

 THE FINITE STRING 

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C O N T E N T S

WHAT SOME SEMANTIC THEORIES CAN'T DO, Th R. Hofmann . . . . . 3

NL in INFORMATION SCIENCE . . . . . 5

CAL in SCIENCE EDUCATION . . . . . 6

NEW JOURNAL: Annals of the History of Computing . . . . . 7

NEW ENGLAND RESEARCH APPLICATION CENTER . . . . . 8

LINGUAFRANCA; Document Search (LLBA) . . . . . 9

DEMONSTRATION: Interactive Search of LLBA . . . . . 10

NFAIS/UNESCO Indexing Education Kit . . . . . 11

SYMPOSIUM: Computer Assisted Learning . . . . . 12

1978 LINGUISTIC INSTITUTE Conferences & Symposia . . . . . 13

DATA BASES: Usability and Responsiveness . . . . . 14

CONFERENCES: Internal Auditing . . . . . 15

CONFERENCES Briefly Noted . . . . . 16

NSF Awards in COMPUTER SCIENCE for 1976 . . . . . 19

AJCL: A Description . . . . . 23

AJCL: Page Format . . . . . 25

AJCI Opaque Card Format . . . . . 26

AFIPS WASHINGTON NEWSLETTER . . . . . 27

## WHAT SOME SEMANTIC THEORIES CAN'T DO:

## MONTAGUE GRAMMAR, COGNITIVE NETWORKS, AND INTERPRETIVE SEMANTICS

TH. R. HOFMANN

We can define "direct interpretive semantic theories" to be those which propose a semantic interpretation directly into the universe, without the use of a representation for the meaning of linguistic constructions. Elsewhere<sup>1</sup> I have argued that the size of the linguistic units which require representation are larger than sentences, at least, apparently, paragraph-sized units.

However, a number of works assume that no representation at all is necessary. Montague, for example, states that they are unnecessary, but uses them for convenience. Interpretive semantics, as stated by Jackendoff or Bellert, proposes semantic interpretations without semantic representations (Chomsky, however, refers to their existence.) The semantic interpretation in cognitive network theories, such as those proposed by Hays or Schank & associates, is a direct representation of all the knowledge a person has about the universe, hence also not using a representation of the semantic of the semantic structure of the linguistic material

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<sup>1</sup>*Description sémantique & dynamique du discours*. G.E.T.A., Grenoble. 1978.

Jackendoff most clearly stated the assumption common to all these theories; that there is no semantic representation of linguistic constructions as such, hence that "synonymy" is not explicitly represented at any level of analysis. This is tantamount to denying the existence of a "semantic structure" of linguistic units, contrary to the work of Hjelmslev, Mel'čuk, Zolkovskij, & myself, among others

I will argue that this assumption is wrong, based on the need for a semantic representation of a linguistic interaction (e.g. a paragraph or a conversation), as a basis for disambiguating sentences words & referents. While requirements of an interpretation which is consistent with the previous context can be generally met without extensive indeterminacy, there is an other principle whereby a sentence & the words therein are interpreted in the most redundant way possible. Because this "Minimal Interpretation Principle" works on the content of the LINGUISTIC context, it cannot be accounted for in any model which does not explicitly represent what the content of the previous context is.

April 11, 1978

NATURAL LANGUAGE IN INFORMATION SCIENCE

PERSPECTIVES AND DIRECTIONS FOR RESEARCH

EDITED BY DONALD E. WALKER, HANS KARLGREN, AND MARTIN KAY

SKRIPTOR, STOCKHOLM, SWEDEN 1977

FID PUBLICATION 551

This book presents the results of a Workshop on Linguistics and Information Science organized by the Committee on Linguistics in Documentation of the International Federation for Documentation (FID/LD) and by the KVAL Institute for Information Science. It contains a series of papers that provide perspectives on linguistics and information science from the vantage points of information science (F. W. Lancaster, University of Illinois), library science (Derek Austin, The British Library), quantitative linguistics (Wolf Moskovich, Hebrew University of Jerusalem), computational linguistics (Naomi Sager, New York University), linguistics (Petr Sgall, Charles University), complex semantic information processing (Teun A. van Dijk, University of Amsterdam), and terminology (J. Goetschalckz, Commission of the European Communities). The book also features a challenge paper on the linguistics of information science (Hans Karlgren, KVAL Institute for Information Science) that delineates major issues in this area. These papers are bracketed by an overview of the Workshop (Donald E. Walker, SRI International) and by a review of the field (Karen Sparck Jones, Cambridge University, and Martin Kay, Xerox Palo Alto Research Center) that updates the book Linguistics in Information Science, a comprehensive survey prepared several years ago by Sparck Jones and Kay under the auspices of FID/LD (Academic Press, New York, 1973).

Natural Language in Information Science will be of interest to specialists in the areas referenced above and to anyone who wants to know more about the potential of natural language processing for information science. The price is \$10.00 (U.S.) plus postage and handling. Order as follows:

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### **SPECIAL ISSUE**

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Edited by G. Beech, *Wolverhampton Polytechnic, England*

This special issue of **Computers and Education** deals with several aspects of Computer Assisted Learning (CAL) in the UK. In particular the book deals with two important features: the impetus given to CAL by the National Development Programme in Computer Assisted Learning (NDPCAL), and the variety of approaches to CAL employed by member institutions of the Physical Sciences Program Exchange (PSPE) which is, itself a project within NDPCAL. The book has separate chapters on the use of computers in the different scientific disciplines and a number of chapters discussing general problems, ideas and methodologies relevant to all disciplines.

#### **Contents**

Computers as a Learning Resource in Science Education, R. HOOPER. Simple Numerical and Graphical Simulations of Chemical Processes, G. BEECH. Interactive Computer Graphics for Undergraduate Science Teaching, J. MCKENZIE. A Low-cost Mini-computer System in a Laboratory Environment, A.T. VINCENT. Computer Assisted Learning in Physics, T. HINTON. A Computerized Approach to simple Chemical Kinetics, J.D. LEE and A.G. BRIGGS. A Computerised Approach to some aspects of Spectroscopy, A.G. BRIGGS and J.D. LEE. Implementation of Educational Scientific Programs on differing machine ranges – Problems and benefits, G. BEECH. Simple statistical programs commonly used in Science, J.D. LEE. Appendices: A Guide to suppliers of educational computer programs; CAL resources for physics teaching; Glossary of terms.

Published as a Special Issue  
of **COMPUTERS AND EDUCATION**  
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PUBLICATION: AFIPS Press

1st quarterly issue expected in January 1979

Dr. Galler invites inquiries (phone: 313/764-0320) and manuscripts  
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"The purpose of this publication is to encourage and stimulate the creation of historical papers and records concerned with the computing and information processing fields, to make information on the heritage of the computing and information processing fields available for scholarly and educational purposes, and to provide a forum in which computer professionals and historians can interact in the development and communication of historical perspectives.

"From time to time, issues will be devoted primarily to single principal themes, possibly arising from conferences or workshops, and guest editors may be appointed for these issues.

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And as of 1978, LLBA will publish and put online abstracts of papers presented at cooperating linguistics association meetings. Among the first such abstracts published will be those from the Stanford Child Language Research Forum and the International Applied Linguistics Association meetings. These abstracts disseminate the most current thought in the field, and are available only through LLBA.

In addition, for many journals not available in your local library, LLBA has **Reproduction Service**. Write us for more detail.

WORKSHOPS will be held July 28, 29, and 30 (exact time to be specified), during the meeting of the Linguistics Society of America. Plan to set aside a few hours one morning or afternoon, whichever is convenient, and bring a research question that intrigued or plagued you -- a quick, free, online search may provide the answer.

To be sure of a place in one of the WORKSHOPS register in advance. Send name, affiliation, and address, date of workshop (July 28, 29, 30) and indicate whether you wish to attend a morning or afternoon session: LANGUAGE AND LANGUAGE BEHAVIOR ABSTRACTS  
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SYMPOSIUM SECRETARY: J.J. Matthews  
Department of Engineering Science  
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APRIL 4 - 6, 1979

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1978 LINGUISTIC INSTITUTE

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A WESTERN AND NONWESTERN PERSPECTIVE

JUNE 12 THROUGH AUGUST 5

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The following conferences and symposia have been planned as part of the 1978 Institute. Further details may be requested from the person whose name and address are indicated after the program-

- June 26 - August 5. SYMPOSIUM ON PRAGMATICS (Georgia M. Green, Department of Linguistics, University of Illinois, Urbana, Ill., 61801)
- June 28 - 30. CONFERENCE ON SEMIOTICS (Irmengard Rauch, Department of Germanic Languages, University of Illinois, Urbana, Ill., 61801)
- June 30 - July 1. CONFERENCE ON ENGLISH IN NON-NATIVE CONTEXTS (Braj B. Kachru, Department of Linguistics, University of Illinois, Urbana, Ill , 61801)
- July 14 - 16. CONFERENCE ON SOUTH ASIAN LANGUAGES AND LINGUISTICS (Hans H. Hock, .Department of Linguistics, University of Illinois, Urbana, Ill., 61801)
- July 22. SYMPOSIUM ON THE EVOLUTION OF HUMAN COMMUNICATION SYSTEMS (William Orr Dingwall, Program in Linguistics, University of Maryland, College Park, Md., 20742)
- July 27. SYMPOSIUM ON ROMANCE LINGUISTICS (Dieter Wanner, Department of Spanish, Italian & Portuguese, University of Illinois, Urbana, Ill., 61801)

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Contact: K. Preston, Jr.  
Department of Electrical Engineering  
Carnegie-Mellon University  
5000 Forbes Avenue  
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Feilden Street  
Blackburn BB2 1LH Lancs, UK

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July 19 - 21, 1978

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Contact: ACM Headquarters  
1133 Avenue of the Americas  
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ACL ANNUAL MEETING: THEORETICAL ISSUES IN NL PROCESSING

July 25 - 27, 1978

Urbana/Champaign, Illinois

Sponsor: Association for Computational Linguistics

Contact: Dr. Donald Walker, ACL  
SRI International  
Menlo Park, CA 94025

4th WORKSHOP ON COMPUTER ARCHITECTURE FOR NON-NUMERIC PROCESSING

August 1 - 3, 1978

Minnowbrook, New York

Sponsor: ACM

Contact: P. Bruce Berra  
441 Line Hall  
Syracuse University  
Syracuse, NY 13210

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Theory of Computation .....	14	538,300
Intelligent Systems .....	14	584,100
Numerical Analysis and Computational Mathematics .....	21	581,600
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Studies and Colloquia .....	2	17,600
Software and Programming Systems		
Programming Languages and Compilers .....	11	915,100
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Studies and Colloquia .....	7	238,100
Data Bases .....	4	211,800
Networking .....	2	41,700

## VISION PROCESSOR

*University of Massachusetts (Amherst); Edward M. Riseman; A Semantically Directed Vision Processor; (DCR 7516098); \$76,600; 24 mos.*

This research involves the development of the higher level processes for manipulating the interaction of many forms of complex information in building conceptual models. The types of information that must be accessed include:

1. Visual data extracted in the cone,
2. A semantic data base of general knowledge,
3. Context, settings, (winter, outdoors, rural area, etc.),
4. The partial model that has been constructed;
5. Context frames representing expected submodels or stereotypes in the world; and
6. Perspective and occlusion routines.

An executive in the model builder must allow communication among many types of modules, encompassing information in both declarative and procedural representations. It must embody an overall strategy for constructing models

## COMPUTER NETWORKS

*Illinois Institute of Technology, Peter H. Greene; Distributed Task Organization for Computer Networks; (MCS 7601310); \$80,000; 24 mos. (Joint support with Networking for Science Program -- total grant, \$190,600; 24 mos.)*

This research is directed toward extending the range of utilization of networks of very small computers. The work to be done includes studies in the requisite mathematical theory, the generation of programming techniques for loosely-coupled procedures distributed over a network and for their parallel operation, as well as tests of the resulting methods in a microcomputer network.

