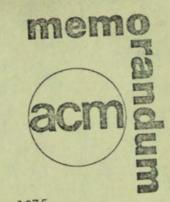
# Association for Computing Machinery

1133 AVENUE OF THE AMERICAS NEW YORK, N.Y. 10036 (212) 265-6300



December 31, 1975

To: Executive Committee Paul Armer Fred Harris

From: Helen Cohen Hel-

Re: Terms of Office of ICCP Representative

An error was made in the Board and Committee Reference Guide dated September 15, 1975 in the term of office of Paul Armer, Representative to ICCP. The term expires November 1976 rather than May 1976 as printed in the Reference Guide. This fact has been discussed with Paul Armer and he agrees that his term expires November 1976.

HC/lf

DATE: December 31, 1975

TO: Paul Armer

FROM: Gardner Lindzey

Saulen

SUBJECT: Final Report for POSTS

Thinking about the final report on POSTS, it occurs to me that we should perhaps get together to plan the most appropriate timing for the final report in order to meet all our obligations in a satisfactory fashion. I would hope that we could have a draft of the report to present at the May meeting of our Board. This is all the more important because as I understand it, your arrangement with the Center terminates at the end of June 1976. PAUL N. MCCLOSKEY, JR. 12TH DISTRICT, CALIFORNIA

COMMITTEE ON GOVERNMENT OPERATIONS AND COMMITTEE ON MERCHANT MARINE AND FISHERIES Congress of the United States House of Representatives Mashington, D.C. 20515 205 CANNON BUILDING WASHINGTON, D.C. 20515 (202) 225-5411

DISTRICT OFFICE: 305 GRANT AVENUE PALO ALTO, CALIFORNIA 94306 (415) 326-7383

DEC 1975

Mr. Paul Armer 105 Hillside Avenue Menlo Park, California 94025

Dear Paul:

I know this is a rather large Christmas card (an emolument of office, courtesy of the U.S. government), but I hope it will remind you to write to me once in a while next year.

It is so much nicer to hear from my friends than from my critics, although I hope you will not hesitate to criticize when I am not living up to your expectations.

Best Wishes of the Season,

Paul N. McCloskey, Jr.

29 December 1975

Dr. Philip S. Nyborg AFIPS 2100 L Street N.W., Suite 420 Washington, D.C. 20037

Dear Phil:

Copy to Elvouro o filevender file HR ZIY

> This concerns your memo of 5 December 1975 re H.R. 214. First of all, I am willing to participate in anyway you think it would be appropriate. I have no plans to be in the Washington area in the next few months but could travel if there was a need and if support were available. However, I don't think I have anything to say of great importance. And what I do have to say can easily be said by you or anyone else. A resume is enclosed.

As a point of philosophy, you'd like to avoid rapid obsolescence of the legislation due to technological change. For example, in several places there are references to "wire or oral communications" (e.g. pages 4 and 5). Does this mean that it's okay to intercept microwave, radio, or laser transmissions? I hope not. Why not do away with modifiers like "wire" and "oral" and say

The legislation as written applies only to "an officer, agent, or employee of the United States or any department or agency thereof." What about private detectives, citizens, employees of state and local government, and employees of non-government organizations?

I find myself puzzled by the language which begins on line 11 of page 8. I'm sure there is a reason but to one naive in legislative gAb, it seems strange.

I'll be happy to help in any way I can. Did you get copies of my correspondence with Senator Percy?

Best regards.

Paul Armer Fellow

PA:mt cc: Prof. Keith W. Uncapher

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IBM Japan, Ltd.

2-12, Roppongi 3-chome Minato-ku, Tokyo 106, Japan Telephone: (03) 586-1111 Cable Address: Inbusmach

December 24, 1975

Prof. Paul Armer 105 Hillside Ave. Menlo Park, California 94025 U. S. A.

Dear Prof. Armer,

It was a great benefit and pleasure for both of the members of IBM User's Association and us to have had an opportunity to hear your presentation on the technological obsolescence here in Japan.

Through your presentation in Osaka, Nagoya, and Tokyo, about 500 IBM users, mostly management, attended.

They were deeply impressed with the issue on technological obsolescence you brought up in your presentation.

It is obvious that you pointed out an aspect which Japanese management did not concern with in the past in the area of technical management, and urged them to consider it in their management behaviour.

Since your presentation, we have had many positive response from IBM users, that prove, we think, the success of your speech.

I would like to appreciate all your support to our activities in Japan and wish you a prosperous new year.

Yours very truly,

11/11/2000

M. Matsunaga

MM/mk



**IBM World Trade Asia Corporation** 

Tokyo Nissan Building, 2-31. Roppongi 6-chome, Minato-ku, Tokyo 106, Japan Telephone: 403-4131

December 4, 1975

Dr. Paul Armer 105 Hillside Ave. Menlo Park, California 94025 U.S.A.

Dear Dr. Armer,

I am sending this letter to your home so you will have this information regarding the handling of your expenses upon your return.

Expenses should be converted to dollars so that you can be paid in dollars. A letter showing your expenses and stipend should be sent to:

> E. Dembner Industry Manager Banking/Securities IBM World Trade Americas Far East Corporation Town of Mt. Pleasant Route 9 North Tarrytown, New York 10591

A check will then be sent to you. Internally an Inter-Company transfer will be made to IBM Japan. The purpose for this approach is to prevent sending dollars out of Japan which is tightly regulated by the Japanese Government.

Since we are nearing year end and would like to have these expenses entered into 1975 accounting, your prompt attention to this matter will be greatly appreciated. Many thanks for your efforts on behalf of IBM Japan.

Abel Molter

Shel Molter

SM/ns cc: Mr. E. Dembner Mr. S. Yoshizawa - IBM-Japan IBM World Trade Asia Corporation

Tokyo Nissan Building. 2-31, Roppongi 6-chome, Minato-ku, Tokyo 106, Japan Telephone: 403-4131

November 14, 1975

Dr. Paul Armer 105 Hillside Ave. Menlo Park, California 94025 U. S.A.

Dear Dr. Armer,

We are delighted that you will be available to come to Japan the week of December 8. This will be a stimulating and exciting experience for the Japanese and I hope you find it to be the case also.

My wife will make plans to show your wife a bit of Japan once we know when to expect her. The culture here is very different from what one knows in the States. As a result, a trip to Japan can be both fun and educational.

Your stipend of \$2,000 and your expenses will be paid from our office in Mt. Pleasant as there is a control over funds leaving Japan.

The agenda for your visit is being developed this week. It will be sent to you when completed.

Trends in Data Processing in Japan as I see them are:

- 1. Japanese firms spend a larger percentage of the Sales Dollar on plant and equipment. Therefore they are advanced in the areas of process automation. The result is tremendous productivity gains.
- The movement to on line systems is gaining momentum, particularly in the banking area where capital is available.
- 3. Japanese business is moving off shore, particularly where pollutants or raw materials are involved. As a result, high speed data transmission by satelite will be a future trend.

