interrelation of software created by computer programmers with the personal data that computers process. See supra text accompanying notes 65-69, 85-93.
199. For discussion of this point, see the seminal accounts in Ruth Gavison, Privacy and the Limits of Law, 89 Yale L.J. 421, 454 (1980) and Charles Fried, Privacy, 74 Yale L.J. 475 (1968). See also Erik H. Erikson, Childhood and Society 251-54 (2d ed. 1963) (destructive impact of shame on autonomy); Alexander Mitscherlich, Die Unfähigkeit zu Trauern 8 (1967) (“the weakest part of our emotional organization is our capacity for critical thought”) (translated from original).
open to different explanations, the mutability of human autonomy is beyond question.

Totalitarian regimes have already demonstrated the fragility of the human capacity for autonomy. The effectiveness of these regimes in rendering adults as helpless as children is in large part a product of the uncertainty that they instill regarding their use of personal information.200 These regimes have relied on information gathering by stool pigeons, spies, and even children who have been encouraged to report on the activities of their parents and teachers.201 The recent opening of archives in the former German Democratic Republic has made available a wealth of material on information gathering in East Germany. The East German secret police created a dense network of full- and part-time spies; virtually no neighborhood or apartment was without coverage.202 The goal of the secret police was the constant observation of the entire population of East Germany and the resulting promotion of a sense of danger in all human relations.203 The lesson here is generally applicable: a lack of legal restrictions on the collection of personal information will ultimately have a deleterious impact on fundamental human values such as love, honor, and democracy.

The corrosive effect of boundless data collection and processing on autonomy is also suggested by Kafka in The Trial. Mashaw refers to this book in his examination of the dignity element of bureaucratic justice,

200. For the classic treatment of this theme, see GEORGE ORWELL, 1984 (1949). For another approach, see MILAN KUNDERA, THE JOKE (Michael H. Helm trans., 1982). See also Rapaport, supra note 198, at 303-05 (discussing destructive result of "interference with the ego's autonomy from the environment"); Jed Rubenfeld, The Right of Privacy, 102 HARV. L. REV. 737, 794 (1989) (development of "anti-totalitarian right to privacy" that "prevents the state from imposing on individuals a defined identity").


203. GAUCK, supra note 202, at 41. The regulation of access to the files of the secret police has been one of the most difficult issues involved in the unification of Germany. German law has established legal regulations to govern application of this information and has set up a special commissioner to oversee these files. See Gesetz über die Unterlagen des Staatssicherheitsdienstes der ehemaligen Deutschen Demokratischen Republic, (Stasi-unterlagen-gesetz), vom. 20 Dezember 1991, BGBl.I S.2272; John Tagliabue, Files of East German Secret Police Are Opened but Few Seek Access, N.Y. TIMES, June 3, 1992, at A2.

The United States has also experienced repression and spying on the population. See Seth F. Kreimer, Sunlight, Secrets & Scarlet Letters: The Tension Between Privacy and Disclosure in Constitutional Law, 140 U. PA. L. REV. 1, 4 (1991) ("The sanctions at the command of Senator McCarthy, and his precursors and imitators, were primarily the ability to obtain and publish information."). For more on this unfortunate American tradition, see infra text accompanying notes 322-324.
but it can also be of service in thinking about autonomy. Kafka leaves ambiguous the extent to which chance or terrible design determines how information about K. is processed and shared. Certainly K. never knows who is aware of his trial: "'So many people have connections with the court!' said K. with his head sunken and led the manufacturer to the writing table."204 K. is also ignorant of how the mysterious courts process information. The explanations that K. receives cannot be of much consolation to him. Should he receive a "seeming acquittal," for example, his files will still be available to officials. Kafka writes, "Moreover, [the dossier] remains in circulation. As required by the uninterrupted commerce of the law bureaus, it is transmitted to the higher courts, returned to the lower ones, and swings back and forth with larger and smaller oscillations, with larger and smaller delays. These paths are calculable."205 There is no data protection in Kafka's world.

Kafka subtly probes the rage, passivity, and sense of impotence that this situation engenders in K.206 K's ability to participate in social life is ultimately destroyed by the way that bureaucracy treats him. In our world, continuous observation of the AFDC participant's personal data is achieved through data processing. By drastically expanding bureaucratic knowledge of the individual and by failing to explain where this information will be utilized or how it will be used in decisionmaking, this method of administration can weaken an individual's capacity for critical reflection and participation in society.

C. Child Support Enforcement (CSE)


CSE, like AFDC, is managed by bureaucracies through the use of computers that process personal information. Local child support enforcement units (CSEUs) are the new bureaucratic centers designed to collect child support money. CSEUs utilize computers to locate funds that custodial parents are entitled to receive, and to ensure that these funds are actually transferred to them.207 The means of collecting child

204. KAFKA, supra note 120, at 116 (translated from original).
205. Id. at 136 (translated from original).
207. The statutory provisions are found at 42 U.S.C. §§ 651-65 (1988 & Supp. I 1989). For discussions of the background of the CSE program, see OFFICE OF CHILD SUPPORT EN-
support have been transformed as a result of the failure of the earlier methods.

Under the old approach, the level of support for children was set by court order. Thereafter, the noncustodial parent, who was and still is usually the father, was obliged to write a check every month and send it to the custodial parent.208 If this obligation was not met, the custodial parent depended on judges, prosecutors, and her own attorney for enforcement of the child support order.209 A range of enforcement mechanisms were available: sequestration and attachment of properties, a contempt order from the divorce court, and criminal nonsupport proceedings.210 To allow these enforcement mechanisms to work across state lines, a Uniform Act for Reciprocal Enforcement of Support was passed by all fifty states by the end of the 1980s.211

Despite the measures that were available, the old approach did not work; refusals to comply with child support awards occurred on a staggering scale.212 Separate, detailed studies of child support by David Chambers and Lenore Weitzman share the following findings: Middle class fathers are as likely to fail to pay child support as less affluent fathers; full compliance is not met by even half of the fathers ordered to pay support; and a sizeable number of fathers never make a single payment of the court-ordered award.213 American children have been robbed of billions of dollars as a result of noncompliance with support orders.214

Much evidence suggests that fathers have not paid their child support obligations because the legal system, despite its rhetoric, has treated these duties as discretionary. The attitudes of judges, district attorneys and even divorced women’s counsel have been unsympathetic to divorced women.215 A reluctance to take the needs of children and women
seriously has been reflected in widespread refusal to apply the enforcement mechanisms available. As the United States Department of Health and Human Services has stated, "Child support enforcement will continue to be a problem until society expects and demands that parents support their children and that all levels of government are thoroughly committed to ensuring that children receive what they are due."216

This dismal picture may, however, be changing. The federal government has decided to use the computer's data processing capability to set up a system of automatic withholding of child support. This system relies on the social security number to locate noncustodial parents and their money.