The results of this work should provide a base on which to enlarge the intelligent systems type of microcomputer utilization.

## COGNITIVE SYSTEMS

*University of Wisconsin (Madison); Leonard Uhr, Computer-Programmed Models of Wholistic Integrated Cognitive Systems; (MCS 7607333), \$34,000, 24 mos (Joint support with Techniques and Systems Program - total grant, \$67,500, 24 mos.)*

This project involves research for developing a computer-programmed model of the mind/brain where the various cognitive processes are integrated into a single wholistic system. The long term goal is to achieve a system that can learn to perform the variety of cognitive tasks handled by an ordinary human being. This means that the single system must be able to effect a wide range of processes to recognize patterns, describe scenes, form concepts, solve simple problems, understand language, access and converse about remembered information, act upon and manipulate its environment, and learn.

## NATURAL LANGUAGE

*University of Southern California; William C. Mann; Dialogue-Based Research in Man/Machine Communication; (MCS 7607332); \$127,100; 12 mos.*

Man/machine communication in natural language is the focus of this research. A natural language dialogue *model* is defined as a process which interrogates and manipulates data structures called "memory states." to understand what aspects of a dialogue are accounted for by such a model, and how they are accounted for, it is imperative that the information content of these states be accessible and interpretable. Text generation is the means used for filling that need. In addition, research on dialogue will extend existing methods to generate coordinated multi-sentence text.

*Stanford Research Institute; Ann Robinson and Donald E. Walker; Natural Language Communication with Computers for Task Performance; (MCS 7622004); \$200,000; 12 mos. (TQ)*

This research focuses upon communication in natural language between a person and a computer for the accomplishment of a shared task. The goal is to develop general techniques for representing knowledge about tasks and about dialogue structure and for using this knowledge in systems for natural language understanding. The dynamics of processes and events and their relation to dialogue interactions constitute central elements in the effort.

The research addresses a set of key problems that are relevant for a broad range of task domains and that must be solved to provide capabilities for processing task-oriented dialogues. The project efforts will be undertaken and coordinated in the context of a functioning system. The work builds on procedures for natural language processing developed at Stanford Research Institute in research on speech understanding.

*Stanford University; Terry Winograd; Computer Modelling of Language Comprehension Processes; (MCS 7523252); \$101,500; 24 mos.*

This research is directed toward the study of the nature of human language understanding, using computer models as a means of formalizing and testing specific theories. Programs will be built which analyze samples of naturally occurring English texts (both narrative and dialogue). These programs will be able to summarize the content of the texts and answer questions about them. The main goal of the research is to develop new formalisms for expressing theories of language and cognition more completely and coherently than currently available formalisms from logic and mathematics. The increase in power will come from dealing explicitly with notions of *process* and *computation*, using concepts which have been developed in artificial intelligence and other areas of computer science. Since the research includes writing working computer programs, there will be operational criteria for testing the validity and generality of the theories

*University of California (Los Angeles); Judea Pearl; Investigating Computational Gains from Inexact Processing; (MCS 7518734); \$23,400; 30 mos. (Joint support with Techniques and Systems Program - total grant, \$46,700; 30 mos.)*

The ultimate goal of this research is the construction of a computer-based question-answering system which is capable of making useful, though imprecise, inferences about a given data base. Such a system should be able to incorporate approximate statements in its answer vocabulary (e.g., "It probably did rain in Washington on August 1, 1974, but I am only 80% sure"), and draw generalizations on data not contained in the stored data (e.g., "It will probably rain tomorrow, but I am only 80% sure"). While the use of approximate answers to queries about unobserved facts is mandatory, its usage for answering queries about observed facts is prompted by consideration of computational economy. It is intended to cut down the amount of data admitted into memory, to economize on the amount of data in the easily accessible portion of memory and cut down the amount of search into lower levels (containing finer detail) of memory. The first step in this direction is the development of techniques for quantifying the memory versus error tradeoffs in question-answering systems.

*University of Pennsylvania; Aravind Joshi; Research in Natural Language Processing and Mathematical Linguistics, (MCS 7619466); \$100,000; 24 mos. (TQ)*

The long-term goal of this research is the development of computer systems which understand and use natural language to perform some "intelligent" tasks, the specific focus is upon the development of formalisms that would be useful as part of a flexible computer system that engages in some form of conversational behavior. The major components of the work are (1) the development of formalisms for structuring the pattern descriptions (schemata) useful in representing knowledge about linguistic events, recognizing linguistic events, and representing lexical information, (2) the study of the relationship of these formalisms to inferencing, (3) empirical study of language material to aid and support these investigations, (4) development of a computer system incorporating these formalisms, and (5) mathematical investigation of some of these formalisms. This grant is a renewal of research funded under NSF grant SOC 7205465

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a draft convention concerning transborder data flow. Dr. Ganley suggested that the U.S. could influence policy more easily in an organization like the OECD in which it participates.

U.S. Legislation Pertaining to Transborder Data Flow. To date, the U.S. Congress has not passed legislation that would limit the transfer of data beyond the U.S. - However, H.R. 1984, the *Comprehensive Right to Privacy Act*, reintroduced by Rep. Barry Goldwater, Jr. (R-Calif.) and Rep. Edward I. Koch (D-N.Y.) during the present (95th) Congress, contains a clause that would limit transfer of data beyond the United States. Quoting from section 4(a)(6) of the proposed legislation, "Any organization maintaining an information system that includes personal information shall-- . . . transfer no personal information beyond the jurisdiction of the United States without specific authorization from the data subject or pursuant to a treaty or executive agreement in force guaranteeing that any foreign government or organization receiving personal information will comply with the applicable provisions of the Act with respect to that personal information." The Act then details such restrictions as a ban on secret as well as what it calls inappropriate or irrelevant personal information systems.

Other Developments Concerning Transborder Data Flow. Last month, the Department of Commerce's Office of Telecommunications (OT) was scheduled to release an abstract documenting national privacy laws in foreign countries. Also last month, a study on the socioeconomic impact of transborder data flow was to be completed by a British firm, at the request of six Western European nations.

AFIPS Action. AFIPS is in the process of forming a panel to address the transborder data flow issue. Interested individuals should contact their AFIPS society liaisons to the AFIPS Washington Office.

AT&T DESCRIBES RESTRUCTURED REGULATORY PLAN MODIFYING THE 'BELL BILL'  
FCC'S FERRIS AFFIRMS AGENCY'S PROCOMPETITIVE POSTURE

A plan that would restructure regulation of interstate telecommunications services was proposed and delivered last month by AT&T to Sen. Ernest F. Hollings (D-S.C.) and Rep. Lionel Van Deerlin (D-Calif.), chairmen of the Senate and House Subcommittees on Communications, respectively. According to an article in the December 2, 1977, *Washington Post*, the scheme effectively modifies the proposed *Consumer Communications Reform Act*, also known as the "Bell Bill."

The plan would reportedly limit future competition for intercity business services by communications companies and eliminate many such services, including MCI Communications Corp.'s Execunet. In addition, the proposal would require that specialized communication networks (e.g., those linking diverse plants of one company through distributed processing) be connected to the national telephone network at the main (not the branch) customer location. Finally, the plan recommended a transition period during which services now in effect could be eliminated. The proposal was predictably criticized by AT&T competitors, such as MCI.

Also, in a November interview with the *Washington Post*, Federal Communication Commission (FCC) Chairman Charles D. Ferris endorsed the FCC's recent procompetitive policies with regard to the telephone network. Ferris added that, as the new FCC chairman, "the issues which I find the most exciting are in the area of telecommunications and common carrier." He concluded, "I don't think it's Buck Rogers to conceive of a system in the very near future of homes and certainly businesses having not only voice communications with each other but access to data banks, even video communications."

#### NEW OMB RULES WOULD LIMIT RESTRICTIONS ON FEDERAL AGENCIES CONTRACTING OUT TO DP SERVICE COMPANIES

Declaring that "the Government's business is not to be in business," Acting Office of Management and Budget (OMB) Director James T. McIntyre, Jr., in November, announced major revisions to OMB Circular A-76, limiting the circumstances in which Federal agencies can justify in-house service operations in lieu of alternative offerings (e.g., in data processing) provided by private industry. Included in the A-76 revision are some 40 guidelines covering conditions agencies must adhere to in order to approve in-house service operations. According to a recent OMB survey, only about 16 per cent, or 1,168 out of all the 7,432 commercial and industrial activities conducted by the Federal government, could be justified on an in-house basis.

#### AFIPS IN WASHINGTON

##### 95th CONGRESS CONSIDERS SOME 300 DATA PROCESSING-RELATED BILLS, RESOLUTIONS

A recent request by the AFIPS Washington Office for data from HRIS (House of Representatives Information Systems) concerning legislation before the House and Senate on computers [e.g., telecommunications, information systems, privacy, and electronic funds transfer systems (EFTS)] produced a voluminous 420-page printout summarizing some 328 resolutions and bills before the Congress at the end of October. Although some of the legislation pertained to manual information systems, 270 bills and resolutions (i.e., 80 per cent of the whole) were related to data processing.

More than half of this legislation (i.e., 142 resolutions and bills, or 52 per cent) pertained to telecommunications, mostly the *Consumer Communications Reform Act*, also known as the "Bell Bill." Some 86 pieces of legislation (or 32 per cent of the sample) related to the privacy issue as it affects recordkeeping by the Government, hospitals, financial institutions, etc. Twenty-six bills (or 10 per cent) concerned various data bases, e.g., those proposed in medical information patient care systems and a national adoption information exchange system. Seven pieces of legislation dealt with revision of the *Communications Act of 1934*; four involved EFTS; and five concerned such matters as procurement of Federal automated data processing equipment.

Among the recently introduced legislation affecting data processing is the *EFT Act of 1977*, offered in November by Sen. Thomas J. McIntyre (D-N.H.), chairman, Senate Committee on Banking, to "authorize and provide for the regulation of the use of EFTS by financial institutions!" *H.R. 9870*, a bill "to provide rules respecting the use by depository institutions of EFTS" was introduced in the House, in November, by Rep. Mary Rose Oakar (D-Ohio).

Rep. Barry Goldwater, Jr. (R-Calif.) and Rep. Edward I. Koch (D-N.Y.), in November, offered what they described as "the last two [of 12] bills" implementing the recommendations of the Privacy Protection Study Commission. *H.R. 9982* would amend the *Family Educational Rights and Privacy Act* to "provide for the protection of the privacy of personal information . . ."; *H.R. 9989* would amend the *Social Security Act* to "provide for the protection of the privacy of personal medication information maintained by certain medical care institutions . . . ." The *Omnibus Right to Privacy Act of 1977*, *H.R. 10076*, introduced in November by Rep. Richardson Preyer (D-N.C.), combines the 12 bills offered by Rep. Koch and Rep. Goldwater. Hearings on *H.R. 10076* are imminent.

Finally, a bill to establish a *National Science Policy Commission*, composed of non-Government personnel who would prepare a cost-benefit study of various Federal science policy options regarding "potentially hazardous scientific research activities," was offered in the Senate, in November, by Sen. Harrison H. Schmitt (R-N.M.).

#### HOUSE CONCLUDES HEARINGS ON 'COMPUTERS AND THE LEARNING SOCIETY'; CHARP, HOFFMAN TESTIFY

Six days of hearings on "Computers and the Learning Society" were held in October by the Subcommittee on Domestic and International Scientific Planning, Analysis and Cooperation, House Committee on Science and Technology. Among those witnesses testifying was AFIPS Secretary Sylvia Charp, director of Instructional Systems, School District of Philadelphia.

Speaking on behalf of the School District of Philadelphia, Dr. Charp stated that use of computer-assisted instruction (CAI) in the public schools benefited both "disadvantaged" students and "academically talented" students, with each group performing better than similar groups in traditional classrooms.