November 14, 1975 Dr. Paul Armer Page 2

- 4. Minis, which are justified on the basis of a stand alone application are proliferating. Maintaining the many programming systems and merging the data already captured into a single data base is a problem.
- 5. Centralized data bases are in their infancy, but as they are better understood, management is understanding slowly the implications of the use of computers as a management decision making tool.
- 6. The demands on software are expanded exponentially. More complex systems with more automatic features that are easier to use are being demanded. These developments come slowly as the complexity impedes development.

These are some of my observations. Hope they are useful to you.

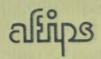
Sincerely,

Shelly Molter

Shelby Molter Manager of Ind. Operations Support - Production Industries

SM/kf

American Federation of Information Processing Societies, Inc. State University of New York at Buffalo Dept. of Computer Science 4226 Ridge Lea Road Amherst, N.Y. 14226 16-831-1351



Anthony Ralston President

December 24, 1975

Mr. Paul Armer Center for Advanced Study in Behavioral Sciences 202 Junipero Serra Blvd. Stanford, CA. 94305

Dear Paul:

I have chosen the general subject of "Science and Politics" for my AFIPS Presidential Address at the NCC in New York next June. Although I shall focus on the affect of questions in this area on the obligations and opportunities of scientific and professional societies, I may well give a rather more broadly based talk. If you have

> - any suggestions on particular points I should make in such a talk or - any literature which you think would be useful to me in preparing the talk

I would very much appreciate hearing from you.

Sincerely,

Anthony Ralston

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Set yourd Report 3/1/76



1976 National Computer Conference June 7-10 New York Coliseum

For Immediate Release

Contact: T. C. White 201/391-9810

### AFIPS PRESIDENT DR. ANTHONY RALSTON WILL ADDRESS 1976 NATIONAL COMPUTER CONFERENCE IN NEW YORK

MONTVALE, N.J., December 23 -- Dr. Anthony Ralston, President of the American Federation of Information Processing Societies, Inc. (AFIPS), will deliver a major address at a Special Plenary Session on Tuesday, June 8 during the 1976 National Computer Conference in New York City.

The AFIPS' Presidential Address will take place at 12:30 p.m. in the Grand Ballroom of the New York Hilton Hotel. The '76 NCC, sponsored by the Federation and four of its participating organizations, will be the year's largest gathering of computer professionals, applications specialists, data processing users, business managers, administrators, government officials, and educators.

In his address, Dr. Ralston will analyze the growing interrelationship and interdependence of science and government. Focusing on computer science and information processing, Dr. Ralston will discuss the prerogatives, duties and obligations of the scientist and technologist; the role and responsibilities of their professional societies and associations; and the need for a greater understanding of, and involvement in, international issues related to information processing.

"While it may be comforting to submerge ourselves in our technology and its application," Ralston commented, "we have long since passed the point where the scientist, technologist or applications specialist can afford the simplicity of such tunnel

### (more)

vision. Among recent developments which underscore this point are the appointment of Federal commissions in privacy and electronic funds transfer systems."

"It is evident that the public and government at all levels have an increasing and legitimate interest in the uses of information processing technology, and therefore, in the practitioners of information science and technology. The marriage of information processing, politics, and people places such topics as professionalism, codes of ethics, good conduct, measures of proficiency, public protection, and social/ political awareness in the spotlight. How our profession responds to this challenge should be of great importance to all of us," Ralston stated.

In addition to his position as President of AFIPS, Dr. Ralston is Professor and Chairman of the Department of Computer Science at the State University of New York (SUNY) at Buffalo, and is the immediate past President of the Association for Computing Machinery. Prior to joining SUNY in 1965, he was Professor and Director of the Computing Center at Stevens Institute of Technology. Before entering the academic community, Dr. Ralston was a member of the Technical Staff and Supervisor at the Bell Telephone Laboratories.

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12/23/75



### CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Boulevard • Stanford, California 94305

Telephone (415) 321-2052

23 December 1975

TO: Jane Kielsmeier, Carol Treanor, Kat Kohlsaat

FROM: Paul Armer Daul

SUBJECT: Change of Address for Joe Weizenbaum

In a recent conversation with Joe Weizenbaum, he asked me to to ask you to change the address you are using for him from Harvard University (he's back at MIT) to his home address. It is:

> Professor Joseph Weizenbaum 737 Old Marlboro Road Concord, Massachusetts 01742

22 December 1975

Professor James McMartin California State University Department of Psychology Northridge, California 91324

Dear Professor McMartin:

This is in response to your invitation to deliver an address to the Western Psychological Association Convention. I am pleased to accept. My title will be "Obsolescence of Knowledge: Problems for Psychology." Would you like an abstract? If it doesn't make any difference to you, I'd prefer April 9. Either April 10 or 11 would be my second choice. But April 8 will be okay.

I'm sorry that this reply was delayed -- this is my first day back in the office after two weeks in Japan.

If you list titles in the program, just use "Fellow" for me. If you have lots of room, list "Fellow and Coordinator, Program on Science, Technology & Society."

I'm curious, who recommended my name to you?

Sincerely yours,

Paul Armer

PA:mt

1-1



# Western Psychological Association

CONVENTION HEADQUARTERS FOR 1976 MEETINGS:

Department of Psychology California State University Northridge, California 91324 213-885-1200

April 8-11, 1976 Marriott Hotel Los Angeles, Calif.

### **Convention Personnel**

Managers: Nora Weckler & Patricia Keith-Spiegel

Program: Bill Wilsoncroft & Jim McMartin

Films: Richard W. Smith & Mel Hoffman

Exhibits: Mark Sanders

Audio Visual Equipment: Roy Griffiths

Registration: Helen Giedt & Harold Giedt

Placements: Barbara Tabachnick

Public Information: Linda S. Fidell

Social, Housing & Child Care: Dee Shepherd-Look

Volunteers: Roger Moss Printing: Richard F. Docter

#### **WPA Officers**

President: Richard C. Atkinson

President-Elect: Seymour Feshback

Past-President: Eleanor Maccoby

Northern Representative: Irwin G. Sarason

Southern Representative: Patricia Keith-Spiegel

Secretary-Treasurer: Ronald E. Smith Dr. Paul Armer Co-ordinator, Program on Science, Technology & Society Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Blvd. Stanford, California

Dear Dr. Armer;

December 9, 1975

The Program Committee of the 1976 Western Psychological Association Convention would like you to deliver an address to the convention on a topic of your choice. The convention will be held at the Marriot Hotel in Los Angeles on April 8 - 11. WPA is operating on a miniscule budget but we are able to offer you \$100 to defray your basic expenses.

Could you please let us know of your decision by December 20, if at all possible? Also, if you are willing to address the convention we would need to know the title of your talk before we send the program to the printer in early January. We would schedule a one hour block for your address.

