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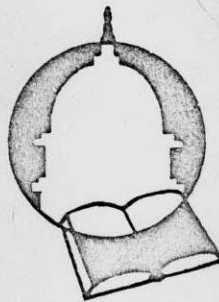
INFORMATION STORAGE AND  
RETRIEVAL SYSTEMS

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THE FEDERAL DATA CENTER:

PROPOSALS AND REACTIONS, 1968.



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## TABLE OF CONTENTS

INTRODUCTION	1
RECOMMENDATIONS CONTAINED IN RUGGLES REPORT	2
SCOPE AND NATURE OF THE DUNN REPORT	5
INVESTIGATIONS BY THE HOUSE SPECIAL SUBCOMMITTEE ON INVASION OF PRIVACY	8
THE KAYSEN REPORT: CONSIDERATIONS AND RECOMMENDATIONS	9
CONGRESSIONAL COMMENTARY ON THE KAYSEN REPORT	11
THE CRITICALITY OF SAFEGUARDS AGAINST UNCONTROLLED DISCLOSURE	14
SUMMARY	16
FOOTNOTES	19
BIBLIOGRAPHY	22

## INTRODUCTION

With the invention and development of the electronic computer, a new dimension was added to man's ability to index, store, process, and retrieve selected information about himself, his activities, and his needs. During the 1960 decade, there has been increasing discussion both in the public and private sectors regarding the identifiable requirement for a coordinated system or national center for the preservation and use of economic data.

Statistical data, sometimes augmented by interpretive commentary, have been collected, stored, and utilized by many Federal agencies. As the planning, programming, and budgeting functions of the Federal community became more complex, it was decided by the American Economic Association that a study of this critical area should be undertaken by the Social Science Research Council, so that the needs of the Nation might be met in a reasonable way.

The Social Science Research Council created, late in 1960, a Committee on the Preservation and Use of Economic Data. The efforts of this study group were to be but the first in a series of studies, critiques, Congressional hearings, and special analyses which still are in progress.

The issue has broadened significantly since the issuance of the initial report by the Committee on the Preservation and Use of Economic Data. Concern has been expressed by Members of the Congress and authorities on the constitutional rights of the American people

that the centralization of statistical data, such as that gathered by the Bureau of Census, the Bureau of Labor Statistics, and the Internal Revenue Service, might lead to an invasion of the privacy of individual citizens.

A review of the salient activities involved in this controversial subject area points up a major dilemma which must be resolved as the United States increases in size and complexity: are data requisite to the proper planning of programs essential to national development to be centralized in one information handling system featuring automatic data processing (ADP) techniques or do the traditional guarantees of personal privacy preclude the collection of such data in a form which may allow unprecedented analysis of information about groups or individual units within society? The answer is unresolved at this juncture. The sequence of events, however, which relates to the subject area begins with the activity of the Social Science Research Council Committee on the Preservation and Use of Economic Data [See Above].

#### RECOMMENDATIONS CONTAINED IN RUGGLES REPORT

After four years of study the Committee, with Richard Ruggles serving as chairman, submitted its report to the Social Science Research Council, which in turn rendered the findings to the Director of the Bureau of the Budget. The prime concern of the committee was the "development and preservation of data for use in economic re-  
search."<sup>1/</sup>

The recommendations of the six-man study group included:

First, . . . that the Bureau of the Budget, in view of its responsibility for the Federal statistical program, immediately take steps to establish a Federal Data Center.

Second, . . . that the Office of Statistical Standards of the Bureau of the Budget place increased emphasis on the systematic preservation in usable form of important data prepared by those agencies engaging in statistical programs.

Third, . . . that at an early date the Social Science Research Council convene representatives from research institutions and universities in order to develop an organization which can provide a clearinghouse and coordination of requests for data made by individual scholars from Federal agencies. 2/

In discussion of the problems of data acquisition, indexing, processing, and retrieval, the Ruggles Report explored the trade-offs involved in the employment of automatic data processing in the handling of such statistical data. Also stressed was the importance of evaluating accurately the ramifications of interagency use of statistical data collected by a given agency for a given purpose. The report noted the requirement for standardization of data and mutual supportability in classifying, storing, and retrieving selected data elements.