(2) Child Support Enforcement and the Computer

Collection of child support has been revolutionalized by reliance on data processing. Over the last two decades, a series of laws has established a web of interconnected data systems that monitor noncustodial parents. The process began in 1974 with the Federal Child Support Act,217 which created a parent locator service linked to similar services in all the states. This cooperative effort seeks to find noncustodial parents who fail to pay child support and whose families receive AFDC.218 In 1976, Congress explicitly authorized the use of social security numbers in searches of federal and state data banks for information leading to the location of these delinquent parents of AFDC families.219 In 1982, Congress granted these locator services access to IRS records to increase their chances of locating absentee parents.220 Moreover, this law pro-

216. OFFICE OF CHILD SUPPORT ENFORCEMENT, DEP’T. HEALTH & HUMAN SERVS., EIGHTH ANNUAL REPORT TO CONGRESS 2 (1984); see WEITZMAN, supra note 208, at 321 ("[T]he current legal system places the economic responsibility for children on their mothers and allows fathers the ‘freedom’ to choose not to support their children.").


vides for the interception of tax refunds to help pay for overdue child support in families that are eligible to receive AFDC.\textsuperscript{221}

The next significant changes in child support enforcement were enacted in 1984. The Child Support Enforcement Amendments of 1984 made the parent locator and enforcement services available to all families—not merely those who receive AFDC.\textsuperscript{222} This law also requires employers to garnish the wages of absent parents whose child support payments are in arrears in an amount greater than or equal to one month's obligation.\textsuperscript{223} Moreover, it orders states to issue guidelines that set irrebuttable presumptions as to the level of child support awards, and it provides for data matching and tax interception with the IRS for non-AFDC families.\textsuperscript{224}

The Family Support Act of 1988 is the latest example of the growing trend of reliance on data processing to collect child support. As this Article mentioned in its discussion of AFDC, this law requires all parents to obtain a social security number for their child at birth.\textsuperscript{225} These numbers are used to create a decentralized national data base that lists the names and social security numbers of parents in conjunction with those of their children. The purpose of these data banks is to improve the government's ability to discover the identity and location of parents.\textsuperscript{226} The FSA also uses data processing to broaden the range of information used to determine the circumstances under which child support will be withheld by the employer.\textsuperscript{227} This part of the law goes into effect in two steps.

Since late 1990 all employers have been required to withhold child support from paychecks of employees if their families receive welfare payments or if a CSEU has requested assistance in collecting child support due to a one-month arrearage of support.\textsuperscript{228} In 1994, all employers

\textsuperscript{221} Id.
\textsuperscript{223} 42 U.S.C. §§ 503(e), 666(b)(6)(A) (1988).
\textsuperscript{225} 42 U.S.C. § 205(c)(2)(C) (1988); see 6 PRIVACY J., Apr. 1990, at 1 (although law states [s]uch numbers shall not be recorded on the birth certificate,” Department of Health and Human Services plans to issue advisory statement saying prohibition applies only to copies of birth certificate).
\textsuperscript{226} See SENATE FINANCE COMM. REPORT, supra note 144, at 23 (“The social security number is a major tool in tracing absent parents and enforcing the collection of child support. This provision will establish as a norm the furnishing of the parents' social security numbers at the time of birth.”).
\textsuperscript{227} 42 U.S.C. § 666(b) (1988); see 45 C.F.R. § 95.601 (1991) (providing for federal financial participation in the funding of automatic data processing equipment and services).
will automatically withhold child support payments from the noncustodial parent's paycheck unless both parents have agreed to opt out of the system.229 Having already greatly increased the government's on-line data base, the federal data bank of parental names and social security numbers is intended to ensure that this withholding is carried out. In the words of one state's director of Child Support Enforcement, "Some people would say that's Big Brotherism. Well, it is."

A glance at a computer screen at a CSEU provides prima facie support for the allusion to Big Brother. The "Absent Parent" screen (which is informally known in the Fayetteville, Arkansas CSEU office as the "Papa Screen") lists all case information, the social security number and address of the absent parent, the source for the address, and the employer's address.231 This screen can also be used to access the following: Court data; information on payments in arrears; internal data relating to case management; all information at the AFDC office; and, thus, all data sharing and matching listed in Table A, infra.232 Moreover, the CSEU also has access to the "Federal Parent Locator" database.233

The "Federal Parent Locator" database can be called up by the CSEU from the "Absent Parent" screen.234 A sample Parent Locator screen, as it appears to a clerk at a CSEU, is reproduced in Table B.235 The Parent Locator database contains information from the following: the Social Security Administration; the Department of Defense; the Veterans Administration; the Motor Vehicle Bureau of the state in which the CSEU is located; the IRS, including 1099 forms; and commercial credit bureaus.236 The parent locator also allows searches of state data bases, three states at a time.237

Once the address or employer of an absentee parent shows up on a computer screen at the CSEU, the enforcement starts. The local enforcement unit's first step is to notify the absentee parent that wage withhold-

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229. Id. § 666(a)(8).
231. ARKANSAS CHILD SUPPORT ENFORCEMENT, ARKANSAS DEPT. HUMAN SERVS., AUTOMATED DATA SYSTEM USER'S MANUAL §§ 5000-5500g (1989) [hereinafter CSE USER'S MANUAL] (on file with author).
232. Id. §§ 4000-4019, 5000-5009.
234. ARKANSAS CHILD SUPPORT ENFORCEMENT, ARKANSAS DEPT. HUMAN SERVS., POLICY FOR THE CHILD SUPPORT PROGRAM § 1202 (1991) (on file with author); CSE USERS MANUAL, supra note 231, §§ 8000-8001.
235. See infra page 1389.
236. CSE USERS MANUAL, supra note 231, §§ 8000-01.
237. Id. § 8001.
ing will take effect and to offer an opportunity to contest such withholding. The unit then sends this parent's employer an order to withhold wages. The employer must deduct the money from the parent's wages and pay it to the CSEU, which either passes it on to the family or, in the cases of AFDC recipients, turns all but the first fifty dollars over to the federal government.