Thank you for your consideration of this offer and we hope you will accept it!

Sincerely,

James Mc Martin

James McMartin, Ph.D Program Co-Chair

Obs. of Knowledge; die Challege for Psychology

22 December 1975

Dr. William A. Blanpied, Head Division of Public Sector Programs American Association for the Advancement of Science 1776 Massachusetts Avenue Washington, D.C. 20036

Dear Dr. Blanpied:

This is in response to your invitation of 12 December 1975 to attend the meeting at Stanford on 16-17 January 1976 to discuss Science and Public Policy. I would like to participate. However, I have a previous commitment for the morning of 16 January. If that isn't an obstacle, I'd be pleased to attend that afternoon and Saturday morning.

Sincerely yours,

Paul Armer Fellow

PA:mt

## American Association for the Advancement of Science

1776 MASSACHUSETTS AVENUE, NW, WASHINGTON, D. C., 20036

Phone: 467-4400 (Area Code 202) Cable Address: Advancesci, Washington, D. C.

12 December 1975

### Dear Colleague: Dr. Armer :

On behalf of William D. McElroy, who will become AAAS President on 1 January, I have the honor to invite you to participate in a small, informal meeting of California social and natural scientists at Stanford on 16-17 January 1976 to discuss the development of a versatile AAAS Science and Public Policy Program. A list of topics to be discussed at the meeting as well as details regarding its exact location will be forthcoming next month. However, we anticipate starting about 9:30 on Friday morning and adjourning prior to lunch on Saturday.

The Stanford meeting is being arranged under the auspices of a Slean Foundation Planning Grant which is being used primarily to explore the feasibility of several science policy-related activities. Some of these have been discussed for some time by the AAAS Science and Public Policy Committee. Others have emerged as a result of our Regional Seminar Program. It is our intention to develop a program that will permit the AAAS to work closely with other major scientific societies on appropriate science policy issues, and that will develop stronger working relationships between the scientific community and science policy practitioners. Since such a program must of necessity be based upon the active support of social and natural scientists throughout the country, we are particularly anxious to have as much input as possible from potentially interested people in California during the planning process.

I would be grateful to have an early and I hope positive response to this invitation. In addition, I would welcome any suggestions for discussion topics you would care to make. They can be submitted to me either orally or in writing. My telephone number is: (202) 467-4310.

I hope to see you in Stanford next month.

Sincerely,

Villiam a. Banned

William A. Blanpied, Ph.D. Head Division of Public Sector Programs

enclosures; a) Invitation list b) C and EN article c) Blanpied "Working Paper #1" WAB/ral

### THE PENNSYLVANIA STATE UNIVERSITY

CONTINUING EDUCATION 219 Grange Building UNIVERSITY PARK, PENNSYLVANIA 16802

December 19, 1975

Planning Studies

Dr. Paul Armer Center for the Study of Behavioral Science Juniper Sierra Blvd. Stanford University Stanford, California 94305

Dear Paul:

I am writing to inquire if the study you were working on while at Harvard on EDP personnel in 20 firms and the questionnaire data on obsolescence has been published. I would like to include this information on a proposed publication.

I was in Iran last year as a consultant and then spent three months on a lecture tour in eight Asian countries.

Cordially,

Samuel S. Dubin, Ph.D. Professor of Psychology

ANSWERE

SD:eh



American Federation of Information Processing Societies, Inc. 210 Summit Avenue, Montvale, New Jersey 07645

201-391-9810

For Immediate Release

### PAUL ARMER TO CHAIR SPECIAL AFIPS COMMITTEE ON ELECTRONIC FUNDS TRANSFER SYSTEMS

Committee to Provide Technical Expertise on EFTS and Related Public Policy Issues

MONTVALE, N.J., December 19 -- Paul Armer, Fellow and Program Coordinator on Science, Technology and Society for the Center for Advanced Study in the Behavioral Sciences, has been named as Chairman of a Special Committee on Electronic Funds Transfer Systems (EFTS) by the American Federation of Information Processing Societies, Inc.

The Federation, with headquarters in Montvale, New Jersey, is comprised of fifteen national, nonprofit professional societies which represent more than 120,000 individuals involved in the development of computer technology and its application in the public interest.

"The Special Committee on Electronic Funds Transfer Systems," said AFIPS President Dr. Anthony Ralston, "marks a major commitment by the Federation to assure that pertinent technological information is made available to the Federal Government and to other groups concerned with the increasing usage of automated transactions. The Committee, in cooperation with the AFIPS Washington Office, will provide a reservoir of expert testimony and counsel on the use of computers and related communications techniques in all areas involving EFTS. It is also expected to play a key role in making available witnesses and related testimony on the present and potential social impacts of such systems -- although in this area individuals will be speaking as private citizens rather than as official spokesmen for the Federation."

"We are disappointed," Ralston added, "that the recently appointed National Commission on Electronic Funds Transfer does not include a representative from the information

processing community. It is our hope that the AFIPS Special Committee, under Paul Armer's leadership, can help fill what we believe to be a major void in assuring that various policy-making bodies have expert testimony at their disposal."

Mr. Armer succeeds Dr. Bernard A. Galler of the University of Michigan as Chairman of the Special Committee. Because of the nature of its activities, the Committee will serve in an advisory capacity to the AFIPS Washington Office and to the AFIPS Washington Activities Committee in providing information to government agencies and Congressional staffs.

In addition to his activities at the Center for Advanced Study in the Behavioral Sciences, Stanford, California, Armer is a lecturer in computer science at Stanford University. Prior to joining the Center in 1972, he was a Research Associate in the Program on Technology and Science at Harvard University and a lecturer in the Harvard School of Business. Previously, Armer was Director of the Stanford Computation Center and for ten years served as Head of the Computer Sciences Department at the RAND Corporation where he was also a member of the Corporate Management Committee.

A prolific author and a member of various professional groups, Armer has appeared as a witness before a number of governmental bodies. Most recently, on June 23 Armer testified on "Computer Technology and Surveillance" at hearings held jointly by the Subcommittee on Constitutional Rights of the U.S. Senate Judiciary Committee, and the Subcommittee on Science and Technology of the Senate Committee on Commerce. Armer has also served as a consultant to the Presidential Commission on Technology, Automation and Economic Progress, and to the Warren Commission.

Armer is a member of the Board of Directors of the Institute for the Certification of Computer Personnel and is a past president of AFIPS. He serves on the Founders Committee for the Institute for the Future and is a member of the Association for Computing Machinery, the Institute of Electrical and Electronic Engineers, the American Association for the Advancement of Science, and the New York Academy of Sciences.