She also noted with respect to CAI that a national focus is needed "to avoid unnecessary duplication, to make the best use of the scarce resources that seem to be available, and to disseminate the results of what has been successful." According to Charp, *national funds* are needed "to supply high quality packages for general use"; *regional funds* "to prepare material where needs are similar"; and *local funds* "to meet the needs of the particular local situation."

Also testifying at the October hearings was ACM Member Dr. Alexander A.J. Hoffman, director, Computer Science Program, and professor of Mathematics and Physics, Texas Christian University, Fort Worth. Dr. Hoffman noted some potential problems in the development of CAI; for example, a lack of hardware and software.

ASIS, HAMMER COMMENT ON NSF REORGANIZATION OF SCIENCE INFORMATION ACTIVITIES

At the request of the National Science Foundation (NSF), the American Society for Information Science (ASIS), an AFIPS member society headquartered in Washington, D.C.; and Dr. Carl Hammer, director, Computer Sciences, Univac Federal Systems, Washington, and also ACM member, AFIPS Board of Directors; filed comments on the recent report (#) of the NSF Task Force on Science Information Activities (*Washington Report*, 11/77, p. 3). The Task force recommended that a new research program in information science should be created, and that the NSF's Division of Science Information be dissolved.

In an October letter to Dr. Harvey Averch, assistant director for Scientific, Technological and International Affairs, NSF, ASIS President Mrs. Audrey N. Grosch and ASIS Past-President Mrs. Margaret T. Fischer wrote, that ASIS supports the Task Force recommendation that the policy analysis role of NSF should be strengthened. According to ASIS, "While it may not be feasible to consider developing one all-encompassing national policy for information, there are many areas in which nationally-oriented policies are needed. The independence and objectivity of which the NSF is uniquely capable are essential ingredients in the analysis of policy problems and the generation of draft policies. Our concern for this area is heightened by the apparent decision of the President's Office of Science and Technology Policy not to address information matters." The society concluded that, "we feel it is not in our province, as apparently did the Task Force, to attempt to advise you on matters specific to NSF organization." The ASIS position was endorsed unanimously by the society's elected Council, representing some 4,000 members.

At the request of Dr. Averch, Dr. Carl Hammer, expressing his own views, complimented the Task Force on the substantive portion of its report which he called "well-conceived." According to Dr. Hammer, writing in an October letter, this portion of the report "reflects the transition of our labor-capital intensive society to a nation whose major resources are data and information." However, he disagreed with the Task Force recommendation to dissolve the NSF's Division of Science Information (DSI), saying, "Of course, I am not privy to NSF proprietary information, but as an educated outsider, I have considerable respect for the many ongoing activities in DSI and for the impact which . . . [it has] had upon the information science community."

The Task Force completed its report in August, making its recommendations to NSF Director Dr. Richard C. Atkinson in September.

NEWS BRIEFS

It was the recommendation of several Congressmen, in November, that the Federal Bureau of Investigation's plans to switch criminal histories between the states and the Federal government through the National Crime Information Center (NCIC) should be reviewed by the White House and the Congressional Office of Technology Assessment (OTA);

OTA has reportedly established an informal working group to study NCIC, holding its first meeting in November.

Following a study conducted by the Department of Health, Education and Welfare (HEW), critical of data processing systems security at HEW, Rep. Richardson Preyer (D-N.C.), in November, asked the General Accounting Office to consider the security of computer systems employed in other major, Federal recordkeeping agencies.

A former tax lawyer, Tyrone Brown, in November, was sworn in as a member of the Federal Communications Commission through June 30, 1979, completing the unexpired term of Benjamin L. Hooks; in addition, President Carter, in November, nominated Dr. Ernest Ambler, acting director, National Bureau of Standards (NBS), as director, NBS.

"Without a Federal policy toward . . . [medical information systems], their diffusion may well proceed indiscriminately," according to a November Congressional Office of Technology Assessment report, entitled Policy Implications of Medical Information Systems, available for \$2.50 through the Government Printing Office (GPO), Washington, D.C. 20420, or through the AFIPS Washington Office (enclose \$2.50); in addition, the final report of the National Commission on Electronic Fund Transfers is available for \$6.00 through the GPO, or through the AFIPS Washington Office (enclose \$6.00).

The IFIP Applied Information Processing Group (IAG), in November, began publishing a new journal concerned with management processes and systems, called Information & Management, edited by Professor Edgar H. Sibley of the University of Maryland; subscription information is available from North-Holland Publishing Co., P.O. Box 211, Amsterdam, The Netherlands.

### SPECIAL REPORT

#### SURVEY OF COMPUTER TRADE ASSOCIATIONS: PART II (CBEMA)

The AFIPS Washington Office has conducted a survey of computer-related trade associations (*i.e.*, ADAPSO, CBEMA, CCIA and IIA), summarizing the associations' positions on data processing issues before the Federal government. The survey, prepared by Research Associate Pender M. McCarter, is an attempt to review the issues which are perceived as important by industry-oriented groups in the information processing field over the last two years. In this second of four installments [see Part I (ADAPSO), Washington Report, 11/77, p. 7], the Computer and Business Equipment Manufacturers Association (CBEMA) is considered with respect to its membership, activities, organization and positions.

Membership. Originally founded as the Office Equipment Manufacturers Institute (OEMI) in 1916, CBEMA is a trade association representing firms engaged in the engineering, manufacture, finance, sale and support of computer systems, associated peripheral equipment and office equipment. Its 38 corporate members include computer mainframe manufacturers, mini-computer manufacturers, peripheral firms, as well as office and equipment suppliers.



Activities. Through the organizational framework described below, CBEMA (on behalf of its members) formulates positions on telecommunications; foreign trade; Government procurement policies and procedures; privacy and security; proprietary rights (e.g., patentability of computer programs); and environment and safety. CBEMA also acts as sponsor of the American National Standards Institute (ANSI). In addition, it conducts an industry marketing statistical program for members. In general, CBEMA summarizes its primary functions: "to collect and communicate information vital to policy development; to communicate CBEMA's positions to Government, industry and the public."

Organization. Broad association policy and direction is undertaken by the CBEMA Board of Directors. Policy is overseen by Plans and Policies Committees composed of representatives from each member company. Finally, functional committees develop and execute specific programs with the approval of the Plans and Policies Committees. A professional staff provides support functions at the association's Washington headquarters; Vico E. Henriques is president.

Positions. CBEMA's positions on data processing issues before the Federal government during the last two years have been summarized through interviews with the association's staff program directors. Mr. Hank Greenberg, group director, notes that (in the telecommunications area) the association has (1) supported, through filings with the Federal Communications Commission (FCC), attachment of customer-provided equipment to the telephone network; (2) filed comments with the FCC in opposition to the tariffing of AT&T's Dataspeed 40/4 terminal; (3) urged the FCC to enlarge its *Second Computer Inquiry* to include "resale" questions as well as new carrier offerings (e.g., AT&T's Transaction Network Service); and (4) supported an Office of Technology Assessment (OTA) Working Group in the establishment of technology assessments on telecommunications, computers and information policies.

According to Mr. Oliver Smoot, vice president, the association has (1) supported an expansion of East-West, North-South and West-West trade; (2) participated in "every revision" of the *Export Administration Act* to liberalize rules for obtaining computer export licenses; and (3) offered recommendations in support of transborder data flow.

Mr. Hal Nelson, group director, states that in the Procurement Programs area, the association has (1) recommended that the Federal government's automatic data processing equipment be updated where "advancements in technology can provide additional economy . . . ."; (2) supported multiyear contracting; (3) asked Congress to oppose the *Renegotiation Act's* provision for "widespread disclosure" to the Renegotiation Board; (4) urged the Congress not to extend the *Service Contract Act* (mostly affecting working conditions of blue collar workers) to include white collar workers; (5) supported modernization of procurement legislation through the *Senate Acquisition Act of 1977*; (6) recommended voluntary (versus mandatory) compliance for adoption of Federal standards, in Senate testimony on the *Voluntary Standards and Accreditation Act*; (7) submitted views on OMB *Circular A-76*, encouraging greater private sector involvement in data processing procurement; (8) supported the stratified procurement system being developed by the General Services Administration; and (9) opposed an *I/O Channel Interface* standard before the National Bureau of Standards.

According to Mr. Smoot, the association (in the area of privacy and security) has been active in (1) supporting speeches in its "Privacy Series," including an analysis of the Privacy Protection Study Commission's final report; and (2) publication of CBEMA's monthly newsletter in the field of privacy, the *Privacy Update*.

In addition, Smoot notes that CBEMA (in the area of proprietary rights) has (1) urged Congress to amend the *Copyright Act* to include "effective protection" for computer software; and (2) testified before the National Commission on New Technological Uses of Copyrighted Works (CONTU), supporting computer software protection.

[Ed.: Future reports in this series concern CCIA and IIA.]

#### AFIPS MOVES WASHINGTON OFFICE TO LARGER QUARTERS

AFIPS has moved its Washington Office to larger quarters in Metropolitan Washington, D.C.

As of this month, the AFIPS Washington Office is located in the Rosslyn section of Arlington, Virginia, immediately adjoining the District of Columbia.

Its new address and telephone are: 1815 North Lynn Street, Suite 805, Arlington, Virginia 22209, (703) 243-3000.

The Federation's Washington Office was established in 1975 by the AFIPS Board of Directors to provide a Washington-based information service to AFIPS constituent societies, and make technology-related assistance available to Government groups, from AFIPS and its constituents.

AFIPS is a federation of 15 nonprofit scientific, educational and professional societies representing approximately 120,000 individuals concerned with computers and their applications.

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State's Subcommittee on International Data Flow. The State Department's Subcommittee on International Data Flow, a permanent subcommittee of the Department's Advisory Committee on Transnational Enterprises, chaired by Control Data Corp.'s Hugh Donaghue, held its first meeting January 18th. State's Dr. Ganley reiterated the need for prompt U.S. action in the area of transborder data flow because of the decision of the 19-member Council of Europe (COE) (on which the U.S. is not directly represented) to complete work on an international DP draft convention by December 31, 1979. Ganley indicated that the U.S. has not yet formed a position on a draft convention. (It is presumed that State's *ad hoc* group will work in tandem with the permanent subcommittee.)

However, the 29-member Organization of Economic Cooperation and Development (OECD), which includes all of the countries in the COE plus the U.S., was scheduled last month to consider establishment of a higher-level group within OECD to address the issues posed by transborder data flow. The COE and OECD could work together in formulating an international DP convention, participants at the meeting of the Subcommittee on International Data Flows concluded. In addition, the European Economic Community (*i.e.*, the Common Market) has established a working group to consider a draft convention.

International Convention Predicted by 1983. Washington Office sources have indicated that an international DP convention might require four to five years, or until as late as 1983, before it could be approved by the political bodies of the nations within COE and OECD.

U.S. CCITT National Committee No. 1 Study Group III Contribution on International Telecommunications Service. The U.S. CCITT National Committee No. 1 for Regulatory Affairs of the International Telegraph and Telephone Consultative Committee (CCITT) met January 25th at the Federal Communications Commission to discuss the Committee's Study Group III Contribution concerning international, private-leased telecommunications circuits and networks. The U.S. CCITT National Committee, responding to an Italian proposal before the CCITT for variable pricing of private-leased telecommunications service according to usage, agreed that charges for leased circuits should be computed on a flat, 24-hour, monthly rental basis. U.S. CCITT National Committee No. 1 Chairman Early Barbely is scheduled to present the Study Group III contribution at a CCITT meeting in Geneva next month. Barbely is also expected to file a statement of Committee Member Phillip C. Onstad, on behalf of Control Data Corp., stating that "Control Data has taken steps to design its systems to discourage the improper use of its [remote access] data processing services in a manner which is prohibited by . . . [CCITT] rules."