Included as an important part of the Ruggles Report is an "initial inventory" of the machine-readable data in the possession of 20 Federal agencies of the Departments of Agriculture, Labor, Interior, Commerce, Treasury, and Health, Education, and Welfare,

plus the Board of Governors of the Federal Reserve System. Within the 600 identified repositories of data <sup>3/</sup> are approximately 30,000 computer tapes and 100 million punched cards. The inventory was initiated by the Office of Statistical Standards of the U.S. Bureau of the Budget in cooperation with the National Archives and Records Service. Access to these data is not unlimited. Among the constraints on exchange of the data are different management procedures for indexing and storing the variety of forms of written material, diverse criteria for placing caveats on the use of the data by outside groups (whether in the Federal Government or in the private sector), and lack of adequate computer program documentation for processing the data.

The authors of this report recognized that any Federal Data Center must have clear guidelines in the acquisition and utilization of computerized data from other Federal groups. At the present time, the Internal Revenue Service and the Bureau of Labor Statistics offer specific tapes for sale. <sup>4/</sup> The committee undertook a special survey of 10 major areas of economic data in order to determine whether existing computerized data could be assembled to aid the researcher. The areas featured were: population, housing and real estate, labor force and wages, education, health, consumer behavior, agriculture, business and industry, government finances and taxation, and foreign trade and payments. <sup>5/</sup>

Inasmuch as the proposed Center would furnish a broad spectrum of services, it was indicated in the report that the new establishment would function in a way similar to the Library of Congress by being responsible for providing "a systematic and comprehensive coverage of the material available in its area of competence."<sup>6/</sup> Also, the Federal Data Center's activities in the statistical area were likened to the role fulfilled by the National Archives in the handling of basic records and documents.

#### SCOPE AND NATURE OF THE DUNN REPORT

The Ruggles Report was submitted to the Social Science Research Council in April of 1965. Following a review by the Bureau of the Budget, a decision was made there that an evaluation should be undertaken by Edgar S. Dunn, Jr. of Resources for the Future, Inc. Mr. Dunn was directed to concern himself primarily with the first two recommendations listed above. During a six-month period which ended in November 1965, Mr. Dunn examined not only the Bureau of the Budget interest in how statistical data was to be used for research, policy, and decision making in the public and private sectors at various levels of operation, but he also appraised "the relationships between the collecting and compiling processes on one hand, and the preservation and accessibility for further use on the other."<sup>7/</sup>

In approaching his task, Mr. Dunn sought to clarify the problem at hand in this statement:

The central problem of data use is one of associating numerical records and the greatest deficiency of the existing Federal statistical system is its failure to provide access to data in a way that permits the association of the elements of data sets in order to identify and measure the interrelationship among interdependent or related observations. This is true at virtually all levels of use and for all purposes from academic model builders to business market researchers. 8/

In justification of the Ruggles group's recommendation in favor of the establishment of a Federal Data Center, the Dunn critique points out that general purpose data should be accessible not only for easily predictable needs, but for special requests for information. Data files need to be designed and implemented after careful definition of standards and user requests has taken place. File maintenance, always a concern in any large volume environment, must be effected by the directives which satisfy both intraagency and interagency needs. It is noted that the solution to such problems does not lie, necessarily, in the physical centralization of all existing data, but rather in ensuring a capacity to provide certain data, upon request, to system users.

It is through the passage of a new legislative authority that the eventual creation of a coordinated data system can be accomplished, says the Dunn Report. Thus, the "National Data Service Center" --as it is referred to by Dunn -- may be afforded file custody of information designated for its use, thereby



relieving the participating Federal agencies of certain disclosure restrictions as they pertain to the release of data to the Center. By the same mechanism, the individual agency's obligations for protecting the data sources and content could be transferred to the proposed Center. The location of such a Federal center is discussed and alternatives set forth.