There are two significant safeguards against possible ill effects of this data processing. First, in order to guard against the possibility that either the wrong person's wages might be withheld or the wrong amount might be deducted, noncustodial parents are notified before withholding. Second, the Child Support Enforcement Amendments of 1984 protect against employer reprisals by requiring that state law provide for the fining of any employer "who discharges from employment, refuses to employ, or takes disciplinary action against any absent parent subject to wage withholding . . . because of the existence of such withholding and the obligations or additional obligations which it imposes upon the employer."

The congressional goal in coupling automatic withholding with objective mandatory standards is to increase compliance with court-ordered child support. Congress believes that technology can play an important role in solving a complex social problem, indeed a national tragedy: the irresponsibility of many fathers toward their offspring. Congress has responded by passing the Family Support Act and related laws. Underlying these laws is the presumption that ever larger groups of noncustodial parents will neglect to pay child support and that technology is the best means of preventing this pattern of behavior.

(3) Effects on Bureaucratic Justice and Autonomy

This section begins by examining differences in the nature of AFDC and CSE and in the tasks that the computer performs in these programs. This comparison leads to an evaluation of the effect of CSE's use of data processing on bureaucratic justice and autonomy. This analysis will, in turn, suggest ways in which the impact of data processing is affected by its context.

There are significant differences between AFDC and CSE. CSE is a debt collection program; it represents an attempt by the government to collect the money that noncustodial parents owe their families. In contrast, AFDC is a government entitlement program; as the Supreme Court has noted, AFDC provides "the very means by which to live." As a result of this role, AFDC serves important interests for both the recipient ("the means to obtain essential food, clothing, housing and medical care") and for the state (by providing the poor with an opportunity to "participate meaningfully in the life of the community" and by guarding "against the societal malaise that may flow from a widespread sense of unjustified frustration and insecurity"). The danger of dominating the recipient and the risk of unjust administration are of particular concern with AFDC due to the significance of the program to its target population.

Not only are AFDC and CSE different kinds of governmental programs, but they also apply the computer to different tasks. AFDC's data processing determines eligibility for an important governmental entitlement sought by a vulnerable population. In contrast, CSE uses the computer to collect money. More precisely, a CSEU computer processes data to locate the noncustodial parent and his employer, to give notification to this parent before withholding, and to order the employer to deduct the required amount of child support from each paycheck. While the computer's application in AFDC poses dangers to a vulnerable group, its use in CSE keeps noncustodial parents from acting unjustly toward their children and former spouses. Hence, a comparison of the contexts of data processing in these two programs leads one to expect greater dangers from the computer's application in the administration of AFDC than from its application in the administration of CSE.

Indeed, it is possible to be initially optimistic about the impact of CSE on the first two elements of bureaucratic justice—accuracy and efficiency. It is easier to measure accuracy in relation to the enforcement of child support orders than in determining eligibility for welfare. In AFDC, the computer processes a wide range of data to assist in making a complex judgment about the needs of the applicant. By contrast, in CSE the computer simply finds the right person and collects the right amount. Accuracy is protected in CSE by notifying the noncustodial parents

244. Id. at 264-65.
before withholding begins. Moreover, outside audits of state CSE programs are mandated by federal law.\textsuperscript{246}

In terms of efficiency, automatic withholding clearly has increased the amount of child support collected. The figures are impressive. Over the last five years for which full data is available, state units have almost doubled the amount of money collected each year. This represents an increase from 3.2 billion dollars in 1986 to 6.0 billion dollars in 1990.\textsuperscript{247} CSE's cost efficiency increases every year. Current figures indicate that almost four dollars are now collected for every dollar spent on program administration.\textsuperscript{248} CSE is a government program that helps the needy and saves tax dollars.

There is one phenomenon associated with CSE, however, that undercuts its efficiency. Federal and state law do not adequately protect the employment of the noncustodial parent. Upon receipt of a withholding notice, some employers simply fire a noncustodial parent rather than subjecting his or her wages to withholding.\textsuperscript{249} There are two possible explanations for this unintended result of CSE: the stigma associated with wage withholding, and the administrative costs that withholding imposes on the employer. This Article will return to these two issues later.\textsuperscript{250}

The application of the computer in collecting child support thus generally satisfies concern for accuracy and efficiency, but the danger of this current application of data processing is that it may sometimes lead to an unjust termination of the noncustodial parent's employment. The third element of bureaucratic justice, the dignity interest, is clearly affected by such an unjust termination of employment. Moreover, the noncustodial parent's lack of knowledge as to how personal data is used in the process of wage withholding further undermines the dignity interest. The preceding analysis of AFDC discussed how a mysterious, unexplained process can humiliate and bewilder program participants. In CSE, the same potential exists. Notice of withholding is given to the noncustodial parent,\textsuperscript{251} but no notice is provided as to how the CSEU

\textsuperscript{248} Id. at 12.
\textsuperscript{250} See infra text accompanying notes 312-315.
\textsuperscript{251} See supra text accompanying note 241.
will apply the vast amounts of data to which it has access. Adding to the potential bewilderment of noncustodial parents, individual states vary in the extent to which they share wage withholding information with commercial credit bureaus.\(^{252}\)

The processing of data in CSE not only generates several unintended effects on the efficiency and dignity elements of bureaucratic justice; it may also have an impact on human autonomy. To be sure, the computers at a CSEU influence the choices of noncustodial parents: choices as to payment of child support, and even choices regarding the formation of a new family. But autonomy, as we have seen, can withstand restrictions on external choices. The danger to autonomy arises in the CSE program only if CSE impairs that capacity for critical thought on which social participation depends.\(^{253}\)

The greatest threat to autonomy posed by CSE derives from the ignorance of noncustodial parents as to where and how information about them is stored and shared. Noncustodial parents receive notice of withholding, but they do not know the extent of the government's knowledge of their family and their financial obligations. This Article has cited a government official's comparison of CSE with Big Brother. But in Orwell's grim world, one knew where he or she stood with Big Brother: Big Brother's rule was made possible by the continuous gathering and application of information about the individual. In that world, all was known about everyone: "Nothing was your own except the few cubic centimeters inside your skull."\(^{254}\) By contrast, noncustodial parents who are subject to CSE remain ignorant as to the use of the data compiled about them.