French 'DP and Freedom Act.' French President Vallery Giscard d'Estaing's signature is assured on the *Data Processing and Freedom Act*, recently passed by both houses of the French Parliament, according to an article in the January 23, 1978, issue of *Computerworld*. A National Commission on Data Processing and Freedom (*Washington Report*, 2/78, p. 2) is established under the law to oversee transborder data flow.

U.S. House/Senate Joint Resolutions. Joint U.S. Congressional resolutions directing the establishment of a national policy on transborder data flow are circulating in the House and Senate, according to AFIPS Washington Office sources. However, committee staffers cite higher priorities competing for the attention of Congress.

COMMERCE PROJECTS MORE THAN \$13 BILLION IN 1978 INDUSTRY COMPUTER SHIPMENTS; GSA INVENTORIES 11,000 FEDERAL COMPUTER INSTALLATIONS TOTALING \$5 BILLION; \$7 MILLION PROPOSED FOR NTIA

Computer equipment product shipments rose 15 per cent from \$9.6 billion in 1976 to \$11 billion in 1977 and are projected to rise 15 per cent again to \$13.2 billion in 1978, according to the *U.S. Industrial Outlook 1978*, released in January by the Department of Commerce's Industry and Trade Administration (formerly, the Domestic and International Business Administration). Commerce attributes the growth to new equipment with improved price/performance ratios as well as the increased use of distributed processing. According to the Department, integrated circuits permit increases in memory capacity of two to four times without equivalent price rises.

Minicomputer shipments, Commerce said were 35 to 40 per cent higher in 1977 than the previous year.

In 1977, Commerce estimated 70 manufacturers of personal computers, sold in 300 retail outlets, for a total of 15,000 such systems now in use.

Finally, the Department noted a dramatic rise in foreign computer imports, up from \$129 million in 1975, to \$235 million in 1976, and \$280 million in 1977, though still a small percentage of U.S. exports.

In another Government survey, the number of Federal government computer installations (*i.e.*, including general-purpose computer systems and minicomputers), has risen 15 per cent from 9,648 in Fiscal Year (FY) 1976 to 11,124 in FY 1977, according to the General Service Administration's *Inventory of Automatic Data Processing Equipment in the United States Government*, scheduled to be released last month by the GSA's Automated Data and Telecommunications Service. Total value of Federal computer installations rose eight per cent from \$4.41 billion in FY 1976 to \$4.77 billion in FY 1977. It should be noted that the inventory excludes computers employed in various classified and intelligence operations.

Also, the National Telecommunications and Information Administration (NTIA), created in conjunction with the new Assistant Secretary of Commerce for Communications and Information under *Reorganization Plan No. 1* (*Washington Report*, 12/77, p. 1), is allocated seven million dollars under President Carter's proposed FY 79 budget. However, the executive order creating the new Assistant Secretary of Commerce position and the NTIA administrator (both expected to be filled by the Aspen Institute's Henry Geller) should not be released until this month, according to Washington Office sources.

WHITE HOUSE INFORMATION SYSTEMS DIVISION, OFFICE OF ADMINISTRATION BEGINS  
COORDINATING INFORMATION SYSTEMS: MULTIFUNCTION TERMINALS TO REPLACE  
TYPEWRITERS IN WHITE HOUSE

Indicative of President Carter's management/systems-oriented approach to problem-solving, terminal-based systems are scheduled to replace typewriters in the next three to five years, according to Richard Harden, special assistant to the President for Budget and Organization. In a January, 1978, *Datamation* article, Harden describes the new systems as eventually providing: access to data bases from commercial sources as well as other executive branch agencies; text editing and word processing; document tracking; information storage and retrieval; and electronic mail capabilities. (At present, the White House reportedly has access to some 20 data bases.) Word processing and document tracking features of the new terminal-based systems are expected to be implemented by the end of this year. IBM Corp. and Xerox Corp. representatives are said to have been questioned as to available equipment. Future applications of the terminal include plans for a Presidential diary which would record the amount of time President Carter spends in different areas.

At press time, Harden's special assistant, Edward Zimmerman, told the AFIPS Washington Office that the conversion from typewriters to multifunction terminals is expected to make "such good sense" that it would likely be continued by future administrations.

Beginning in January, coordinating the development of White House information systems in 12 Executive Office of the President (EOP) units, is the newly created Information Systems Division of the Office of Administration, headed by Carl Calo, assistant director. The Office of Administration constitutes the central administrative unit recommended to Mr. Carter by the President's Reorganization Project (PRP) in June, 1977, and later incorporated in Carter's EOP *Reorganization Plan No. 1*, implemented last October (see *Washington Report*, 9/77, p. 1; 10/77, p. 1; and 12/77, p. 1).

The Advisory Group on White House Information Systems, chaired by John Gosden of Equitable Assurance Society, was formed within the White House Office of Science and Technology Policy last August to establish guidelines for the Office of Administration (*Washington Report*, October, 1977, p. 3). In its December, 1977, report, entitled *Information Systems Needs in the Executive Office of the President*, obtained prior to publication by the AFIPS Washington Office, the Advisory Group recommends two special priorities for information systems applications: (1) the Domestic Policy Review System for high-level executive decisionmaking; and (2) word processing/text editing systems for administrative uses.

DP LEGISLATION: HEW CONSIDERING SAFEGUARDS TO BE IMPLEMENTED IN COMPUTERIZED  
MATCHING OF SSA DATA, STATE/LOCAL WELFARE ROLLS; ELECTRONIC MAIL BILL UNLIKELY  
TO REACH HOUSE FLOOR; 'FEDERAL COMPUTER SYSTEMS PROTECTION ACT' WON'T BE  
INCORPORATED IN 'CRIMINAL CODE REFORM ACT'

Department of Health, Education & Welfare Secretary Joseph A. Califano, Jr. is reported to be developing privacy safeguards to be implemented in



connection with the *Social Security Amendments Act of 1977*, recently passed legislation that authorizes computerized matching of state welfare rolls and Social Security Administration (SSA) payroll records to detect fraud, according to an article in the January 23, 1978, issue of *Computerworld*. (In a speech last month, Califano told Congress that \$40 million in welfare payments could be fraudulently obtained.) As of October 1, 1979, state and local welfare agencies will employ SSA data when determining Aid for Dependent Children (AFDC) benefits. Congressional concern is reported about lack of protection of Internal Revenue Service (IRS) data (covered within IRS by the *Tax Reform Act of 1976*) when it is transmitted to the SSA and accessed under the new law.

Also, pending House legislation that would allocate "at least two per cent of the annual revenues of the [U.S.] Postal Service" for research and development of electronic mail is not expected to come to a vote on the floor because of Presidential opposition communicated to House Speaker Thomas P. (Tip) O'Neill (D-Mass.). In a letter to President Carter, January 23, 1978, the Democratic chairmen of the two House subcommittees considering *H.R. 7700*, the *Postal Services Act of 1977*, cited the President's "effort to persuade Speaker O'Neill to kill *H.R. 7700*." The legislation, which last November cleared the House Committee on Post Office and Civil Service, lacks action by the Committee on Rules to be considered on the House floor. In addition to the R&D provision, *H.R. 7700* would impose additional Congressional scrutiny on the Postal Service.

In the Senate, the Committee on the Judiciary may "in the near future" convene hearings on the *Federal Computer Systems Protection Act of 1977*, *S. 1766* (*Washington Report*, August, 1977, p. 2), making misuse of computers owned by the Federal government a Federal offense, according to Sen. Abraham A. Ribicoff (D-Conn.). In a speech to the Senate, January 25, 1978, Sen. Ribicoff said he decided against incorporating *S. 1766* as an amendment to the *Criminal Code Reform Act of 1977*, *S. 1437*, which passed the Senate January 30th, because of the complex nature of both bills. Among other reforms, the criminal code legislation would redefine "property" as it relates to theft or criminal damage, *e.g.*, property would include intangibles such as software and computer data.

DIRECTORATE FOR APPLIED SCIENCE AND RESEARCH APPLICATIONS ESTABLISHED BY NSF, REPLACING DIRECTORATE FOR RESEARCH APPLICATIONS, RANN PROGRAM

The National Science Foundation's (NSF) Directorate for Applied Science and Research Applications (ASRA) last month replaced the Directorate for Research Applications' Research Applied to National Needs (RANN) program. According to NSF, ASRA was established to strengthen links between applied and basic research; improve the ties between research applications activities and user groups in state and local governments, private industry, and other Federal mission agencies; focus problem-oriented research applications on fewer national issues to increase the impact of the NSF programs; and provide a funding source for "high quality" applied research. Dr. Jack T. Sanderson, assistant director for Research Applications, continues as assistant director for ASRA.

Dr. Sanderson discussed the new organization and plans of ASRA at a December 7, 1977, meeting of the NSF Advisory Subcommittee for Computer Science. On December 6th, the Advisory Subcommittee met in closed session to consider several proposals for the use of computer networks in computer science research. In addition, the confirmation of Dr. James A. Kruhansl as assistant director for Mathematical and Physical Sciences and Engineering (MPE) was announced at the meeting.

### AFIPS IN WASHINGTON

#### WASHINGTON OFFICE BRIEFS FEDERAL DP REORGANIZATION STUDY TEAMS ON PREVIOUS AFIPS REORGANIZATION PANEL RECOMMENDATIONS

At the request of the President's Reorganization Project (PRP), in January, the AFIPS Washington Office provided a briefing to the recently formed Federal Data Processing Reorganization Study Teams, concerning previous AFIPS Reorganization Panel recommendations (*Washington Report*, 9/77, p. 4). The examination of Federal data processing procurement and management by the PRP study teams, scheduled to be completed next month, is under the supervision of the Office of Management and Budget's (OMB) Wayne T. Granquist, associate director for Administrative Management.

As a result of a letter written by AFIPS President Dr. Theodore J. Williams to President Carter (*Washington Report*, 8/77, p. 3), offering AFIPS assistance to parties involved in the computer-related reorganization, AFIPS was invited to comment. OMB's Granquist suggested a meeting with Walter W. Haase, OMB deputy associate director for Information Systems Policy, at which time the AFIPS panel recommendations were formally presented.

On January 25th, Washington Office Director Philip S. Nyborg briefed the PRP about the panel's recommendations:

The June, 1976, hearings of the House Committee on Government Operations formed "the primary basis" for the panel's conclusion that the "*Brooks' Act* approach" is "not working." The AFIPS panel recommended that "(1) full commitment [is] needed to [the] implementation of the policies of the *Brooks' Act* from the highest levels of the Executive Branch; [and] (2) simplified organizational relationships [are required]."

*Brooks' Act* functions regarding data processing (*i.e.*, policy, technical support, including standards, and procurement) should be consolidated with similar functions for Government telecommunications in an independent agency. Following this approach, the group said, the OMB would "continue to have ultimate responsibility for Government-wide implementation and enforcement." An "independent agency (in contrast to a department) would have greater stature, credibility," according to the panel. It would also have *Brooks' Act* goals as its "sole mission," and would be accountable for the achievement of those goals, the group said.



"The consolidated agency would have "binding authority over all user agencies for all Federal policy, procurement, and standards relating to data processing and communication," and would "review all user agency data processing/telecommunication budgets prior to OMB approval." According to the AFIPS panel recommendation, "special emphasis" within the agency is needed for (1) establishment of special teams for the evaluation of user agency systems; (2) consideration of a Federal data administrator responsible for the overall Federal Data flow; (3) establishment of an improved software exchange program; (4) increased attention to Federal standards; and (5) systems performance evaluation teams. A special Department of Defense liaison unit was also recommended within the consolidated agency.

The PRP study teams and team leaders are: (1) Project Management (Wally Haase, OMB); (2) Acquisition (Harris Reiche, Department of Commerce, Acting); (3) Operational Management, (Phil Kiviat, Air Force); (4) Standards (Ken Allen, OMB, Acting); (5) Personnel (Ken Allen, OMB, Acting); (6) Central Policy (Paul Strassman, Xerox); (7) Human Resources (Robin Hough, Oakland University); (8) National Security (Larry Dreeman, Coca Cola); (9) Small Agencies (Herb Pier, Allstate); (10) General Government (John Stucker, University of South Carolina, Acting); and (11) Science and Technology (Louis Haire, Lockheed).