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CROWN QUADRANGLE STANFORD, CALIFORNIA 94305

December 12, 1975

Mr. Paul Armer Center for Advanced Study in the Behavorial Sciences 202 Junipero Serra Boulevard Stanford, California 94305

Dear Mr. Armer:

Many thanks for your thoughtful letter suggesting a candidate for the deanship of the School of Law. The Committee did consider your suggestion but had previously determined that the needs of our school in the next few years dictate a search for someone who has been engaged exclusively in academic law for the last few years - and it is that track on which we are now operating.

Again, many thanks for your letter.

Sincerely,

Marc A. Franklin Professor of Law Chairman, Search Committee for the Dean of the School of Law

MAF:skdf

### DATA PROCESSING MANAGEMENT ASSOCIATION



### WESTERN COMPUTER CONFERENCE & EXHIBITS

P. O. Box 7953 San Francisco, California 94120

December 9, 1975

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Blvd. Stanford, CA 94305

Dear Mr. Armer:

Having closed our Western Computer Conference which was attended by over 300 persons, we would like to express our sincere thanks for your very valued participation.

Spontaneous responses from participants, coming from seven western states, also Alaska, Hawaii, Alberta and British Columbia, expressed approval of the subjects offered, the educational quality of the seminar content and the excellent manner in which the topics were presented. As the continuing education of our members is a principal function of D.P.M.A., your excellent presentation on outlining solutions to prevent obsolescence and ways to self-assessment was a greatly appreciated contribution toward that goal.

Of even greater importance was the special way in which you projected your knowledge by establishing a communication between you and the audience of "sharing" with them instead of "lecturing" to them. Also, you offered the opportunity to acquire fresh ideas, useful suggestions and practical solutions. The enthusiasm generated in your audience is a testimony to the immense value of your contribution to the computer and information processing field. Without this, the success of our conference could not have been secured.

In grateful appreciation,

Sincerely,

Louis F. Wayers Chairman

Herbert B. Laffor

Herbert B. Safford, CDP Co-Chairman



### NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA 93940

COMPUTER SCIENCE GROUP

NC4(72)/dkj 5 December 1975

Mr. Paul Armer Fellow Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Blvd. Stanford, California 94305

Dear Mr. Armer:

We have recently received your letter and resume' indicating your interest in being considered as a candidate for the position we advertised in the ACM Communications. We are very thankful for your interest.

The Naval Postgraduate School has graduate programs in engineering, sciences, and management. In the Computer Sciences, we have Master's Degree programs in Computer Science and Computer Systems Management. In addition, the Computer Science Group gives courses to all the other programs on campus.

The School has excellent computing facilities. The IBM-360/67 is the central service computer. The Computer Laboratory consists of a Hybrid analog-digital system, a PDP 11/50, a microcomputer laboratory and a to-be installed Burroughs D machine.

The instructional and research activities are strongly related to the Navy environment: Signal Processing and Analysis, Tactical Systems Design, Management of Information Processing Systems.

The Search Committee will review all of the applications we receive and recommend to Provost Jack R. Borsting a selection of individuals who will be invited for interviews during January and February.

I shall write to you again after the Search Committee's recommendations have been made.

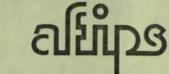
If you have any further questions, do not hesitate to contact me.

Sincerely yours,

R. Kodres UNO R. KODRES

Acting Chairman Computer Science Group

American Federation of Information Processing Societies, Inc.



Reply to:

Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, California 94305

3 December 1975

TO:

Members, Friends and Advisors of the AFIPS Special Committee on Electronic Funds Transfer Systems

FROM: Paul Armer

As some of you know, Bernie Galler has resigned as Chairman of the committee and I have been appointed Chairman. Bernie resigned because of the pressures of new responsibilities at the University of Michigan. Fortunately for the committee, he has agreed to stay on as a member.

Some of you may not even be aware of the existence of the committee. I have not been able to find a charter for it--if any of you know of the existence of one, I'd like to have a copy. None the less, I have a fairly clear idea of what I think we should do. As you know, after dragging his feet for almost a year from the time the legislation establishing the EFTS Commission was passed, President Ford appointed the members of the commission early in October. Former Republican Representative William J. Widnall of New Jersey was appointed chairman and has, I believe, been confirmed by the Senate. (Rumor has it that Widnall has agreed to take the job for only a few months and will be replaced by George W. Mitchell, vice chairman of the Board of Governors of the Federal Reserve System.) There are a total of twenty-six members of the commission--not one of them with an information processing background. To be fair, many of the members are members on an ex-officio basis; e.g. the Secretary of the Treasury. But there were five public members and seven representatives of the financial community to be appointed.

Returning to a charter for our committee, I believe we should offer to put on a dog and pony show for the commission. As an AFIPS committee we will be saying that we represent the information processing profession. Therefore, I feel that our briefing to the EFTS Commission should focus on the technology and where it is going. I envision a presentation on computer and communications technology in general, another on the technology of hardware specific to EFTS, another on security and a final one on information processing issues. I see this as a one-shot effort, after which the committee may become rather inactive. I would anticipate offering to assist the Commission with questions and issues which they feel we might help with. It is conceivable that if they ask for a substantial effort, they might offer to pay for our services. If they ask for help or if we see things we believe we should do, we'll be active.

#### Page Two

If not, we'll stand ready to help and decide on our future status some time hence. We may wish to publish the content of our dog and pony show.

This memo is addressed to "members, friends and advisors" because some of you have been members for some time and some have not. To those of you who have been members, I want to ask you to continue as a member. To those of you who are not, I want to ask you to become a member if you wish. If you don't want to become a member for some reason (e.g., you feel it would present a conflict of interest), I would like to ask you to be a friend and advisor to the committee and help us.

To be specific, from all of you I would like to learn of your interest in being a member or friend of the committee. I would like to have your thoughts on the charter of the committee. How do you feel about the program I have outlined? Are there other things we should be doing? (For example, putting on sessions at NCC's and elsewhere? Or some other activity of an educational nature? Or?)

I would like to have suggestions as to who would be good briefers for:

- 1. computer and communications technology in general
- 2. technology specific to EFTS
- 3. security
- 4. information processing issues.

I would especially like names for #2 and #3.

I would like for each of you to tell me what you think the information processing issues re EFTS are. (For example, should the communications network be unique to EFTS or a general purpose one? Privacy is not an information processing issue, security is.) I'd like, if you can, some discussions of the pros and cons of each issue, the names of people who are experts on it and references if you know of any. What I have in mind is something similar to the "A Problem-List of Issues Concerning Computers and Public Policy" by Dan McCracken and ACM's Committee on Computers and Public Policy, which appeared in the <u>Communications of the ACM</u>, September 1974 and May 1975. Some of the issues would receive greater emphasis in our briefing to the

I'm aware that I'm asking for a fair amount of work from you. And I'm aware that you are all very busy. Do what you can. If you've previously published something, underline what you think is pertinent for the committee and ship it to me. But do let me hear from you. If you can't write, phone. If I don't hear by January 10, I'll assume that I won't be hearing from you.