Among the recommendations resulting from his endeavor there are two which Mr. Dunn cites for possible immediate action:

- (1) Development of standards to shape the content of archival records and determine the essential forms of file maintenance and documentation; and
- (2) The 9,000-tape nucleus identified in a special study by Rudolph C. Mendelsohn could be achieved quickly at a cost of approximately \$260,000, with funding from the participating agencies. 2/

In establishing an initial capability for any projected Federal Data Center, the following grouping of magnetic tape records is feasible: Internal Revenue Service, 5,300 reels; census housing data, 750 reels; census current population data, 375 reels; Bureau of Labor Statistics Consumer Expenditure Survey, 43 reels; BLS industry hours, earnings, and labor turnover data, 36 reels; and Bureau of Old Age and Survivors' Insurance social security data, 1,900 reels. 10/

The Dunn Report, then, represented a useful additional look at the problems and possible paths of action inherent in creating and operating a Federal Data Center.

INVESTIGATIONS BY THE HOUSE SPECIAL SUBCOMMITTEE ON INVASION  
OF PRIVACY

As awareness of the recommendations of the Ruggles and Dunn reports became more general, the Special Subcommittee on Invasion of Privacy of the House Committee on Government Operations initiated a series of hearings to consider the question of "the computer and invasion of privacy." Taking heed of the growing demand for placement of selected data in a Federal Data Center, Representative Cornelius E. Gallagher of New Jersey, the Subcommittee chairman, underscored the objectives of the hearings:

What we seek at this point is to create a climate of concern, in the hope that guidelines can be set up which will protect the confidentiality of reports and prevent invasion of individual privacy, while at the same time allowing government to function more efficiently and facilitating the necessary research of scholars in statistical analysis. 11/

The emphasis of the Subcommittee was upon safeguarding the privacy of the individual citizen. It was pointed out that although "the personal data bank apparently has not been proposed as yet, many people view this proposal as a first step toward its creation." 12/

Witnesses from the academic world, government, and the legal profession were summoned to offer their perspectives of the problem at hand. The question of how to safeguard effectively any information in a machine-oriented system was raised and pursued at length. Exemplary projects such as the carefully developed

York State Identification and Intelligence System were discussed, and the problems integral to the management of and access to such systems noted.<sup>13/</sup>

As a result of the Special Subcommittee's focus on the broader ramifications of establishing a Federal Data Center, there was extensive debate in professional journals and the public press. It became apparent to many that the collection in machineable form of economic statistics could not be separated in the eyes of numerous critics from the issue of invasion of personal privacy.

#### THE KAYSEN REPORT: CONSIDERATIONS AND RECOMMENDATIONS

In order to further explore the organization, scope, and projected inter-relationships of the proposed Federal Data Center, a Task Force on the Storage of and Access to Government Statistics was formed under the leadership of Dr. Carl Kayesen, Chairman of the Institute for Advanced Study at Princeton. The committee was charged with considering "measures which should be taken to improve the storage of and access to U.S. Government Statistics",<sup>14/</sup> but broadened its frame of reference by examining the organization and operation of the Federal Statistical System. The central problem addressed was "the consequences of the trend toward decentralization in the Federal Statistical System at a time when the demand for more and more detailed quantitative information was growing rapidly."<sup>15/</sup>

In its report to the President, the Task Force stated:

Although different government agencies may require information about specific individuals or businesses as part of their legal operating responsibilities, the committee was unanimous in its belief that Federal agencies or other users should not be able to draw on data which is available within the Federal statistical system in any way that would violate the right of the individual to privacy. 16/

The inefficiency bred by decentralization, inadequate professional staffing by agencies, the failure to utilize modern tools and techniques, and the time lags inherent in outmoded information transfer were treated at length by the study group. Consideration of the problem of actually establishing a functioning Federal Data Center was given in the light of existing institutions and problems. In order to improve the integration and storage in accessible form of selected data, it was recommended that a National Data Center be established which would be given the responsibility for:

- (1) assembling in a single facility all large-scale systematic bodies of demographic, economic, and social data generated by the present data-collection or administrative processes of the Federal Government;
- (2) integrating the data to the maximum feasible extent, and in such a way as to preserve as much as possible of the original information content of the whole body of records; and
- (3) providing ready access to the information, within the laws governing disclosure, to all users in the Government and, where appropriate, to qualified users outside the Government on suitably compensatory terms. 17/

The report also cited the importance of Federal cooperation with State and local Government agencies in order to optimize data base uniformity. Also, the importance of delineating and enforcing "uniform disclosure can be met with no unnecessary sacrifice of analytically useful information" was stressed. <sup>18/</sup>

Organizationally, the proposed National Data Center would be placed in the Executive Office of the President. The Task Force noted that it might be organized into an operations division and a research division. Responsibility for the effective interaction of the National Data Center with other agencies within the Federal Statistical System would reside with the Director of that System. In particular, proper division of labor, coordination of information, and utilization of the new Center would be scrutinized.