#### AFIPS PRIVACY COMMITTEE SETS GOALS, PLANS WORKSHOP UNDER NEW CHAIRMAN

In January, the AFIPS Special Committee on the Right to Privacy set initial goals in its first meeting chaired by Dr. Lance J. Hoffman, associate professor, Department of Electrical Engineering & Computer Science, George Washington University. In a January 3rd meeting at the Institute of Internal Auditors (IIA), and AFIPS constituent society headquartered in Altamonte Springs, Florida, the Privacy Committee (1) chose to limit its scope to Federal or international privacy concerns with the exception of tracking the New Jersey State Commission on Privacy, the first such state commission in the U.S. and (2) agreed to plan a two-day workshop addressing eight general topics formulated at the meeting.

In addition to Dr. Hoffman, committee members attending the meeting were: Robert Blanc, National Bureau of Standards; Dr. H. Rex Hartson, Department of Computer Science, Virginia Polytechnic Institute and State University, William Moser, Venture Group, Inc.; Williar E. Perry, Director of Research, Institute of Internal Auditors; Robert Smith, publisher, *Privacy Journal*. Dr. George Davida, University of Wisconsin, attended for the IEEE-Computer Society; and Pender M. McCarter, research associate, attended for the AFIPS Washington Office.

#### WASHINGTON OFFICE LIAISONS 'PLAY CENTRAL ROLE' IN FACILITATING SOCIETY CONTRIBUTIONS

The constituent society liaisons to the Washington Office play a central role in facilitating AFIPS society contributions offered in response to Federal government requests for AFIPS technical comment, according to Washington Office Director Philip S. Nyborg.

Mr. Nyborg noted recently that the society liaisons are an "important link" with professionals within their societies who are knowledgeable in areas in which AFIPS is developing comment for the Government. He added that the liaisons assist the Washington Office in responding in a "timely manner" to requests for technical comment.

According to Nyborg, liaisons are closely briefed on AFIPS Washington Office activities, and constituent society members should freely consult them for information concerning the Washington Office as well as to suggest Office initiatives. Reflecting the significance each society attaches to the liaisons, many of the representatives have been or are presently officers or board members of their own societies, he said.

Chosen by the president of each society for an indefinite period, the society liaisons to the Washington Office and their affiliations are: Johan Benson (AIAA); John R. Mitchell (AICPA Director); Samuel B. Beatty (ASIS Managing Director); Dr. Fred C. Leone (ASA Executive Director); Dr. A. Hood Roberts (ACL); Prof. A.A.J. Hoffman (ACM); Shirley Easterwood (AEDS); Richard Gehrt (DPMA); Samuel Levine (IEEE-CS); Kenneth A. Pollock (IIA); Albert Naumann (ISA); Dr. Edward Block (SIAM); and Dr. Frank McKenna (SLA Executive Director).

#### NEWS BRIEFS

In January, the U.S. Supreme Court refused to consider an IBM Corp. petition to review a lower court ruling which held that there was "evidence from which the jury could reasonably infer that IBM possesses monopoly power in the leasing of general purpose computers", also, in January, the Supreme Court denied a petition filed by the U.S. Independent Telephone Association et al., protesting a lower court's decision enabling private line communications companies to offer ordinary long-distance telephone service, such as MCI Telecommunication Corp.'s Execunet service.

Unfair and deceptive practices were used by Equifax Inc. in collecting and reporting credit information thus violating the Fair Credit Reporting Act, according to an initial decision last December by a Federal Trade Commission administrative law judge; Equifax data is accessed in numerous computer files maintained by the firm's public and private sector clients.

As Internal Revenue Service (IRS) proposal to provide on-line access to five years of taxpayers' records in each of 10 service areas, called the Tax Administration System (TAS), has been denied funding by the Office of Management and Budget (OMB); earlier, six U.S. senators wrote the OMB urging delay in implementation of TAS, at least until privacy concerns could be resolved.

In January, the Board of Governors of the Federal Reserve approved plans to provide interregional clearing and settlement services for funds transfers originating at automated (check) clearing house associations; a 1976 pilot project, undertaking the same program, was criticized

by a former Office of Telecommunications Policy (OTP) official as a "surreptitious development of an on-line capability" by the Fed. A study of factors affecting competition in the telephone equipment industry is being initiated by the U.S. International Trade Commission, in response to a request by the Subcommittee on Trade of the House Committee on Ways and Means.

Twenty-six Federal data processing organizations were using cost accounting procedures that were "inadequate" in some ways, according to a General Accounting Office report, entitled *Accounting for ADP Costs Needs Improvement* (#), released February 7th.

### SPECIAL REPORT

#### SURVEY OF COMPUTER TRADE ASSOCIATIONS: PART III (CCIA)

The AFIPS Washington Office has conducted a survey of computer-related trade associations (*i.e.*, ADAPSO, CBEMA, CCIA and IIA), summarizing the associations' positions on data processing issues before the Federal government. The survey, prepared by Research Associate Pender M. McCarter, is an attempt to review the issues which are perceived as important by industry-oriented groups in the information processing field over the last two years. In this third of four installments [see Part I (ADAPSO) *Washington Report*, 11/77, p. 7; and Part II (CBEMA), 1/78, p. 6], the Computer and Communications Industry Association (CCIA) is considered with respect to its membership, organization, charter and positions.

Membership/Organization. The CCIA is composed of chief executive officers of approximately 40 U.S. companies in the computer and communications fields. Membership dues are based on the worldwide revenues received from the manufacture, sale, lease, rental or related services provided by the members in data processing, word processing, and/or communications-related businesses.

CCIA President A.G.W. (Jack) Biddle directs a 14-member professional staff in the association's Arlington, Virginia (Washington Metropolitan Area), headquarters. Staff functions include: Legal; Member Services; Communications and Press Relations; Legislative Liaison; Meetings and Conferences; Document Department; and Research Library.

The CCIA also consists of a Board of Directors; chairman of the Board is now Dr. Gene Amdahl of Amdahl Corp. Each member is allotted one vote on the board.

Charter. The CCIA was founded as the Computer Industry Association (CIA) in July, 1972. It became the CCIA in 1976 when its members recognized the link between computers and communications. It is said to provide a "forum where chief executives from member companies meet to discuss the problems, opportunities, and changing environment of the computer and communications industry."

Positions. CCIA's positions on data processing issues before the Federal government are summarized through conversations with the association's

president, study of congressional testimony, and a review of CCIA's monthly newsletter, *On Line*.

*The Antitrust Enforcement Authorization Act of 1975, June, 1975.* The Department of Justice and the FCC should receive additional funding for antitrust enforcement units. The Justice Department's Antitrust Division should include "industry experts" recruited from the private sector.

*Tax Reform Legislation, July 1975.* The Domestic International Sales Corp. (DISC) provisions of the *Internal Revenue Code*, allowing a tax deferral on foreign sales of computer equipment, should be retained to protect the interests of smaller manufacturers. (On the subject of technology export, CCIA favors a "liberal export policy" except when exports to Communist Bloc Countries "adversely affect . . . national security."

- *H.R. 7047, November 1975.* In any consideration to amend certain sections of the *Communications Act of 1934* establishing the FCC, the Commission should be reorganized to support more competition in the telecommunications market.

*Antitrust Enforcement, November, 1975.* The *Robinson-Patman Act* governing antitrust enforcement should be strengthened and strictly enforced. Small and medium-sized companies should be protected from "predatory practices" of "giant companies."

- *FCC Consideration of AT&T's Dataspeed 40/4 Tariff, December, 1975.* AT&T should not be permitted to enter the computer equipment field with regulatory protection. AT&T's Dataspeed 40/4 terminal should be considered a data processing device and, as such, an unregulated offering, which the telephone company cannot provide.

*FCC Consideration of SBS' Amended Application to Enter the Domsat Market, June, 1976.* Satellite Business System's (SBS) amended domsat (domestic datellite) application should be rejected because it does not specify detailed communications and equipment interconnection arrangements required by the FCC.

- *Software Protection, June, 1976.* Enforcement of the *Brooks' Act* should be strengthened. . Mandatory standards should also be implemented.

- *AT&T's Entry Into EFTS Marketplace, December, 1976.* The National Commission on Electronic Fund Transfers should recommend that AT&T be excluded from the EFTS marketplace.

*Consumer Communications Reform Act, January, 1977.* The legislation is "anticompetitive" in that potential competitors must prove their offerings will not interfere with existing or potential services of AT&T.

- *FCC Consideration of AT&T's Dataspeed 40/4 Tariff, January, 1977.* Tariffing of AT&T's Dataspeed 40/4 terminal offering should be stayed pending the outcome of the *Second Computer Inquiry*.

- *Communications Act of 1934, April/May, 1977.* Competition should be introduced into the telecommunications field.

*Sherman Antitrust Act, May, 1977.* The *Sherman Antitrust Act* should be "overhauled" to eliminate the element of "deliberateness" (*i.e.*, intent) necessary to prove monopolization. An experienced trial lawyer should be appointed to head the Department of Justice's Antitrust Division.

- *Voluntary Standards and Accreditation Act of 1977, May, 1977.* Mandatory Federal DP standards should be implemented. Interconnection standards (*e.g.*, the I/O Channel Interface) should also be established.

- *Second Computer Inquiry, June, 1977.* The FCC should allow common carriers to participate in the computer equipment market only through an "arms-length" subsidiary. Otherwise, the FCC should ban all carrier-provided customer premises digital equipment.

- *Reorganization Plan No. 1, October, 1977.* GSA and NBS' ICST should be consolidated into a Cabinet-level department under OMB.

[*Ed.*: The final report in this series, to be published next month, concern the Information Industry Association (IIA).]

#### READER SURVEY

[*Ed.*: The following checklist has been developed to survey readers' views concerning the content of the *AFIPS Washington Report*. Please check areas in which added emphasis is needed. Return bottom half of this page to Editor, *AFIPS Washington Report*, 1815 N. Lynn Street, Suite 805, Arlington, Virginia 22209.]

- \_\_\_\_\_ Summary of Other News Articles About Washington DP Developments
- \_\_\_\_\_ Analysis of Washington DP Issues Such as Privacy, EFTS, Transborder Data Flow, Government Reorganization
- \_\_\_\_\_ Executive and/or Legislative Branch Decisions Affecting ADP
- \_\_\_\_\_ Federal R&D
- \_\_\_\_\_ Federal/Private ADP Meetings/Conferences in Washington Area
- \_\_\_\_\_ "AFIPS in Washington"
- \_\_\_\_\_ Other (Specify, using back of page, if necessary) \_\_\_\_\_

Production assistance for the *Washington Report* is provided by Linda Martin. AFIPS societies have permission to use material in the newsletter for their own publications; however, when an article appears with an asterisk, clearance must first be obtained from the AFIPS Washington Office. Documents indicated by the symbol "(#)" are available on request to the Washington Office. Requests should specify the date(s) of the *Washington Report* in which the document(s) appeared. Where price is noted, make checks payable to "AFIPS."



- Assist in the refinement and implementation of the Administration position in various aspects of the privacy issue (e.g., medical records, the *Privacy Act of 1974*, financial records, Government access to records, international restrictions on free flow of data, etc.).

- Analyze the impact that present and pending foreign privacy legislation may have on U.S. interests, and advocate steps which must be taken to protect U.S. and international interests.

- Evaluate and develop proposals for action in the area of electronic mail as well as electronic funds transfer (EFTS):

The NTIA, Deputy Assistant Secretary-designate (under Geller) is expected to be Paul Bortz of the Denver Research Institute. Chief counsel will reportedly be Gregg Skall. The NTIA will also consist of: (1) an associate administrator for Telecommunications Applications (William Lucas); (2) an associate administrator for Federal Systems & Spectrum Management (Donald M. Jansky); (3) an associate administrator for Telecommunications Sciences (Douglas D. Crombie); and (4) an associate administrator for Policy Analysis and Development (Leland Johnson, with William L. Fishman as deputy associate administrator).