HAPPY HOLIDAY AND MAY 1976 BE A GREAT YEAR FOR YOU

AND YOURS

thank

American Federation of Information Processing Societies, Inc. 210 Summit Avenue, Montvale, New Jersey 07645

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201-391-9810



December 2, 1975

Mr. Paul Armer Program Coordinator Science, Technology and Society Program Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Stanford, CA 94305

Dear Paul:

Attached as promised is a proposed two-page news release covering your appointment as chairman of the special AFIPS Committee on Electronic Funds Transfer Systems. I have reviewed this with Tony, and with your blessing, we will get this out to the media. In addition, I'll send a copy to Phil Nyborg for inclusion in the AFIPS Washington Report.

As you'll note, we're targeting this for release on December 10. If I could have your comments by the end of the week, it would be most helpful.

All the very best.

Cordially,

Thomas C. White

Director Communications

TCW/rmt Attachment cc: Dr. A. Ralston w/attachment Dr. R. Rector

hiddenen

American Federation of Information Processing Societies, Inc. 210 Summit Avenue, Montvale, New Jersey 07645

For Immediate Release

201-391-9810

### PAUL ARMER TO CHAIR SPECIAL AFIPS COMMITTEE ON ELECTRONIC FUNDS TRANSFER SYSTEMS

Committee to Provide Technical Expertise on EFTS and Related Public Policy Issues

MONTVALE, N.J., December 10 -- Paul Armer, Fellow and Program Coordinator on Science, Technology and Society for the Center for Advanced Study in the Behavioral Sciences, has been named as Chairman of a Special Committee on Electronic Funds Transfer Systems (EFTS) by the American Federation of Information Processing Societies, Inc.

The Federation, with headquarters in Montvale, New Jersey, is comprised of fifteen national, nonprofit professional societies which represent more than 120,000 individuals involved in the development of computer technology and its application in the public interest.

"The Special Committee on Electronic Funds Transfer Systems," said AFIPS President Dr. Anthony Ralston, "marks a major commitment by the Federation to assure that pertinent technological information is made available to the Federal Government and to other groups concerned with the increasing usage of automated transactions. The Committee, in cooperation with the AFIPS Washington Office, will provide a reservoir of expert testimony and counsel on the use of computers and related communications techniques in all areas involving EFTS. It is also expected to play a key role in making available witnesses and related testimony on the present and potential social impacts of such systems -- although in this area individuals will be speaking as private citizens rather than as official spokesmen for the Federation."

"We are disappointed," Ralston added, "that the recently appointed National Commission on Electronic Funds Transfer does not include a representative from the information

processing community. It is our hope that the AFIPS Special Committee, under Paul Armer's leadership, can help fill what we believe to be a major void in assuring that various policy-making bodies have expert testimony at their disposal."

-2-

Mr. Armer succeeds Dr. Bernard A. Galler of the University of Michigan as Chairman of the Special Committee. Because of the nature of its activities, the Committee will serve in an advisory capacity to the AFIPS Washington Office and to the AFIPS Washington Activities Committee in providing information to government agencies and Congressional staffs.

In addition to his activities at the Center for Advanced Study in the Behavioral Sciences, Stanford, California, Armer is a lecturer in computer science at Stanford University. Prior to joining the Center in 1972, he was a Research Associate in the Program on Technology and Science at Harvard University and a lecturer in the Harvard School of Business. Previously, Armer was Director of the Stanford Computation Center and for ten years served as Head of the Computer Sciences Department at the RAND Corporation where he was also a member of the Corporate Management Committee.

A prolific author and a member of various professional groups, Armer has appeared as a witness before a number of governmental bodies. Most recently, on June 23 Armer testified on "Computer Technology and Surveillance" at hearings held jointly by the Subcommittee on Constitutional Rights of the U.S. Senate Judiciary Committee, and the Subcommittee on Science and Technology of the Senate Committee on Commerce. Armer has also served as a consultant to the Presidential Commission on Technology, Automation and Economic Progress, and to the Warren Commission.

Armer is a member of the Board of Directors of the Institute for the Certification of Computer Personnel and is a past president of AFIPS. He serves on the Founders Committee for the Institute for the Future and is a member of the Association for Computing Machinery, the Institute of Electrical and Electronic Engineers, the American Association for the Advancement of Science, and the New York Academy of Sciences.

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### CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Boulevard • Stanford, California 94305

Telephone (415) 321-2052

2 December 1975

Professor Marc Franklin Stanford Law School Stanford, California 94305

Dear Professor Franklin:

The purpose of this letter is to suggest Mr. Milton R. Wessel to you as a candidate for Dean of the Stanford Law School. The intent of the enclosures is to introduce him to you. Lacking a copy of his vita, I have reproduced a page from his book, Freedom's Edge: The Computer Threat to Society (Addison-Wesley, 1974), which gives a very brief biography. A review of that book by R. E. Kling from Computing Reviews (July 1975) is also enclosed.

A third enclosure is a copy of a paper presented by Mr. Wessel at a recent "Academy Forum" of the National Academy of Sciences on Sweetners. His paper is entitled "The Procedural Rule-of-Reasoning: A Better Way to Resolution of Scientific Public Interest Disputes." The final enclosure is a copy of the closing remarks made by Philip Handler at that Forum in which he focuses on Mr. Wessel's paper.

Mr. Wessel has recently completed a book on the general topic briefly covered in the paper which is now in production at Addison-Wesley. I urge you to get a copy of the manuscript and read it.

Joe Leininger knows Mr. Wessel--they worked together on the "Computers, Society & Law: The Role of Legal Education" conference held at Stanford in June, 1973. The idea for the conference originated with Mr. Wessel and he was its prime mover.

Mr. Wessel's address is: 4 Little Lane White Plains, New York 10605

Sincerely yours,

Paul Armer Fellow

PA:mt

cc: Joseph E. Leininger William F. Miller Milton R. Wessel



This book was written to put all of us on alert — from the computer technologists who have a great stake in the computer industry to the individuals everywhere who are wondering what legal means — if any — they have to protect themselves against the steady encroachment of computers.

The underlying theme of Milton Wessel's book is this: When the computer's impact on the data is great enough, it changes the environment in which we live. In chapter after chapter, the author shows some of the ways in which the computer is already changing our lives—or soon will be. For every obvious benefit the computer gives us. Wessel points out the often overlooked and inadequately understood danger lurking just beneath the surface.

With the single exception of the "privacy" issue, Wessel believes that we have hardly begun to recognize the dangers of the computer, much less analyze or deal with them. In FREEDOM'S EDGE, he hopes to generate the kind of interest and concern that will stimulate analysis, debate, and action before it's too late.