In both AFDC and CSE, applying the computer can interfere with the achievement of governmental objectives and erode individual self-de-

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252. The 1984 Child Support Enforcement Amendments require that states respond to requests from credit bureaus by supplying them with past-due child support information. 42 U.S.C. § 666(a)(7) (1988). See Office of Child Support Enforcement, U.S. Dep't Health & Human Servs., Thirteenth Annual Report to Congress 17 (1989) (although all states required to respond to requests for credit information, Federal Office of Child Support Enforcement encourages states "to establish routine reporting systems with the national consumer credit bureau reporting network"); Ark. Code Ann. § 9-14-209(b) (Michie 1987) ("Upon written request by a consumer reporting agency, the Child Support Enforcement Unit may make information available to the agency regarding an amount of overdue support owed by a noncustodial parent.").

253. See supra text accompanying notes 130-137.

termination. Americans no longer know how their personal information will be applied, who will gain access to it, and what decisions will be made with it. The resulting uncertainty increases pressure for conformity. Individuals whose personal data are shared, processed and stored by a mysterious, incalculable bureaucracy will be more likely to act as the government wishes them to behave. The preceding analysis suggests the need to develop a systematic legal approach to furthering bureaucratic justice and protecting autonomy. Part III of this Article develops such principles in an attempt to establish the basis of an American data protection law.

III. What Should the Law Do?

This Article has relied on notions of bureaucratic justice and autonomy to evaluate data processing systems in AFDC and CSE. Building on this analysis, this Article now develops the elements of an American data protection law that would be capable of institutionalizing respect for these norms throughout the American administrative state.

A. Structuring Bureaucratic Justice and Protecting Autonomy: The Role of Data Protection Law

The state's service administration depends on data processing. Yet the treatment of information as a flow, as we have encountered in our examination of AFDC and CSE, has a profound, and sometimes profoundly negative, effect on bureaucratic justice and autonomy. This conclusion is consistent with a developing school of administrative law scholarship that emphasizes the importance of agency structure and governance. This approach focuses on aspects of "internal" administrative practices. In the spirit of this approach, this Article argues that American law must reflect an awareness of how the flow of personal information in the government affects bureaucracy and human behavior.

In other Western nations, substantial attention paid to this issue is considered part of a distinct area of law called data protection law. The name is somewhat of a misnomer. Data protection law does not merely seek to guard data, but also attempts to safeguard the individual's interests. It counters the computer's omniscience with an ongoing

255. See supra text accompanying note 2.
256. See supra text accompanying notes 3-5.
257. Attempts to guard data are usually called "data security." Schwartz, supra note 4, at 153.
compromise between the concealment and exposure of personal information.258

There are many ways to structure this compromise, but no nation has based it on an absolute individual right to control one’s personal data.259 Such a right of control, which might be fashioned as a quasi-property right, would do more harm than good. As a private person, the individual may wish to have exclusive authority over who has access to data that refers to him or her. But as a citizen, he or she also wishes to be aware of the activities of the nation’s leaders, of other prominent figures, and of ordinary people who are associated with newsworthy events.260 Furthermore, the citizen has an interest in the accurate and efficient distribution of benefits and services by the activist state’s service administration.261 These concerns militate against a law allowing the data subject exclusive control of the image of societal reality expressed in “his” or “her” personal data.262

Rather than promoting an absolute right of personal control, an American data protection law should be organized around three elements: The maintenance of transparent information processing systems, the assignment of limited procedural and substantive rights to the data subject, and the establishment of independent monitoring of the processing of data. Different risks will arise depending on the area of life being subjected to administration; therefore, these elements must be set forth in both a general data protection law (providing a safety net in an age of technological change) and specific laws directed at discrete data systems.263 The first two elements of data protection law, the development of a concept of transparency and the assignment of limited procedural and substantive rights, are discussed in the next section.
B. Creating Transparent Systems and Assigning Limited Procedural and Substantive Rights

The creation of transparent systems of data processing updates a traditional American belief in open government. In the words of James Madison, "A popular government, without popular information, or the means of acquiring it, is but a prologue to a Farce or a Tragedy; or perhaps both." The principle of transparency depends on more, however, than providing such "popular information." That task is carried out by the Freedom of Information Act and the Government in the Sunshine Act; these laws provide a right of access to information in the control of government bureaucracy and a right of attendance at the deliberations of government agencies. In contrast, transparency requires a structuring of the bureaucratic systems that process personal information in order to set limits on these systems and to make them open and understandable to the data subject. Transparency also requires assigning limited procedural and substantive rights to the data subject to further the dignity component of bureaucratic justice and to promote autonomy. These rights would allow data subjects to demand understandable explanations of how decisions were made, and to object to systems of data processing that adversely affect their capacity for decisionmaking.