In summary, NTIA (according to the budget submission) will "provide a permanent focal point upon . . . short-term efforts of the past to frame and address fundamental and forward-looking questions of national information policy." NTIA's "overall goal" is described (again, quoting the budget submission) as "helping to insure that the American public, industry, and Government receive the full benefits that our national telecommunications and information system can provide, and are protected from major adverse effects in the development of that system."

Mr. Geller appeared February 28th before the House Appropriations Subcommittee on State, Justice, Commerce, and the Judiciary and Related Agencies to present the first budget request of the NTIA, detailed on p. 4. He is also expected to appear before the Senate as part of the budgetary review process.

In addition to acting as a consultant to OTP, working to establish NTIA, Geller is also co-chairman with Stuart E. Eizenstat, assistant to the President for Domestic Affairs and Policy, of the White House Privacy Study Coordinating Committee (see *Washington Report*, 3/78, p. 1).

In addition, he was formerly a Communications Fellow with the Aspen Institute Program on Communications and Society. Geller has also served as FCC General Counsel. He was employed by the Rand Corp to perform communications research. Geller has taught at the Georgetown University School of Law as well as the University of Pennsylvania Law School.

[*Ed.*: An exclusive interview with Mr. Geller, the first following his nomination by President Carter as Assistant Secretary of Commerce for Communications and Information, appears in a special supplement preceding this month's newsletter.]



Two Federal Communications Commission (FCC) decisions affecting AT&T, and one Court decision upholding the FCC on an AT&T matter, were announced recently.

FCC's Dataspeed 40/4 Decision Upheld by U.S. Court of Appeals. In mid-February, the U.S. Court of Appeals for the Second Circuit upheld the FCC's decision to tariff AT&T's Dataspeed 40/4 (*Washington Report*, 1/77, p. 2). The Court of Appeals said that the Commission was correct in concluding that the CRT terminal is not a data processing device, and thus can be offered by AT&T. [AT&T is precluded from participating in unregulated industries (such as data processing) by its 1956 Consent Decree with the Department of Justice. The court decision could conceivably be reviewed by the Supreme Court at the request of IBM Corp., the Computer and Business Equipment Manufacturers Association (CBEMA), or the Computer and Communications Industry Association (CCIA), all of which petitioned the Court of Appeals for the initial review.

FCC Rejects AT&T's 'Primary Instrument Concept.' In January, the FCC rejected immediate adoption of AT&T's "primary instrument concept," which stipulates that the telephone company must provide at least one telephone to each subscriber.

IBM Corp. has attacked the proposal, saying it would unnecessarily restrict the potential market for home communications terminals. According to IBM, a consumer would have to buy a second terminal for data uses (such as electronic funds transfer), in addition to the telephone company-provided telephone, or accept a telephone company terminal combining both voice and data functions.

The Commission also rejected a request by CBEMA that the concept be disregarded, and instituted a new inquiry into the "implications of the telephone industry's primary instrument concept" (see 43 *Federal Register* 6151) (#).

FCC Rules AT&T Doesn't Have to Make Additional Connections with 'Competitors' Nonprivate Lines. In late February, the FCC ruled that AT&T is not required to make additional connections to its switched network with competitors' nonprivate lines, such as are required to implement MCI Telecommunications Corp.'s Execunet service. A previous U.S. Court of Appeals ruling (upheld by the Supreme Court, see *Washington Report*, 3/78, p. 8) authorized the Execunet service, but did not require AT&T to make connections for the service.

#### ARPA, ICST, NSI, NTIA FY '79 FEDERAL BUDGET REQUESTS ANNOUNCED

The anticipated FY '79 budget for the Information Processing Techniques Office of the Department of Defense's Advanced Research Projects Agency (ARPA), under the \$588 billion FY '79 budget proposed by President Carter, is \$41.8 million, reflecting a \$2.5 million increase over the FY '78 budget of \$39.3 million.



The anticipated FY '79 request of the National Bureau of Standards to "improve the application of computer technology" is \$21 million. According to an NBS official, this figure includes: \$17.9 million budgeted for the Institute for Computer Sciences and Technology (ICST); \$1.9 million for "mathematical support services"; and \$1.2 million for "automation technology." The request for application of computer technology represents a \$14 million increase over the FY '78 budget. According to NBS, most of this increase will be devoted "to meet responsibilities for developing federal automatic data processing standards assigned to NBS" under the *Brooks' Act*.

The anticipated FY '79 budget for Computer Research at the National Science Foundation (NSF) is \$18.1 million, reflecting a \$1.4 million increase over the FY '78 budget of \$16.7 million, an NSF official said.

The Department of Commerce's new National Telecommunications and Information Administration (NTIA), which replaces the White House Office of Telecommunications Policy (OTP), has an anticipated FY '79 budget of \$11.9 million. This represents a program increase of \$2.1 million over the FY '78 budget for OTP. Of this \$2.1 million, \$1.9 million is being requested "to develop telecommunications and information policies." An increase of \$200,000 is requested "to improve application of telecommunications and information technology."

As described in the *Appendix to The Budget of the United States Government Fiscal Year 1979*, the NTIA is "the administration's lead agency for telecommunication and information policy, technology and spectrum management." It will:

"1. *Develop telecommunications and information policies.*--This activity provides for the adoption of a coherent policy regarding domestic and international telecommunications and information. The current budget will examine common carrier, public broadcasting, computer communications issues, international policy questions, and information-related issues. An increase [that] will expand the examination of critical common carrier, broadcasting, cable, and other regulatory issues is also included in the request.

"2. *Provide management of Federal telecommunications resources.*--This activity provides for the management of the Government's use of the radio spectrum as it relates to national requirements and coordination with the Federal Communications Commission for long-range improvements; the coordination of a national position and development of Government policies for international negotiations on spectrum planning and regulations, and analysis and planning for Federal telecommunications systems.

"In 1979, 60 Federal telecommunications systems will be evaluated, six allocated bands will be assessed, 65,000 Federal applications for frequency assignments will be processed, and recommendations to reduce duplication and maximize sharing, and improve effectiveness of Federal navigation and other telecommunications facilities will be made.

"3. *Improve application of telecommunications and information technology.*--This activity through engineering methods and research promotes the efficient use of the radio spectrum. In 1979, applied research will be

conducted on radio wave propagation; the performance of data communications, fiber optics, and satellite communications systems will be examined; and an assessment of the impact of new technology to Government systems will be made. An increase is included to conduct research into the economic of spectrum scarcity as well as the feasibility of providing planning techniques for improved television channel use."

### AFIPS IN WASHINGTON

#### AFIPS FORMS PANEL TO ADDRESS TRANSBORDER DATA FLOW ISSUE

Partially in response to a request by the Department of State to comment on a 22-page position paper, entitled *Protecting Privacy in International Data Processing* (see *Washington Report*, 1/78, p. 1), AFIPS last month formed a panel to address the issue of transborder data flow. In a letter to prospective participants, Washington Office Director Philip S Nyborg said that, in addition to commenting on the State Department position paper, the panel might consider making "its own determination of those matters relating to this issue which are appropriate for AFIPS attention."

Mr. Nyborg noted what he termed an evolution of transborder data flow from "primarily [a] privacy-oriented issue" to one that involves "both cultural and economic protectionism." He added that "some countries may be using transborder data flow restrictions as non-tariff barriers to trade . . . [, and the] immediate motivation for them to do so is to protect their domestic computer services and data communications industries." Nyborg cited the adverse effect of non-tariff trade barriers on multinational users of computer services and data communications, especially in banking, manufacturing and insurance.

To date, the panel includes: Anne Wells Branscomb, Esq., Armonk, New York; Richard G. Canning (adviser), Canning Publications, Vista, California; Dr. George Davida (IEEE-CS), University of Wisconsin, Milwaukee; John M. Eger, Esq., Washington, D.C.; Dr. Philip H. Enslow, Georgia Institute of Technology, Atlanta; Dr. Herbert R. J. Grosch, president, ACM; Dr. Carl Hammer (adviser), Univac Federal Systems, Washington, D.C.; Dr. A. A. J. Hoffman (ACM), Texas Christian University, Fort Worth; Dr. Lance J. Hoffman, George Washington University, Washington, D.C.; Ms. Edith Holmes, *Computerworld*, Washington, D.C.; John Nuxall, Peat, Marwick, Mitchell & Co., New York; Ms. Angeline Pantages, *Datamation*, Greenwich Connecticut; Dr. Philip Tenkhoff, Infonet Division, Computer Sciences Corp., El Segundo, California; and Dr. Rein Turn, TRW Systems Group, Redondo Beach, California. Dr. Turn acts as chairman.

The panel is expected to develop comment via telephone and through correspondence, meeting occasionally to discuss major issues.

'U.S. COMPUTER INDUSTRY FROM 1971 TO 1981': GILCHRIST ANALYZES PAST  
AFIPS REPORTS FOR GENERAL ACCOUNTING OFFICE ADP STAFF

"The U.S. computer industry is still growing rapidly, and is likely to continue to do so for some time," said Dr. Bruce Gilchrist, director of Computing Activities, Columbia University, in a February address to the staff of the U.S. General Accounting Office (GAO). Dr. Gilchrist, executive director of AFIPS from 1968 to 1973, documented his conclusion citing two recent AFIPS studies, *The State of the Computer Industry*, which he co-edited (published by AFIPS Press in 1973), and *Information Processing in the United States A Quantitative Summary*, prepared by the AFIPS Washington Office (published by AFIPS Press last year). Gilchrist stated that "the approach adopted by AFIPS in preparing the two reports has . . . resulted in a reasonably accurate overall picture of the industry."

Gilchrist divided his talk into four sections: users, suppliers, employment and education. First, with reference to United States users of computer equipment and services, he noted that the \$38.5 billion estimate of expenditures for 1976 in the current AFIPS report is "probably on the low side." Considering recent Congressional testimony by the GAO that the Federal government spent more than \$10 billion per year on computer systems, Gilchrist estimates that total 1976 U.S. expenditures were "at least \$50 billion."

In reference to suppliers of computer goods and services, he notes that the "simple measure of 'number of computers' has become virtually meaningless" because, as he said, it does not distinguish between the million dollar general-purpose computer and the \$10,000 minicomputer. Gilchrist adds that inflation must, of course, be considered when classifying computers by value. He also states, "It is tempting to try to remove the effect of inflation from the figures, but this turns out to be a very difficult task because the amount of computing purchased by a dollar has increased proportionally in each period by much more than the dollar has lost."

Although Gilchrist concludes that "the big system is by no means being rapidly replaced by multiple minis," he notes the trend to minis and service, which Gilchrist describes as "a potential threat to U.S. companies." He attributes the development of Brazilian-owned minicomputer manufacturing operations, for example, to the fact that minicomputer and service operations do not require "the massive capital investment needed for new general-purpose computer systems production."

Comparing computer shipments in 1976 (\$10.5 billion) with motor vehicle shipments (\$67 billion), Gilchrist concludes that "even at a 15 per cent compounded annual growth rate, it will take a long time for the value of computer shipments to exceed those of motor vehicles." He adds that "despite inflation, computers are becoming cheaper in terms of computer power per dollar, whereas cars are increasing in cost."

Gilchrist cites the most recent Department of Commerce figures that U.S. computer exports in 1977 totaled \$3.2 billion, contrasted with \$2.6 billion in 1976. However, he said, "in order to keep the exports in

perspective, I should note that total U.S. exports for 1976 were \$115 billion. Nevertheless, in light of the current annual trade deficit of approximately \$27 billion, the computer industry is making a significant contribution in the right direction."