#### ABOUT THE AUTHOR

Milton R. Wessel is a New York attorney who has lectured and published widely on computer impact, modernizing legal procedure, improving crime enforcement and related socio-legal problems. He teaches a course on computer societal impact at the Columbia University School of Law and is coauthor of <u>Government Regulation of the Computer Industry</u> (AFIPS Press, 1972). He has been a Special Assistant to the U.S. Attorney General and was special federal prosecutor in charge of the nationwide investigations and prosecutions following the 1957 Appalachian organized crime convention. He received his A.B. degree from Yale College and his J.D. from Harvard Law School.

### ABOUT THE ILLUSTRATOR

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Will Eisner's fanciful drawings show better than words how the popular imagination envisions a world in the grip of computers. Mr. Eisner, who gained fame as author and artist of THE SPIRIT, a widely syndicated comic strip and book of the forties and early fifties, is currently enjoying a resurgence with reprints of his earlier works appearing in the U.S. and in Europe.

ADDISON-WESLEY PUBLISHING COMPANY Reading, Massachusetts · Menlo Park, California · London · Don Mills, Ontario



O WESSEL, MILLON R.

Freedom's edge: the computer threat to society. Addison-Wesley Publ. Co., Reading, Mass., 1974, 137 pp.

28'485

Here's one informed description of the social and legal issues raised by computer technology that you can give to any literate friend or neighbor. Even your mother-in-law might benefit from reading this lively volume.

During the 50s, the author helped prosecute "subversives," and as a chief organized crime prosecutor in the US he probed the 1959 Appalachian "Crime Convention." With such a background, one might expect him to provide compelling arguments for increasing the scope of computer-based file systems to help criminal justice agencies catch erroaks and impede political dissidents. Instead, he provides an especially sensitive account of the way in which

velop and use them. technologies are modulated by the institutions which debeside the medium-range impacts of computer-based produce some net social good. Rather, he describes how regardless of how it is developed or used, will necessarily pased optimism which assumes that computer technology. thorng." On the other hand, he eschews a technologically ...dependent upon the computer for their effective tuneaspects of our modern industrial society are and will be and more social and economic as well as (the) production al, and billing. He is hardly a Luddie, as he writes, "nore sale terminals, electronic funds transfer, legal case retrievinformation systems that support credit checking, point-ofto ytothey is ditw nonlinginon seamed no analeys nonlinin (un)reliability of computing, and the influences of intor-"computer errors," inequitable access to computing, the The illustrates that complex of issues labelled "privacy." computer-based systems can be socially troublesome.

To ameliorate the potential threats of the harsher arrangements, he proposes a set of ten modest guidelines. For example: "A mass data bank shall be permitted to operate only if the benefits associated with its operations outweigh the related risks." While I sympathize with the sentiment that motivates such proposals. I find them just too vague to inform specific legislation or agency procedutes.

But the real strength of this work lies in the author's ability to communicate the human texture of these issues in a way which is both personal and well informed. It is an especially attractive adjunct technology. It can help enliven issues traised by computer technology. It can help enliven and personalize these critical issues which are usually treated with technocratic narrowness or scholarly tennotemess in most of the available literature.

R. E. Kling, Irvine, Calif.

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ACADEMY FORUM Fourth of a Series

NATIONAL ACADEMY OF SCIENCES

#### APPENDIX B

THE PROCEDURAL RULE-OF-REASONING: A Better Way to Resolution of Scientific Public Interest Disputes

Milton R. Wessel

Two full days of formal and informal presentations to the National Academy of Sciences' Forum on Sweeteners surely served to help identify and sharpen the issues. But they have brought us little closer to the answers. Indeed, by and large, those who came with a permissive point of view remain unconvinced by the opposition; and those who came in favor of restriction remain equally adamant. Quite probably each even believes his initial position has been confirmed.

It is only a very few of the previously uninvolved and therefore uninformed who have come to new judgments. Most of these undoubtedly have done so in accordance with some earlier predilection, albeit subconscious. We all like to believe we are objective, fair, and impartial, but those who have heard ten honest witnesses testify to the same automobile accident, all differently, know how much we are the victims of our backgrounds.

By and large, there has been little dispute as to *facts*, including scientific analysis and even some opinion as well as observed data -so long only as pure scientific *conclusion* is not considered "fact." If informed scientists cannot agree under such circumstances, what is the layperson to do? By classical definition, a layperson is of course even less competent to evaluate such disputed expert scientific conclusion than the scientific ingredients of opinion, analysis or data. Yet ultimately, in a democratic society, it must be an essentially lay public that will somehow determine the risks to which it will accept exposure or the benefits that it will be denied.

The public needs and is entitled to greater help in its handling of such controversies. It needs and is entitled to assurances as to the credibility and integrity of the process by which decisions are made in scientific disputes involving the public interest. And it needs and is entitled to a major by-product of such a process, which is assistance in separating out the lay component of the scientific conclusion for lay evaluation by those who choose to make it. The well-informed layperson is just as well qualified to judge *that* component as the most learned scientist.

When a scientist says "the risk is acceptable," he is expressing a view made up of scientific observation (data); scientific analysis; scientific opinion -- about which there is often little dispute; and personal judgment derived from general background -- about which understandably there may be many differences. Usually these two components are confused subconsciously or unwittingly; sometimes, however, they are confused to buffalo the layperson. In either case it is wrong and must somehow be stopped.

The key task at hand, then, is to develop a truly credible procedure for resolving these disputes, which will permit the layperson to understand that the scientist states his conclusion partly because he values one set of concerns (e.g., more food) over another (e.g., survival of an endangered species), and thus make it possible for those who wish to do so to arrive at their own independent and informed balancing of these values. It seems we do not yet have such a process.

Unfortunately, much of the blame for this failure to furnish credibility and to distinguish, must be laid at the bar of our legal profession. It continues almost doggedly devoted to the old adversary "sporting" or "game" theory of litigation and dispute resolution, seemingly unaware of how much the world has changed around us. One would think that the Watergate revelations would have effectively sounded the alert in view of the numbers of once respected lawyers involved, on up even to Cabinet ministers and a President. And there have been some changes. But generally it is still very much business as usual in the administrative agencies and the courts, with even the most eminent scientists cross-examined about their fees, motivations, or drinking habits. It is little wonder that science descends into the foray so reluctantly -- and so rarely.