267. See Department of Air Force v. Rose, 425 U.S. 352, 360 (1976) (Freedom of Information Act (FOIA) reflects "a general philosophy of full agency disclosure") (quoting S. REP. No. 813, 89th Cong., 1st Sess. 3 (1965)). But see HERBERT MITGANG, DANGEROUS DOSIERS: EXPOSING THE SECRET WAR AGAINST AMERICA'S GREATEST AUTHORS 154-55 (1988) (more delay and stonewalling during the Reagan presidency than before in responses to FOIA requests); NICHOLAS VON HOFFMAN, CITIZEN COHN 465 (1988) (FOIA is "a dead letter: Although the Roy Cohn FBI file is over 4,000 pages, more than a year after the man's death virtually nothing but Xerox copies of a few newspaper articles have been released."); Diana M.T.K. Autin, The Reagan Administration and the Freedom of Information Act, in FREEDOM AT RISK 69 (Richard O. Curry ed., 1988) (noting restrictive attitude of Reagan administration towards freedom of information); Educators Assail U.S. Curbs on Access to Data, N.Y. TIMES, Sept. 14, 1988, at B9 (too much information is classified and at higher levels than is warranted); Andrew Blum, Freedom to Battle for Data, NAT'L L.J., Mar. 12, 1990, at 1 (significant problems with administration of FOIA).
268. See FCC v. ITT World Communications, 466 U.S. 463, 469-71 (1984) (Sunshine Act applies to meetings where at least a quorum of agency's members conduct or dispose of official agency business).
269. This concept has been raised to a constitutional obligation in the Federal Republic of Germany. See 65 BVfGE 1 (1985); Schwartz, supra note 4, at 686-94.
270. See 65 BVfGE 1, 62-63 (1985) (discussion by German Constitutional Court of "com-
Germany's Constitutional Court articulated aspects of these ideas in its ground-breaking *Census* decision.\(^{271}\) The *Census* opinion identified a "right of informational self-determination" that has two aspects which are relevant to our discussion. The first is the obligation that this right places on the state to organize data processing so that the data subject can anticipate who will use his or her personal data and the purposes for which this information will be used.\(^{272}\) Declaring its goal in dramatic terms, the German Court stated: "Inconsistent with the right of informational self-determination would be a societal order and assisting legal order in which the citizen no longer knew the who, what, when and how of knowledge about him."\(^{273}\) This right also prevents any use of personal data that is sufficiently intrusive or coercive to destroy the individual's capacity for self-government.\(^{274}\) This aspect of the right places a duty on the state to carry out data processing in a fashion that respects the autonomy of the individual.\(^{275}\)

Such an approach obliges legislative and administrative bodies to create open and understandable data systems and to evaluate whether these systems respect the self-determination of the individual.\(^{276}\) In Germany, this evaluation has also been carried out by the judiciary as part of a sophisticated, ongoing public discussion and political debate.\(^{277}\) Although application of the idea of "informational self-determination" has not been without difficulties,\(^{278}\) Germany's attempt to realize this


\(^{272}\) 65 BVerfGE at 46.

\(^{273}\) *Id.* at 42-43 (translated from original).

\(^{274}\) *Id.*

\(^{275}\) *Id.* at 44.

\(^{276}\) *Id.* at 46. For discussion of this aspect of the decision, see Spiros Simitis, *Die Informationelle Selbstbestimmung—Grundbedingung einer verfassungskonformen Informationsordnung*, 37 NJW 398 (1984); Erhard Denninger, *Das Recht auf informationelle Selbstbestimmung und Innere Sicherheit*, 18 KRITISCHE JUSTIZ 215 (1985).

\(^{277}\) For German judicial decisions that consider whether data systems respect the self-determination of the individual, see, e.g., BVfG, 4 RDV 194 (1988); BVfG, 2 RDV 76 (1988) BVfG, 40 NJW 2805 (1987); Verwaltungsgericht, Frankfurt-am-Main, 4 RDV 209 (1988). For a sampling of the public discussion and political debate, see, e.g., VERDATET UND VERNETZT (Wilhelm Steinmueller ed., 1988); VOLKSZÄHLUNG VERZÄHLT (Jürgen Arnold & Jutta Schneider eds., 1988).

norm shows that seeking transparency is an excellent start to making data protection an important part of a nation's legal and political agenda.

In America, realization of the idea of transparency requires similar legislative and administrative action. The legislature and administration must seek to make governmental data processing systems open and understandable. Achieving this goal begins with the articulation of limited, precise goals prior to the collection, processing, or sharing of personal data. Such goals, as we have seen, have been at best incompletely expressed in AFDC and CSE. Transparency also requires that the data subject be given notice of the extent of the collection, processing, and sharing of personal data. As the preceding analysis indicates, this notice is far from adequate at present in AFDC and CSE. Even when important public concerns require limitations to be placed on the principle of transparency, as in the case of data pertaining to national security, restrictions should still be set on data processing systems.

The realization of the second fundamental element of an American data protection law, the assignment of procedural and substantive rights to the data subject, also begins with legislative and administrative action. This action should create rights that require the state to explain the goals and functioning of data processing systems. Notice also plays an important role here. The state should be obliged to inform data subjects of whether they are required to supply information to the organization that seeks it, where information about them will be used, and whether they can inspect and request correction of this data. Rights that guarantee this kind of notice do not exist within AFDC and CSE. By allowing

279. Such a requirement has been mandated in Germany. See 65 BVIGE 50; Simitis, German Data Protection Law Commentary, supra note 3, at 70-85.

In America, the government's collection, processing and sharing of data is currently decided "in a low profile, ad hoc fashion by a variety of government bodies." Schwartz, supra note 4, at 695.

280. See supra text accompanying notes 159-254.

281. See supra text accompanying notes 159-254.

282. See PRIVACY STUDY REPORT, supra note 40, at 462-63 (Federal Privacy Protection Study Commission proposes similar requirements for clients of public assistance and social service programs).

283. See supra text accompanying notes 184-186, 251-252. The Privacy Act, which articulates rules for the employment of personal information by the federal government, does contain notice provisions. 5 U.S.C. § 552a(e)(3) (Supp. II 1990). But the Privacy Act has not created effective notice of federal data use. See FLAHERTY, supra note 3, at 341. In a trio of recent cases, federal appellate courts have objected to some of the agency practices that have reduced the Privacy Act to irrelevancy. In the first of these cases, the District of Columbia Circuit gave strength to the Privacy Act's requirement that agencies collect information first from the data subject. Waters v. Thornburgh, 888 F.2d 870, 873 (D.C. Cir. 1989). In the other two cases, the Third and Ninth Circuits attempted to narrow the "routine use" exemption to the Privacy Act's requirement that the data subject's consent be acquired before infor-
knowledge of the who, what, why, when, and how of the processing of one’s personal information, these rights would serve to protect dignity and autonomy.