#### CONGRESSIONAL COMMENTARY ON THE KAYSEN REPORT

Reaction to the Kaysen Report was not long withheld. In reviewing the developments concomitant with the publication of the Kaysen Report in October of 1966, Representative Gallagher informed his colleagues in the House that:

It was my considered opinion, after much analysis and investigation of the Kaysen report, that this too represented an insufficient examination of all the problems and potentialities that would arise from the establishment of a National Data Center, and that it should not be considered an acceptable basis for the beginnings of a National Data Center. <sup>19/</sup>

He then went on to say that there were several specific areas which merited additional appraisal:

- (1) whether centralization or decentralization is intrinsically more beneficial on both a cost effectiveness and an invasion of privacy basis;
- (2) whether panels and commissions that have so far reported to him [Charles L. Schultze, Director, Bureau of the Budget] are adequately representative of the public interest;
- (3) whether in fact there is a possibility that the Statistical Data Center would wittingly or otherwise be turned into a "Big Brother" dossier center;
- (4) whether the specification and identification of individuals would be a vital source for the information maintained within the Center; and
- (5) whether, and in what detail, the rights of privacy of the individual would be sacrificed to the greater rationalization and centralization of the statistical collection of data by our Government. 20/

As the debate over the advantages and disadvantages of having a Federal Data Center continued, a report was issued by the Joint Economic Committee in August of 1967 which contained pertinent commentary. In essence, the report recommended the coordination and integration of Government statistical programs, and stressed that current statistical information is "totally <sup>21/</sup> inadequate to meet the changing policy needs of our times."

The report further noted that the Federal statistical system could provide "valuable information on productivity, prices and income...which might significantly improve economic policy...[and] would help to improve the design and administration of government programs."<sup>22/</sup> Members of the Congress took issue with the recommendation of the report. Representative Jackson E. Betts of Ohio expressed the belief that:

Legal safeguards would not, in the final analysis, prevent an overzealous bureaucrat or autocratic government from using a national data center to persecute or prosecute its detractors.<sup>23/</sup>

Another major development in the Congress took place when a series of hearings on "computer privacy" were held by the Subcommittee on Administrative Practice and Procedure of the Senate Committee on the Judiciary. This legislative entity which had reflected upon the Dunn Report in meetings held in mid-1966 sought to explore further "the role of the computer as a potential invasion of individual privacy."<sup>24/</sup>

In the words of the Subcommittee Chairman, Senator Edward V. Long of Missouri, "we intend to analyze guidelines for safeguarding existing records;...explore the role of the computer, with emphasis on its future capabilities; [and]...will attempt to draw a balance between individual privacy and computerized efficiency."<sup>25/</sup>

During the course of the hearings, Dr. Kaysen appeared and discussed the highlights of his group's report. Of particular interest, as presented by representatives from the St. Louis Regional Industrial Development Corporation, was a detailed description of the structure, holdings, and operation of the proposed Regional Economic Data Bank.<sup>26/</sup> The Subcommittee also considered the problems brought about by "the growing convergence of computers and communications,"<sup>27/</sup> with all of the implied regulatory and policy questions involved.

The questions revolving about the establishment of the proposed Federal Data Center continue to be addressed by the Senate Subcommittee and individual Members of both chambers. No resolution of the problems has been forthcoming, but many persons believe that the greatly increased exposure of the public, as well as responsible governmental officials, to these problems has been desirable.