We need a new legal approach to the resolution of these scientific, public interest disputes. We need recognition that a burgeoning number of present-day societal controversies are very different than those of a generation ago, and therefore require different treatment. We need recognition that solutions to the major issues are no longer black and white, right and wrong, "did he or didn't he do it?" as they once were. More often these solutions are shades of gray that are difficult to discern and distinguish. More and more, as in this Forum, two professionals of equal qualification, reputation, and integrity will describe essentially the same data and test results, and then come to diametrically opposite conclusions:

- The discrimination is (is not) justified. (civil rights)

- The risk is (is not) acceptable. (environmental)

# The restraint is (is not) reasonable. (anti-trust)

Our traditional adversary decision process is in significant part geared to the determination of contests between two parties through objective proof of disputed fact by eyewitness and document. That part is particularly susceptible to abuse in these modern cases where society is a third and key party, and where yes-no answers simply do not exist to satisfy the uncertain. It can and does lead to decisions based upon ignorance, fear, and prejudice, rather than upon the best available learning and democratically ascertained societal values. It is little wonder that the confidence we seek in the decision process is so sorely lacking. Certainly for at least these new problems, we need a new procedure that permits the resolution of disputes in a way that is credible to the layperson. That way is through application of the

Rule-of-reason generally, means decision by use of scientific method -- fact, experience, and logic -- in *all* aspects of the process by which issues are resolved. It seeks to optimize solution of complex environmental risk-benefit issues, for example, by balancing *all* known risks against *all* known benefits in light of *all* available data and expertise. It is distinguished from decision based exclusively or largely upon emotion, surmise, or conjecture.

Food, raw material and energy shortages, the accelerating inflation of recent years, and the increasing economic and social demands of a burgeoning world population have created a growing awareness of the need to use modern technology to solve modern problems, despite some unavoidable risks. The "no risk" theory of the sixties has been discredited among most scientists. As a result, although sometimes honored primarily by lip service, the need for a rule-of-reason approach is today largely acknowledged by scientists for the determination of substantive scientific issues.

Credibility in dispute resolution, however, requires application of this scientific method just as much to decision *procedure* -- the lawyer's bailiwick, as to ultimate scientific *substance* -- the scientist's. The procedural rule-of-reason is thus in sharp contrast to that part of the traditional adversary legal process that permits and all too often actually encourages use of procedural weapons, such as delay, concealment, or personal abuse, for tactical purpose in an effort to reach a desired result.

The old adversary system fails to recognize the enormous changes in social attitudes that have taken place since World War II, especially regarding civil rights and the environment. A corporate board of directors that today sought to apply a similar approach to the treatment of minorities or pollution problems would quickly find itself in deep trouble. But our present legal dispute resolving process seems unaware that insofar as modern societal disputes are concerned, the procedural technique of the traditional adversary process is back in the Middle Ages. In its place we need a "new look" in dispute-solving. The procedural rule-of-reason recognizes that laymen are incapable of fully understanding all the complex issues, especially when even qualified professionals disagree. Yet laymen *are* persuaded to place their trust in the brain or open-heart surgery, which they cannot fully understand and over which they have no control once on the operating table. In similar fashion, lay society must decide how to deal with even the most technical disputes. The procedural rule-of-reason seeks primarily to assure laymen of the credibility of the decision process, so that they may rely on the intregrity of the ultimate substantive evaluation. It seeks also to assure them that conclusions based upon moral, ethical, economic, and social values will not be traded off as esoteric science, so that they may participate in the decision process to the maximum possible extent.

The procedural rule-of-reason emphasizes total credibility in all aspects of the decision process. It anticipates that a lay public will place confidence in the credibility of qualified opinion in areas it cannot comprehend if furnished assurances of such credibility in areas it can understand. Thus, to take examples out of our recent past, the public may not be able to evaluate all the considerations incident to judging the safety of a product; it can evaluate the merits (or lack thereof) of a party's attempt to defend against a charge of product defect by reference to the "peculiar" sex life of the complaining individual. The public may not be able to understand all the conceptual economic considerations involved in determining whether manufacturing and marketing conduct is anticompetitive; it ean draw conclusions adverse to a defense of fair competition where there has been willful destruction of the means to recapture relevant data regarding such activity. The public may not be able to determine the extent to which profits are needed to finance the search for additional raw materials; it can draw an inference contrary to the proponent of need when funds claimed to be necessary for such a purpose are later diverted to an unrelated effort.

The procedural rule-of-reason is "non-adversarial" in the sense that it recognizes that one's opponent is not usually "bad" in the moral or ethical sense, but simply sees things differently because of his total environment. But the rule is in fact the ultimate in adversarial weapons in the sense that it seeks to maximize success over one's opponent for the view proposed. In this sense it is only another step forward in the common law development of the adversary process, which has served us so well for the last thousand years and more, retaining what is good of the old but rejecting the bad that has led to its Watergates.

Credibility derives from many things, such as professional qualification and reputation. But one of its primary ingredients is consistency. Unless properly explained, procedural obstruction may be viewed as inconsistent with asserted confidence in a result determined on the merits. The procedural rule-of-reason condemns such obstruction. Similarly, even unauthorized or inadequately considered internal confidential statements may be viewed as more expressive of true opinion and attitude than public utterances and positions. The procedural rule-ofreason condemns secret inconsistency of motive. The procedural rule-of-reason cannot be reduced to catechism. It calls for different application in different situations. Thus, ruleof-reason does not mean that *all* data must *always* be disclosed. Some data may be proprietary, or not yet properly evaluated, or so sensational or otherwise prejudicial as to be harmful if published at large. Disclosure under such circumstances could be anticompetitive, dangerous, or even unlawful. But rule-of-reason *does* mean that there will be a reason for nondisclosure -- even if strictly an internal one -- and that such reason will be a proper one and not adopted for the sole purpose of avoiding an undesired result.

Rule-of-reason accordingly means that even the most confidential internal discussions and decisions will not prove embarrassing if publicly disclosed. Private conversations can, of course, be more frank, open, and free than those in public, but the substance of statements made and actions taken will be the same whether on "center stage" or in the intimacy of a small office. Without in any respect compromising proprietary rights or management responsibility, the procedural ruleof-reason assures the public that the decision proposed is based upon integrity.

The procedural rule-of-reason is not "image" building or "public" and "press" relations. It gains specific content and detail with experience and application, especially in those cases where it requires that the other cheek be turned and that hostility and improper tactics be countered with continued adherence to scientific method.

In summary, rule-of-reason requires that:

#### Tactics

- Data will not be withheld because it is "negative" or "unhelpful." - Concealment will not be practiced for concealment's sake. Disclosure as the policy, with concealment the exception, will be reflected throughout.

- Delay will not be employed as a tactic to avoid an undesired result, even where convinced that the result sought is the right one. The end cannot justify the means.

- Disclosure will not be postponed for the purpose of "sandbagging" so as to "spring" new evidence on an unsuspecting adversary at the propitious time when unprepared -- even if the adversary is engaging in such tactics.

- Complex concepts will be simplified so as to achieve maximum possible communication and lay understanding.

- Unfair "tricks" designed to mislead will not be employed to win a struggle.

- Borderline ethical disingenuity will not be practiced.

- Motivation of adversaries will not unnecessarily or lightly be impugned, nor "overkill" employed.

- An opponent's personal habits and characteristics will not be questioned unless relevant.

- Wherever possible, opportunity will be left for an opponent's orderly retreat and "exit with honor."

- Extremism will be countered forcefully but will not be fought or matched with extremism.

- Dogmatism will be avoided.

- Credibility and integrity will be given first priority.