With respect to U.S. market share, Gilchrist noted, "There seems no question that the U.S. will lose market share, although overall growth of the industry will still leave U.S. firms with a growing total business. The trend must, however, be treated seriously as activity by U.S. firms overseas not only generates exports, but also provides foreign earnings, which contribute to the balance of payments. Undoubtedly, the projected decrease in market share will result in continued pressure on the U.S. government to relax export restrictions."

On the subject of employment, he said the AFIPS study suggested that "although the number of programmers is estimated to be growing significantly over the next decade, programmers are not going to be 'taking over the world,' unlike earlier projections predicting several times as many programmers in the 1980s." Describing the decline in keypunch operators, Gilchrist noted that "just as the installation of customer long-distance dialing by the telephone company made virtually all of us into telephone operators, so the easier availability of terminals is making many of us into computer data entry operators." He continued, "Thus, in order to fully appreciate the impact of the computer on the U.S. labor force, we have to go beyond simply counting the people directly concerned on a full-time basis with building and using computers, and look at the much larger number of people who use computers, even incidentally, as part of their work. . . ."

Comparing the Federal computer work force with the computer labor force at-large, Gilchrist notes more systems analysts and programmers in the Federal government and fewer keypunch and computer operators than in the computer labor force at-large. He surmises that the disparity could be due to the "significant amount of data provided to the Government by industry in machine-readable form."

In reference to education, Gilchrist said, "My general feeling is that the universities are providing a reasonable number of people at the doctoral level in computer science, but not enough 'journeymen' workers at the bachelor level." He added, "Our current difficulties with software systems stem . . . from . . . relaxation of standards." Quoting Prof. John Hamblen of the University of Missouri, Gilchrist agreed that "[t]he cause of many of the problems associated with computer usage is the over-utilization of under-educated people."

The lecture was the eleventh in the GAO's ADP Series. Attended by approximately 50 ADP liaisons on February 8th, the talk was videotaped for presentation in GAO field offices nationwide.

The most recent AFIPS report, *Information Processing in the United States*, now in its second printing, is available (\$6.00, prepaid) from AFIPS Press, 210 Summit Avenue, Montvale, New Jersey 07645, telephone (201) 391-9810.

In February, the Federal Home Loan Bank Board (FHLBB) proposed final electronic funds transfer system (EFTS) rules for savings and loan associations, including "strong privacy safeguards" (#); also in February, Sen. John G. Tower (R-Tex.) introduced *S. 2470*, the *Fair Fund Transfer Act of 1978* (#), prescribing "policies and procedures for EFTS," and Sen. Donald W. Riegle (D-Mich.) introduced *S. 2546*, the *EFT Consumer Protection Act* (#).

The United States Postal Service and the Communications Satellite Corp. are implementing an electronic message service with five or six countries outside the U.S., the Postal Service announced late last month.

In response to a General Accounting Office study (#), published in February, the Federal Bureau of Investigation (FBI) has acted to correct a situation in which more than one-fourth of the FBI's "special" indexes could not be completely accessed through a manual Central Records System, as required by the *Privacy Act of 1974*, according to an article in the February 13, 1978, *Computerworld*.

A central data system is being planned by the White House Office of Management and Budget to access information about Federal contracts.

A bill banning automated phone dialing, used in conjunction with recorded sales announcements, passed the Maryland House of Delegates, following approval earlier in the state's Senate.

Dr. Russell Peterson has been recently sworn in as the new director of the Office of Technology Assessment; in addition, in February, Dr. Ernest Ambler became director of the National Bureau of Standards, after serving almost two years as acting director.

The Association of Data Processing Service Organizations (ADAPSO) is planning to move its executive offices from Montvale, New Jersey, to Washington, D. C. in "early 1979."

### SPECIAL REPORT

#### SURVEY OF COMPUTER TRADE ASSOCIATIONS: PART IV (IIA)

The AFIPS Washington Office has conducted a survey of computer-related trade associations (*v.e.*, ADAPSO, CBEMA, CCIA and IIA), summarizing the associations' positions on data processing issues before the Federal government. The results, compiled by Research Associate Pender M. McCarter, is an attempt to review the issues which are perceived as important by industry-oriented groups in the information processing field over the last two years. In this last of four installments [see Part I (ADAPSO), *Washington Report*, 11/77, p. 7; Part II (CBEMA), 1/78, p. 6; and Part III (CCIA), 3/78, p. 9], the Information Industry Association (IIA) is considered with respect to its membership, organization, charter and positions.

Membership/Organization. The IIA is composed of some 115 corporate members engaged primarily in information publishing activities, such as: Auerbach Publishers, Inc the Chase Manhattan Bank; Congressional

Quarterly, Inc.; Control Data Corp.; Dun & Bradstreet, Inc.; Informatics, Inc.; IBM Corp.; International Data Corp.; Arthur D. Little, Inc.; McGraw-Hill, Inc.; the *New York Times* Information Bank; *Newsweek*; Time, Inc.; John Wiley & Sons, Inc.; and Xerox Corp.

President Paul G. Zurkowski directs a professional staff of five in the association's Bethesda, Maryland (Washington Metropolitan Area) Headquarters. Herbert R. Brinberg, American Can Co., is chairman of the board of directors.

Charter. Founded in 1968, the IIA is described as a trade association (1) fostering the development of private enterprise in the information field; (2) creating awareness of and expanding the use of information products, services and systems; (3) monitoring the "state-of-the-art" developments in the creation and marketing of information; (4) identifying existing and "latent needs" for information products, services and systems; and (5) alerting member firms to government, business, and tax-exempt developments affecting the industry.

Positions. IIA's positions on data processing issues before the Federal government are summarized through copies of letters provided by Mr. Zurkowski as well as a review of IIA's newsletter, *Information Action*.

*H.R. 4461, August, 1975.* The Congress should establish "a national policy for science and technology," and oppose the creation of the Federal Information Utilization Corp., planned to replace the National Technical Information Service (NTIS) as a Congressionally-chartered quasi-public/private corporation.

*Scientific and Technical Information, September, 1975.* Congress should support the National Science Foundation (NSF) in management of scientific and technical information.

*Copyright Laws, April, 1976.* The National Commission on New Technological Uses of Copyrighted Works should recommend protection for computer data bases, computer programs and microform composition.

*Copyright Revision Bill, August, 1976.* National Technical Information Service (NTIS) documents should be in the public domain; NTIS should not have the right to copyright Government documents.

*NSF's Division of Science Information, July, 1977.* Congress should insure that the NSF Division of Science Information stresses the "education and training of users and information managers in the . . . means of accessing data."

*'OMB Circular A-76,' July, 1977.* OMB should stress that agencies offering information products and services have the burden of proof in showing a dearth of private sector capabilities before implementing in-house programs.

*Transborder Data Flow, August, 1977.* The U.S. should "take [a] leadership position in support of unrestricted flow of information between nations."

*President's Reorganization Plan, September 1977.* "National Information Policy" should be established within the office of the new Assistant Secretary of Commerce for Communications and Information.

NEXT MONTH'S INFORMATION PROCESSING MEETINGS

[Ed.: The following is excerpted from *AFIPS Master Calendar of Information Processing Meetings*, April, 1978, available without charge from Ms. Diane Stellingwerf, AFIPS Headquarters, 210 Summit Avenue, Montvale, NJ 07645, telephone (201) 391-9810.]

10th ANNUAL ACM SYMPOSIUM ON THEORY OF COMPUTING, May 1-3, 1978, San Diego, California. Contact: Alfred V. Aho, Bell Laboratories, Murray Hill, NJ 07974.

MIDWESTERN COMPUTER EXPO, The Computer Caravan, May 2-4, 1978, Chicago, Illinois. Contact: Mr. Stuart K. Wechert, Jr., The Conference Company, 60 Austin Street, Newton, MA 02160.

FOURTH ANNUAL SPRING COMPUTING CONFERENCE, May 5-6, 1978, Minneapolis, Minnesota. Contact: Dr. Kenneth Brumbaugh, manager, User Services, MECC, 2520 Broadway Drive, St. Paul, MN 55113.

NMA ANNUAL CONFERENCE & EXPOSITION, May 9-12, 1978, Boston, Massachusetts. Contact: John B. Bidwell, Conference Director, National Micrographics Association, 8728 Colesville Road, Silver Spring, MD 20230.

EDP '78, May 9-13, 1978, Milan, Italy. Contact: Mr. William McClore, U.S. Department of Commerce, Washington, DC 20230.

CONFERENCE ON SOFTWARE ENGINEERING, May 10-12, 1978, Atlanta, Georgia. Contact: Mr. Harry Hayman, Conference of Software Engineering, IEEE-CS, P.O. Box 639, Silver Spring, MD 20901.

AEDS 16TH ANNUAL CONVENTION, "Computer Technology: The Educational Catalyst," May 16-19, 1978, Atlanta, Georgia. Contact: Mr. Thomas McConnell, Atlanta Public Schools, 218 Pryor Street, Atlanta, GA 30303.

INFO/CANADA 78, May 17-19, Winnipeg, Manitoba, Canada. Contact: Mr. Leo deFolter, Hudson Bay Company, 77 Main Street, Winnipeg, Manitoba R3C 2R1 Canada.

Production assistance for the *Washington Report* is provided by Linda Martin. AFIPS societies have permission to use material in the newsletter for their own publications; however, when an article appears with an asterisk, clearance must first be obtained from the AFIPS Washington Office. Documents indicated by the symbol "(#)" are available on request to the Washington Office. Requests should specify the date(s) of the *Washington Report* in which the document(s) appeared. Where price is noted, make checks payable to "AFIPS."







*Washington Office:* At the budget hearings, there was also talk of some overlap with the FCC.

*Geller:* That rises constantly, and it's an obvious question . . . [T]he only answer I can make is the one I adhered to there, that the FCC, clearly, should be doing planning. We don't dispute that at all. Because, however, they have to process hundreds of thousands of applications, get involved in daily crises, it's hard for them to do the long range planning. We have no applications to do at all except processing Federal spectrum. But in the policy area, we're not concerned with Tariff A, and what are we going to do about this particular application or that. We just don't have that. And, so we can do the long range planning.

It's important for us to do it. If we don't do it, as I pointed out in the hearing, then it means that when the Executive Branch is called upon to submit its view on the [Communications Act] rewrite process (that's supposed to come up June 1st), we have to say we have nothing to say, we don't have any expertise, we haven't studied, we haven't gone into it. And, you wouldn't want that to happen in transportation or energy. . . .

[T]he Executive Branch is involved in . . . [planning], not just as a large user of telecommunication. We are undoubtedly the largest user . . . the Department of Defense. But, we're involved in it also in antitrust suits. You know the IBM and AT&T antitrust suits profoundly will affect telecommunications and information structure of the country. There ought to be some overall planning there. Suppose you get to consent decree or [a] decree [is] worked out in court, don't you need somebody who is very expert and [who will] say, "here's what will best serve the public interest." I'm sure [Justice's] Antitrust [Division] will supply its own experts; I'm sure the FCC will supply experts; and, we think, there ought to be this overall expertise looking at the whole thing.

*Washington Office:* Something specific, like the Dataspeed tariff, you say that you wouldn't get involved with the tariff.

*Geller:* But the *Computer Inquiry* is terribly important, and we are going to be involved in that. What they do with specific applications is important only as it illustrates the problem that can develop with Dataspeed 40, and so on. I think our interest in that is how do you resolve that . . . [Computers and communications] are coming together; it's very difficult. Do you move toward regulation, deregulation? What do you do about the consent decree? . . . But we'll be involved in those overall questions . . . and not . . . a particular, you know, offering or service. . . .

I think what we're trying to do is assist in establishing the ground rules. It's very difficult for the industry to develop without ground rules, and (as you know) the ground rules are a little muddy now . . . [with] Execunet. Bell would say it doesn't know what it can do either. It has trouble with the Hi/Lo, with this,

And, the ground rules ought to be established so people know what they can do. They ought to operate without long hearings. You don't have established ground rules if you have to hold a 10 year hearing every time something comes in. There should be some way to do it so that the ground rules are there, [and] people know how to operate without bringing [in] an army of accountants and going through a five, six, seven year hearing.