Processing of data in a procedurally adequate fashion may still at times impinge upon human autonomy. Such instances will require evaluations of competing values to determine the extent to which individual rights will be protected. To make this determination, the legislature, executive, and judiciary must explicate social norms, examine the effects of data processing systems, and analyze constitutional principles. In doing so, they must seek to develop a scale of values with which to evaluate self-determination and the informational interests of state and society.\(^{284}\) Section III.D of this Article further explores necessary improvements in AFDC and CSE. Before turning to these matters, this Article will explore the final element of data protection law: The establishment of independent monitoring of the processing of data.

C. Creating Independent Oversight

Protection of bureaucratic justice and autonomy requires a structuring of information processing and the assignment of limited procedural and substantive rights to the data subject. But transforming the information processing within government agencies requires the assistance of an institution capable of offering independent expertise. This, in turn, requires the establishment of a government body capable of studying the effects and implications of data processing practices.\(^{285}\) This institution would achieve the third goal of an American data protection law by monitoring bureaucracy’s data processing, as well as technological and


\(^{285}\) See FLAHERTY, supra note 3, at 305 (“The United States carries out data protection differently than other countries, and on the whole does it less well, because of the lack of an oversight agency.”).
international legal developments. In its attempt to protect human autonomy, data protection law can remain effective and current only if such an institution exists to assist government bureaucracy, the legislature, and the data subject.

Congress's difficulty in understanding the organization and structure of data processing within federal agencies supports this proposition. An official admission of this difficulty has been expressed in the context of oversight of the Social Security Administration. The Office of Technology Assessment, the research arm of Congress, has enumerated some of the reasons why Congress does not understand how this vast bureaucracy processes personal information:

[In the long term, oversight becomes more difficult because administrative decisions become more highly technical and involve issues of technological capacity, multi-year investments, and systems management strategy that laymen—which includes most congressional representatives and their staff—find difficult to understand. Seeking and comparing the judgments of technical experts and working to comprehend these evaluations is extremely demanding of time, effort, and attention; it is all the more difficult because systems experts constitute a highly concentrated community of people with a great many potentially overlapping vested interests in the actions of [the Social Security Administration], a major purchaser of computer systems.]

This statement exposes one of democracy's most difficult challenges in the twentieth century: managing an often unfathomable government bureaucracy. A critical facet of this task is overseeing bureaucracy's data processing systems.

In the absence of extensive expert assistance, the legislature has been overwhelmed by the task of understanding data processing systems within the service administration. Without such expertise, the computer's seeming precision has led the legislature to overestimate the computer's power and to ignore its limitations. And if the "laymen" in Congress are unable to understand data processing systems within government bureaucracy, the ordinary citizen has no hope of comprehension. Data subjects are unlikely to have the resources and technical expertise to understand the arrangement of information processing, the

286. Social Security & Technology, supra note 164, at 58.
287. See generally Christopher H. Foreman, Jr., Signals from the Hill: Congressional Oversight and the Challenge of Social Regulation 185 (1988) (difficulty in congressional oversight of agency action due to legislature's inability to shape its sense of appropriate policies); Social Security & Technology, supra note 164, at 1 ("[E]ffective oversight and monitoring of agencies dependent on advanced information systems is becoming more difficult, as technological decisionmaking and management increasingly requires special knowledge.").
288. See, e.g., supra text accompanying notes 177-180.
employment of their personal data, and the extent of their rights.\textsuperscript{289} The necessary help is not likely to come from individual federal agencies, which have no incentive to act as public ombudsmen or to engage in self-criticism.\textsuperscript{290}

Although government bureaucracy now relies on data processing, there are almost no federal officials who are able to devote time to developing necessary expertise in the regulation of data processing.\textsuperscript{291} In the 1938 Storrs Lecture on Jurisprudence, James Landis observed that the problem of expertise lies at the heart of the administrative process.\textsuperscript{292} His words are more relevant today than ever. Landis stated that expertise "springs only from that continuity of interest, that ability and desire to devote fifty-two weeks a year, year after year, to a particular problem."\textsuperscript{293}

The chief role of an American data protection commission would be to assist the government and citizens in understanding the effects and implications of data processing practices. This role would be carried out by monitoring data processing practices and compliance with laws, by drawing the attention of the legislature and the public to the problems of existing laws and the need for further regulation, and by assisting citizens seeking to protect their interests and exercise their rights.\textsuperscript{294} By fulfilling these tasks, the data protection commission would help to ensure that the legislature and public remain aware and active as the conflicts generated by information processing systems change.\textsuperscript{295} Data protection law can represent no more than an ongoing response to an evolving situation.

An American data protection commission would also monitor international agreements and foreign laws that affect data imports and exports. Internationalization of business has brought with it an

\textsuperscript{289} Mashaw, Bureaucratic Justice, supra note 2, at 139-42; Simitis, Reviewing Privacy, supra note 81, at 742-46.

\textsuperscript{290} See Privacy Study Report, supra note 40, at 532 ("Within agencies, there has often been little or no compliance monitoring, as well as no office to which agency operating personnel can turn for guidance.").

\textsuperscript{291} Flaherty, supra note 3, at 315-18 (at best, there is an "informal network of data protection officials" who, "it must be admitted, . . . have limited power").


\textsuperscript{293} Id. at 23.

\textsuperscript{294} For analysis of the activities of a data protection commission, see Flaherty, supra note 3, at 371-407; Ulrich Dammann, § 18, § 19, § 20, in German Data Protection Law Commentary, supra note 3, at 577-613.

\textsuperscript{295} Flaherty, supra note 3; Dammann, supra note 294, at 608-14; see, e.g., Bundesbeauftragten für den Datenschutz, supra note 44, at 89-93 (joint resolutions of German Federal and State data protection commissioners as to data protection in hospitals, planned changes in the federal data protection law, and a proposal for a legal regulation of telecommunications).
internationalization of data flows, as well as global attention to data protection issues. But this international attention currently lacks significant American participation. As a result, documents such as the Council of Europe’s Data Protection Convention can be used as weapons to block data exports to the United States. This internationally binding agreement, which has been signed by eighteen European countries, allows signatory nations to prevent the export of data to nations that do not offer “equivalent protections” for personal information. Data exports to America have already been prevented under this standard. The United States must do more than fight for a principle of free international data flows; it must develop the institutional expertise that will allow involvement in the worldwide debate over data protection concerns.