#### THE CRITICALITY OF SAFEGUARDS AGAINST UNCONTROLLED DISCLOSURE

In all of the debate regarding the centralization of computerized data by the Federal Government, no individual or group has minimized the importance of meticulously controlling the release of certain categories of information. In many cases, agency representatives acquire data on individual persons or groups (such as industrial firms) on a confidential basis. Throughout the literature on the subject runs the theme of



cautionary handling of the subject data. Guidelines for monitoring user requests for any type of data are a prerequisite, and in the case of certain types of confidential information, a sine qua non. The Ruggles Report observes that there is a real problem in getting system users to render realistic requests:

Few outsiders can know enough about the data, their nature and characteristics, to make sensible requests, or to have a realistic appreciation of the analytic limitations which the data impose. 28/

Edgar Dunn calls out this salient aspect of the problem:

The structural problems of concern to today's policy makers and the effort to by-pass problems of record incompatibility force the utilization of data at levels of disaggregation that place severe strains upon regulations restricting the disclosure of information about individual respondents. 29/

Gradually, as the discussion of safeguards has evolved, a better understanding of the procedural and technical checks possible has come about. It was stated on several occasions that in order to "break" the Federal Data Center, it would be necessary to have: a machine, a code book, a set of instructions, and a technician. 30/ Recent emphasis has been placed on the effect of computer technology on "our concept of society and man's view of himself." 31/

The realization has grown that there is a family of safeguards 32/ which could serve to deter greatly any unintentional disclosure of information:

- (1) Legislative and administrative regulations, already in effect in some agencies, could be augmented and strengthened.

- (2) Establishment of uniform, multi-agency criteria controlling "need to know" both for government and other data users.
- (3) More explicit explanation of the scope and nature of the data available, thus reducing the number of unnecessary or illogical requests by users.
- (4) Creation and uniform use of classification and coding systems, to include the assignment of unique accession codes and indicators to privileged data elements.
- (5) Establishment of an expert in-house group for receiving, transcribing, and refining the request for information from the system according to the needs of the users and existing regulations.
- (6) Employment of "a number of servicing procedures based upon computer technology that can satisfy the needs of the user in most cases without violating disclosure regulations." 33/
- (7) In some instances, data reduction by design can be performed, thus transforming absolute figures to percentages, increments to gross and vice versa, etc.
- (8) Anonymous sampling, with the removal of identifying data elements already has been used; here again the need for a uniform Federal set of procedures and criteria is apparent.

#### SUMMARY

The precise role of a projected Federal Data Center continues to be a matter of deep concern to persons in every part of our society. In a recent presentation before the American Bar Association, Charles J. Zwick, later the Director of the Bureau of the Budget, set forth certain characteristics which the proposed Center would not possess; in his words, it would not:

- (1) be a collection agency;
- (2) have data on all individuals and firms; and
- (3) have investigatory file information. 34/

Since the Center by definition would not perform in the way noted above, its positive characteristics warrant attention; according to current planning, the National Data Center would:

- (1) maintain a current inventory of data collected by Government agencies;
- (2) contain information on a sample of individuals and firms, a key feature of a Data Center from the point of view of the privacy issues;
- (3) perform statistical analyses, including analyses requiring data on individuals and individual firms; and
- (4) provide users both in and out of Government with summary information and the results of statistical analyses. 35/

Another development affecting the Federal collection, storage, and retrieval of information on individuals and group entities is represented by the so-called "Freedom of Information Act". This act, established in 1966, provides that information and records be made available to the general public except for certain categories of data. The protection of privacy is reinforced in the following:

To the extent required to prevent a clearly unwarranted invasion of personal privacy, an agency may delete identifying details when it makes available or publishes an opinion, statement of policy, interpretation, or staff manual or instruction: Provided that in every case the justification for the deletion be fully explained in writing. 36/

Among the categories of data exempted from the general instructions of Public Law 89-487 are: "(6) personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy;" and "(7) investigatory files compiled for law enforcement purposes except to the extent available by law to a private party." <sup>37/</sup> The considerations involved in handling computerized information are not defined, and this area remains conjectural.

Responsible elements in the Legislative and Executive Branches, it may be seen, are faced with resolving the question of how key economic data are to be utilized. The need for many types of data is very real, and their availability to planners and research specialists becomes more and more imperative. Equally critical is the preservation of individual freedom and privacy. The compromise required may prove to be significant to the future of the Nation.

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