SSA CRITICIZED FOR LACK OF COMPUTER SECURITY; CONGRESSMEN RECOMMEND OTA STUDY OF FBI'S NCIC, FBI SAID TO ISSUE UNAUTHORIZED RFP FOR MESSAGE SWITCHING

"Unauthorized personnel have access to the computer room and tape vault. Magnetic tapes, disk packs, and other property can be removed without proper authorization; and blank and valid Social Security and Medicare cards can be taken from the central computer facility without question. Adequate security procedures have not been established, and Social Security has not made an in-depth study of its security needs with respect to the central computer facility," wrote General Accounting Office (GAO) Associate Director Franklin Curtis recently to Social Security Administration (SSA) Acting Commissioner Donald I. Workman. Mr. Curtis added: "Considering the overall impact Social Security has on millions of Americans, and the results which would occur if its central computer facility's operations were interrupted, we believe that more effective controls and security procedures must be established to protect both Social Security records and property, and the privacy of the American people." The SSA has reportedly implemented 10 of 11 GAO recommendations to improve computer security.

Congressmen Recommend OTA Study of FBI's NCIC. An "in-depth study" by the Congressional Office of Technology Assessment (OTA) of the FBI's National Crime Information Center (NCIC), planned to provide for the exchange of messages between state and local police agencies, has been requested by several Congressmen. According to an article in the March 13, 1978, *Computerworld*, Sen. James Abourezk (D-S.D.), Sen. Birch Bayh (D-Ind.), and Sen. James O. Eastland (D-Miss.) have joined Rep. Peter W. Rodino Jr. (D-N.J.) and Rep. Don Edwards (D-Calif.) in expressing concern about constitutional and privacy issues in the use of NCIC's computerized criminal history files.

The General Services Administration (GSA), which oversees telecommunications procurement for the Federal government, has reportedly criticized the FBI for issuing a request for proposals (RFP) for NCIC message switching. According to the GSA, it had directed the FBI to omit any reference to message switching in the FBI's RFP for new minicomputers.

At press time last month, a meeting was scheduled by the FBI's NCIC Federal Advisory Committee for the purpose of "reviewing and considering security and privacy aspects of the NCIC system."

CONTU SUPPORTS COPYRIGHT PROTECTION FOR COMPUTER DATABASES, OPPOSES PROTECTION FOR COMPUTER PROGRAMS

The National Commission on New Technological Uses of Copyrighted Works (CONTU) recently voted to recommend copyright protection for computer data bases. The entire commission, in a New York meeting last February, upheld a recommendation of the CONTU Data Base Subcommittee (*Washington Report*, 8/77, p. 3) which equated proprietary data bases with telephone books, city directories, and *The Reader's Guide to Periodical Literature*, all qualifying for copyright protection under present law.

However, the commission failed to support the recommendation of the CONTU Software Subcommittee (*Washington Report*, 8/77, p. 8) that copyright protection be extended to computer programs. The Software Subcommittee had equated computer programs with literary works, which are also entitled to copyright protection under the present law. In addition, the subcommittee had noted disadvantages in other forms of protection, such as patents and trade secrets. The Commission is now reportedly considering a new form of protection for computer programs.

PRESIDENT SIGNS EXECUTIVE ORDER IMPLEMENTING TRANSFER OF 'CERTAIN SCIENCE AND TECHNOLOGY POLICY FUNCTIONS' AS PROVIDED FOR IN 'REORGANIZATION PLAN NO. 1 OF 1977'

President Carter recently signed an executive order which implements the "transfer of certain science and technology functions" provided for in *Reorganization Plan No. 1 of 1977* (*Washington Report*, 9/77, p. 1; 10/77, p. 1; and 12/77, p. 1). (*Reorganization Plan No. 1* dealt with the reorganization of the Executive Office of the President, including bodies concerned with telecommunications, computers and information policies.)

Under the executive order, various Office of Science and Technology Policy (OSTP) functions are transferred to the director of the National Science Foundation (NSF), including the production of a national research and development assessment, as well as a five-year outlook for science and technology. In addition, the executive order (signed February 24th) included the creation of a new Intergovernmental Science, Engineering, and Technology Advisory Panel, as well as a new Federal Coordinating Council for Science, Engineering and Technology to advise the director of OSTP. Finally, the executive order provides for the OSTP director to advise the director of the Office of Management and Budget "with respect to the needs of state, regional, and local governments which may be assisted by the utilization of science, engineering, and technology research and development results."

AFIPS IN WASHINGTON

NYBORG JOINS CCIA; CHICAGO ATTORNEY, FORMER PROGRAMMER/SYSTEMS ENGINEER, ALEXANDER D. ROTH, CHOSEN AS NEW WASHINGTON OFFICE DIRECTOR

A Chicago lawyer concentrating in contracts, products liability, labor and antitrust law as well as a former programmer/systems engineer, Alexander D. Roth, last month accepted an offer to become director of the AFIPS Washington Office. Mr. Roth, 31, a graduate of Stanford University and the University of Michigan Law School, succeeds former Washington Office Director Philip S. Nyborg, who has resigned from AFIPS to become vice-president and general counsel of the Computer and Communications Industry Association (CCIA), Arlington, Virginia.



WASHINGTON DIRECTOR  
ALEXANDER D. ROTH

Prior to joining AFIPS, Roth was a member of the law department of Swift & Co., Chicago, where his practice included matters before such Federal agencies as the Equal Employment Opportunities Commission (EEOC), the Department of Labor, the Federal Trade Commission (FTC), the Department of Agriculture, the National Labor Relations Board (NLRB), the Department of Justice, the Food & Drug Administration (FDA), and the Interstate Commerce Commission (ICC). He has also served part-time as director of the Law School Computer Facility at the University of Michigan, providing consulting and computer services for faculty research projects and law school classes. At that time, Roth also participated as a member of an interdisciplinary research team seeking ways to apply computer technology to the criminal courts and prosecutor's office in Detroit. In addition, he has researched legal aspects of foreign trade, tax, corporations, and trusts for Baker & McKenzie, Chicago. Finally, Roth has served as a programmer, systems engineer, and technical representative in IBM's Service Bureau Corp., Data Processing Division, and Systems Development Division.

"We are pleased to welcome Alexander Roth as the new director of the AFIPS Washington Office," said Keith W. Uncapher, chairman of the AFIPS Washington Activities Committee, "and we also wish Phil Nyborg every success in his challenging new position with CCIA. Philip is to be commended on his three years of outstanding service to AFIPS involving a host of activities and projects of major importance to AFIPS constituent societies, and to a wide range of governmental agencies and groups. Mr. Roth brings impressive credentials to his new position with AFIPS, and we are confident that he will provide strong leadership in our various Washington activities."

Prior to assuming his new duties with CCIA, Mr. Nyborg stated: "It is with genuine regret that I now leave AFIPS, but (also) it is with a sense of optimism for the Federation's obviously bright future. I hold AFIPS and the people associated with it in the very highest regard. It has been a privilege to be a part of it all."

In 1974, as an AFIPS consultant, Nyborg led the AFIPS Washington Activities Study Group which later recommended creation of the Washington Office. From 1975-78 he has overseen a February, 1976 AFIPS White House Conference; a November, 1976 FCC Planning Conference on Computer Communications; a 1977 panel commenting on reorganization of Federal computer-related groups; and a 1977 panel submitting recommendations for a first year Office of Technology Assessment (OTA) program in telecommunications, computers and information policies.

#### AFIPS WHITE HOUSE CONFERENCE SCHEDULED THIS MONTH

Approximately 70 AFIPS Board members, officers, constituent society presidents, and other "senior individuals" are expected to attend an AFIPS Conference on White House and Congressional Information Systems, scheduled by the AFIPS Washington Office, May 2, 1978, 2:00 p.m. to 5:00 p.m., in the Presidential Press Briefing Room of the Old Executive Office Building.

The White House presentation, led by Mr. Richard Harden, special assistant to the President for information management; Mr. Edward Zimmerman, special assistant to the director, Office of Administration, Executive Office of

the President (EOP); and Mr. Carl Calo, assistant director for Information Systems, Office of Administration, EOP; will discuss aspirations, requirements, and/or plans of White House information systems.

The Congressional presentation, led by Rep. Charles G. Rose (D-N.C.), chairman of the House Policy Group on Information and Computers; Mr. Neal Gregory, staff director for the House Policy Group on Information and Computers; Mr. Boyd Alexander, director, House Information Systems; and Mr. John Swearingen, director of Information Systems for the Senate; will discuss existing systems, such as LEGIS and SCORPIO, as well as other information systems now under consideration. The conference will be detailed in the June, 1978, *AFIPS Washington Report*.

#### AFIPS PRIVACY COMMITTEE MEETS WITH REP. PATTISON OF NEW YORK

On March 16th, the AFIPS Privacy Committee, chaired by Dr. Lance J. Hoffman, associate professor, Department of Electrical Engineering & Computer Science, George Washington University; met informally with Rep. Edward W. Pattison (D-N.Y.), who has assumed former Rep. Edward I. Koch's role as privacy advocate with Rep. Barry Goldwater, Jr. (R-Calif.). Mr. Koch, now mayor of New York, and Rep. Goldwater have introduced omnibus privacy legislation covering both the private and government sectors.

Attending the meeting (arranged by the AFIPS Washington Office) were, in addition to Dr. Hoffman: Dr. Gordon C. Everst, College of Business Administration, University of Minnesota; and Mr. Robert Smith, publisher, *Privacy Journal*. According to Hoffman, Mr. Pattison and the committee discussed subjects of a general nature, including the role of the AFIPS Privacy Committee in providing technical information to the Government.

#### AFIPS' DPMA CONVENES PROFESSIONALS IN THE 'INFORMATION PROCESSING ARENA'

The Washington Office of the Data Processing Management Association (DPMA), third largest of the AFIPS 15 constituent societies, April 4th convened professionals in the "information processing arena" concerned with monitoring information policy. Congressional and General Accounting Office (GAO) staff, association and industry officials, trade press, and private attorneys were represented. AFIPS Research Associate Pender M. McCarter attended the meeting for the AFIPS Washington Office.

Philip S. Manuel, investigator with the Senate Committee on Governmental Affairs, provided a synopsis of the current status of S. 1776, the *Federal Computer Systems Protection Act of 1977*. Mr. Manuel announced that hearings are imminent on the legislation, and solicited comments from individuals in the information processing field.

DPMA Washington Office Director Robert S. Willard predicted additional sessions of this kind for the future.

NEWS BRIEFS

The Department of Justice is investigating licensing practices in the microprocessor industry which may be used "to foster tie-ins with possible attempts to monopolize"; according to press reports, the investigation, which began last year, involves up to six firms.

House hearings on information policy and ADP procurement are scheduled for this spring or summer, according to AFIPS Washington Office sources.

Higher computer sales and lower computer rentals than expected by many Wall Street analysts were reported last month by IBM Corp., in its first breakdown of computer revenues, filed with the Securities and Exchange Commission, according to the April 5, 1978, Wall Street Journal.

In March, the President's Special Assistant for Consumer Affairs, Esther Peterson, expressed the Carter Administration's support for S. 2546, the EFT Consumer Protection Act; according to Mrs. Peterson, EFT consumer protection issues should be considered in advance of more controversial EFT issues.

An inquiry into automatic dialing systems, used with recorded sales announcements, was initiated in March by the Federal Communications Commission (FCC); also, in March, H.R. 11342 was introduced "to prohibit unsolicited commercial telephone calls made entirely by automatic equipment"; both the House and Senate have already scheduled hearings this spring on similar legislation.

Full hiring and firing powers have been granted to Office of Technology Assessment (OTA) Director Russell W. Peterson by the OTA Congressional Board.

READER SURVEY

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