296. There is even a periodical devoted entirely to the issues raised in regulating these data flows: the Transnational Data Report and Communication (TDR). See Resolutions of the 11th Conference of Data Protection Commissioners, 12 TDR No. 9, at 33 (Berlin, August 30, 1989) (“International data networks are increasingly used for transfers of personal data, for instance in the use of credit cards, for the purposes of travel booking systems and within multinational enterprises.”); see also Steve Lohr, The Growth of the Global Office, N.Y. TIMES, Oct. 18, 1988, at D1 (American service industries increasingly send data to foreign countries to be processed); MICHEL BERGMANN, GRENZÜBERSCHREITENDES DATENSCHUTZ (1985) (analysis of data protection laws that regulate international data flows).


298. Id. at Ch. II, 3(a).

299. The evidence is, however, sketchy. See, e.g., Dieter Baumeister, Grenzüberschreitender Datentransfer und Datenschutz im nichtöffentlichen Bereich aus der Sicht der Bundesrepublik Deutschland, 6 RDV 23, 24 (1990) (German data protection authorities refused to let a large enterprise transfer its data processing work to a branch office in the United States because of lack of American regulations that correspond to German protections). The paucity of the evidence is not surprising since the decision as to “equivalency” of protection is left to each nation that has signed the Convention. BERGMANN, supra note 296, at 189.

The European Community has now prepared a draft directive relating to data protection that will allow “Member States” to transfer personal data “only if that country ensures an adequate level of protection.” Commission Proposal for Council Directive Concerning the Protection of Individuals in Relation to the Processing of Personal Data, Ch. VIII (Sept. 13, 1990). See John Markoff, Europe’s Plans to Protect Privacy Worry Business, N.Y. TIMES, Apr. 11, 1991, at A1 (many American companies fear new rules of European Community could limit their use of computer data); PRIVACY TIMES, Nov. 21, 1990, at 3-4 (United States fits “squarely into the definition of countries lacking equivalent privacy protection” and “[s]ome U.S. Corporations are concerned that the provision, if eventually adopted, could become a non-economic trade barrier.”); Alfred Einwag, Grenzüberschreitender Datenverkehr aus Sicht des Bundesbeamten für den Datenschutz, 6 RDV 1, 2 (1990) (German Federal Data Protection Commission argues that it is to be assumed that the transfer of personal data into a country with no or a significantly lower level of data protection harms important interests of the individual).

Although the United States is almost alone among Western nations in its failure to create an institution with such expertise, there is awareness even in America of the potential value of such a commission. This recognition dates back to the discussions that led to the Privacy Act of 1974. At that time, Senator Sam Ervin introduced a bill to create a Federal Privacy Board. Senator Ervin pointed to the urgent need for “foresight and the ability to forecast the possible trends in information technology and the information policies of our government and private organizations before they actually take their toll.” Ervin’s proposed Federal Privacy Board was to oversee the gathering and disclosure of personal information by “[f]ederal agencies, state and local governments, and private organizations.” Unfortunately, opposition from the Ford administration prevented this bill from becoming law.

In the last Congress, two bills sought to establish this kind of independent oversight. In support of the Data Protection Act of 1989, Representative Robert Wise stated:

We need a Data Protection Board principally because there is no voice in Government that represents and articulates data protection concerns on an ongoing basis. In the balancing of interests that shape Government policies and actions, data protection needs are frequently ignored because there [are] no institutional spokesmen to represent them.

Despite the efforts of Representative Wise and the House Committee on Government Information, neither of the current data protection bills has made its way out of committee.

Although international experience indicates that data protection commissions can entail relatively modest costs, Congress is not currently

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302. *Id.* at 5.

303. The bill is reprinted at *id.*, 9-28.


in the mood to create new government institutions. Landis was also insightful on this score:

The most superficial criticism which can be directed toward the development of the administrative process is that which bases its objections merely upon numerical growth. . . . Efficiency in the processes of governmental regulation is best served by the creation of more rather than less agencies. And it is efficiency that is the desperate need.

The creation of an American data protection commission would dramatically improve the quality of federal regulation of government agencies’ use of information.

D. Concluding Thoughts About AFDC and CSE

The principles of transparency, assignment of rights to the data subject, and independent monitoring are not merely general principles: They have a particular place in the legal organization of specific data processing programs. Having discussed the shortcomings of data processing in AFDC and CSE, this Article will now indicate how the three principles of data protection law can be used to improve administration of these programs.

One criticism of data use in AFDC and CSE is that administrators of these programs do not adequately inform the applicant and beneficiary of how personal information is processed and shared. If there is to be transparency in these governmental programs, this knowledge must be provided. It should be structured through an actual notice requirement. A written component to this notice should be presumed necessary. This component is to be supplemented by oral explanations reasonably designed to inform the citizen of the details of knowledge about him. To the extent that program-specific data protection law increases the subject’s understanding of the state’s use of information, it lessens the risk of domination by the state.

The danger of state domination can also be lessened by the assignment of procedural and substantive rights to the data subject in the AFDC and CSE programs. These rights should insure notice of data processing practices. In addition, data subjects should be encouraged to find out the contents of their records. AFDC and CSE offices should consider providing data subjects with regular printouts of “account activ-

308. The Ford administration’s opposition to the proposal of a federal privacy board in 1974 was also based on the belief that growth of government should be opposed. See Flaherty, supra note 3, at 311-12.
310. See supra text accompanying notes 173; 251-252.
311. See supra text accompanying notes 193-206.
ity.” The computer’s awesome data processing capabilities need not create only confusion. On the contrary, computer systems should be designed to provide individualized insight into the functioning of government bureaucracy.

In CSE, rights should be created to prevent unjust terminations. As noted earlier, some employers react to a wage withholding order by firing the noncustodial parent.\(^{312}\) The message that the CSE computer appears to be sending to some employers is that particular employees lack credit or moral worthiness. Demanding that an employer withhold wages may lead that employer to believe that the noncustodial parent should lose his job because he is someone who does not pay his debts or fulfill his social obligations.\(^{313}\) Federal law currently provides only for fining the employer who fires an employee for child support delinquency.\(^{314}\) The non-custodial parent should also be able to obtain reinstatement and back wages. In a recent decision, the Supreme Court of Ohio agreed with this proposition and developed a public policy exception to the state’s employment at will doctrine.\(^{315}\)

Independent monitoring also has a role in AFDC and CSE. An American data protection commission could begin this task by exploring the limits of the assumption shared by AFDC and CSE that the greater the amount of personal information processed, the more successful these programs will be in achieving their goals.\(^{316}\) In one of his official reports, Spiros Simitis, the former data protection commissioner of the German state of Hesse, declared that administrative bodies should not seek to maximize their collections of personal information, but should “only process the personal data that is absolutely necessary.”\(^{317}\) There is a need to reorient AFDC and CSE by having them determine not how much personal information they can obtain, but how little will allow them to carry out their functions.

In addition to questioning these assumptions, independent monitoring of AFDC and CSE should generate specific criticisms. In AFDC, this process of constructive criticism should start by focusing on the way

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314. See supra text accompanying note 242.
316. See supra text accompanying notes 177-180, 189.
program applicants are overwhelmed by paperwork and documentation requirements.318 In CSE, a data protection commission should consider ways to combat some employers’ negative perception of noncustodial parents whose wages are subject to withholding of child support. The Federal Office of Child Support Enforcement has already prepared a model handbook for states to adopt and send to employers.319 Yet these handbooks do not appear to be convincing to all employers, and if a different message does not reach employers by 1994, when all noncustodial parents will be subject to having child support payments withheld from their salary, a large portion of the nation’s work force may face reprisals.

A data protection commission might also consider whether limits should be set on the CSEUs’ sharing of personal data with commercial credit bureaus. States vary in the amount of information shared and the circumstances of this sharing.320 In light of the notorious ineffectiveness of federal regulation of information practices at credit bureaus,321 particular care is required when the government discloses personal information to these entities. A CSEU should reveal to these bureaus only the existence of a government debt and not the nature of this debt. Although it is not difficult to understand why the computer has been utilized to administer AFDC and CSE, the way that this machine is applied must be improved.

Conclusion

This Article has described the emergence of governmental bureaucratic structures that process personal information and has examined the application of computers in these bureaucracies to control human behavior. Reliance on the data processing model of control is characteristic of the state’s service administration; it can lead, however, to a negative effect on bureaucratic justice and human autonomy. Intensive, detailed knowledge of most aspects of human existence is now collected by computerized data processing networks. Yet it is all but impossible to know where this information will appear or for what purposes it will be used.

318. See supra text accompanying notes 159-180.
320. See supra text accompanying note 252.
321. See EVAN HENDRICKS ET AL., YOUR RIGHT TO PRIVACY 134-35 (2d ed. 1990) (Fair Credit Reporting Act has failed to place adequate controls over credit data to consumers); Michael W. Miller, Hot Lists: Data Mills Delve Deep to Find Information about U.S. Consumers, WALL ST. J., Mar. 14, 1991, at A1 (credit bureaus, which “have access to sensitive financial information about virtually every American,” aggressively sell data to marketing companies).
This danger adds new significance to a central challenge of representative democracy: managing governmental bureaucracy. The response to this challenge should reflect closer attention to how administrative agencies process personal data. In particular, an American data protection law should structure the government's use of data so as to contribute to bureaucratic justice and the safeguarding of personal autonomy. Furthermore, it should institute a review of this structure through an ongoing evaluation of the risks of specific data processing systems.

This Article has argued that the pursuit of this goal should be guided by three principles: The maintenance of transparent systems of data processing, the assignment of limited procedural and substantive rights to the data subject, and the establishment of independent monitoring of data processing. These principles would supplant the purely instrumental reasoning of the data processing model with explicit attention to goals other than technological perfection. By implementing these principles, a compromise between exposure and concealment of information may be developed in a way that protects bureaucratic justice and autonomy. At present, however, American law neither implements these principles nor strikes this compromise between data exposure and concealment.

This Article has focused on the dangers of data processing as applied in programs with positive goals; even graver dangers may arise when the state uses data processing to identify threats to national security. The risk is not hypothetical: surveillance and repression are parts of America's heritage. The American government has spied on and gathered information about Nobel prize winners such as Thomas Mann, poets such as Robert Lowell and Robert Frost, rock musicians such as John Lennon, and at least one economist—John Kenneth Galbraith once referred to his FBI file as "the most expensive research project that I have ever been associated with." If the American legal order cannot protect against the dangers of the computer in such relatively noncontroversial settings as AFDC and CSE, it will never be able to establish a just structure for the processing of personal information by federal agencies.

323. MITGANG, supra note 267, at 56, 128, 129, 191-95. See Educators Assail U.S. Curbs on Access to Data, N.Y. TIMES, Sept. 14, 1988, at B9 (FBI refuses to release government files on John Lennon and argues that "even the explanation of how the material might jeopardize national security would itself threaten national security.").
concerned with national security. Data protection law is a medium through which Americans should guard against the encroachment—subtle or obvious, slow or rapid—of their cherished liberties.

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324. See, e.g., Patterson v. FBI, 893 F.2d 595 (3d Cir.) (Sixth grader wrote 169 countries with requests for information. International correspondence led to FBI surveillance and investigation of child. Patterson has been unable to gain access to all the governmental files about him or to end the FBI's maintenance of records pertaining to his exercise of First Amendment rights), cert. denied, 111 S. Ct. 48 (1990); JAMES BAMFORD, THE PUZZLE PALACE 4 (1982) (spying, including domestic surveillance, by National Security Agency, largely free from legal control).
Table A: Outside Data Sources Available to Arkansas Department of Human Services (DHS) in Administration of AFDC

1) Name of applicant and his SSN are sent to SSA to check validity of SSN.
2) SSA's BENDEX (Beneficiary Data System): This data base contains information relating to Title II payments (Federal Old Age, Survivors and Disability Insurance Benefits) and Wage and Pension payments.
3) SSA's SDX: SSA sends magnetic tape once a week to Arkansas DHS. This tape contains list of those eligible for Medicare and SSI payment data.
4) Internal Revenue Service:
   a) tax interceptor program;
   b) parent locator.
6) Arkansas Child Support Enforcement Unit: Data sharing concerning noncustodial parent's child support payment.
7) Internet: Exchange between states of unemployment information.

Table B: On-Line Access to Data of Federal Parent Locator Service

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