#### Scientific Method

- Effort will be made to identify and isolate subjective considerations involved in reaching a conclusion. A substantive rule-of-reason, acceptable to professionals and technicians, will be applied fairly and uniformly in evaluating such considerations.

- Relevant data will be disclosed when ready for analysis and peer review -- even to an extremist opposition or where there is no substantive legal obligation to disclose.

- Hypothesis, uncertainty, and inadequate knowledge will be stated affirmatively -- not conceded only reluctantly or under pressure.

- Unjustified assumptions and off-the-cuff comments will be avoided, especially regarding such unknowns as organizational intent and purpose.

- Interest in an outcome, relationship to a proponent, and bias, prejudice and proclivity of any kind will be disclosed voluntarily and as a matter of course.

- Research and investigation will be conducted, appropriate to the problem involved. Although the precise extent of that effort may vary with the nature of the problem, the number of organizations involved, the effect on other priorities and similar considerations, it will be consistent with stated overall responsibility to solution of the problem.

Certainly science has not yet realized its proper place in the societal decision process, particularly within the executive branch of the federal government. But at least it has begun to recognize its need to do so. It is enhancing its opportunities by applying the rule-ofreason to its substantive scientific efforts.

Regrettably, however, all too many of those involved in the decision process itself, including members of the legal profession, do not appreciate that their failure to apply the rule-of-reason to their own conduct threatens the integrity of the process by which disputes are resolved and thereby jeopardizes their roles and harms society.

Some of my colleagues at the Bar contend that the rule-of-reason approach is utopian, idealistic, and unrealistic, and that it won't work. They are dead wrong. Not only does it meet the challenge of our modern society, but where tested it has worked -- magnificently. The controversy regarding use of certain compounds containing tetrachlorodibenzoparadioxin (TCDD) is an excellent current example. For over three years the adversary legal system produced little but antagonism, calumny, bitterness, attacks on scientists, procedural prehearing conferences and appeals unrelated to scientific substance, and intolerable wastes of money, manpower, time, and other precious resources. A few of the parties dedicated to the procedural rule-of-reason kept plugging away at a more sensible approach -- even going so far as to disclose their evidence voluntarily at a major conference of scientists attended by their adversaries that was held far in advance of the legal hearing. As a result, the antagonistic legal approach was formally suspended, and has now been replaced by a cooperative working effort between government, industry, and even citizen groups, conducting joint scientific research and sharing data and methodology in the best scientific tradition. Certainly perfection has not been achieved, and there remain some suspicions and doubts, especially among the onlooking legal advocates. But surely this is a beginning to a better way. To my doubting legal colleagues I therefore say, "Try it -- you'll like it."

All segments of society, including government, private industry, civil rights, environmental and political organizations, and individuals, have much to contribute to the process by which major societal issues are resolved. Each should participate in formulating the final decision. Where public credibility is impaired, the opportunities both to contribute and to participate are endangered and society is disserved.

Each interested party can help achieve public credibility by applying the rule-of-reason to its total participation in the decision process. To the extent that it does so, it will also enlarge its opportunities to participate in formulating the ultimate decisions, as well as contribute to the development of a process of resolving scientific public interest disputes that is geared to the issues of the twentieth century instead of the Dark Ages. It may not abdicate this important responsibility if society is to arrive at optimum decisions.

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CLOSING

Philip Handler

I have heard a good deal of philosophy in the last hour. I gather that this Forum has been a success in that it has allowed the ventilation of views and a certain amount of discourse between people who ordinarily don't speak to each other on matters of their common interest. This is among our principal purposes. Those who easily use words like safety have discovered, 1 hope, how difficult it is to establish what the word means in any given context and, having stated what is meant, how difficult it is to establish whether something really is or is not safe.

In the discussion I have been privileged to hear this afternoon, Mr. Wessel shot closest to home for me. Like Dr. Veech, you see, we never know what problem will come through these doors. When one is placed before us, we do our best to learn how to address the specific problem, to gather the expertise necessary to look at it, to assure ourselves that there is no built-in bias or prejudice among those whom we ask to address a given question. If bias or prejudice should be present, we then proceed to balance the committee so that all possible biases are evident. In truth, it is very difficult for any somewhat informed individual to come into any question without a bias.

In the end, we find ourselves in difficulty. There never is enough information. All reports from this institution inevitably ask for more research. I find nothing wrong in that. There is the problem, however, that under those circumstances the government will always be faced with the task of making decisions in the face of uncertainty. Our task is to reduce the extent of the uncertainty and to make clear just what that degree of uncertainty really is. It is then up to the government to undertake its actions. We rarely, if ever, tell the government what to do; rather, we do state what the circumstances are in which the government must act. Inevitably, there are conflicting views from different quarters that all too frequently take on a strongly partisan character. It is much easier to cry alarm than it is to prove safety.

Some of what you have heard in the last two days is the result of a kind of growing "chemophobia," a distrust of the introduction of chemicals into our society. There is good cause for such distrust, and it behooves us -- as individuals, as members of the scientific community, and as the government -- to assure ourselves each time a new chemical entity is introduced in our society that its properties are both desirable and acceptable. Unfortunately, proving either of those is extraordinarily difficult, and we have learned this repeatedly.

What is most difficult of all -- and that is my interpretation of what Mr. Wessel was saying -- is accustoming the nonscientific public to speaking in quantitative terms. Safety and riak always require definition, and no law known to me has ever specified what those words really mean. Risk is a statistical concept. It is the statistical likelihood of an undesirable outcome, given some specific, finite number of events. Safety is the level of risk that society has decided to accept; if it ever asks for zero risk, then it is being foolish indeed, because there are no such circumstances as zero risk.

Everything in our environment poses a hazard of some degree. Some we have decided to live with, some we wish we did not have to live with but we don't know what to do about, and some we can manage to bring under control. Our task in the Academy and occasionally in these forums is to determine which situation is in which category. If it is one on which our society has decided to act, then it is our further task to establish what the degree of uncertainty is, how to reduce the degree of uncertainty, and how to make the government as comfortable as possible with an unavoidable decision.

To the extent that these issues have been illuminated here in these last two days, our purposes have been achieved. To all of you, I thank you for coming and hope that you will be here with us again for the next Forum.

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2 December 1975

Professor U. R. Kodres Search Committee Secretary Computer Science Group Naval Postgraduate School Monterey, California 93940

Dear Professor Kodres:

I am enclosing a copy of my vita in response to your ad "Senior Faculty/Chairperson," which appeared in <u>Communications of the ACM</u> for November, 1975. I would be happy to send reprints of my publications if you would like to have them.

Sincerely yours,

Paul Armer Fellow

PA:mt

2 December 1975

Ms Frances Reed 198 East Kathy Ellen Drive Vallejo, California 94590

Dear Ms Reed:

This is in response to your letter to the Institute for Certification of Computer Professionals concerning which colleges in California have the best computer science departments.

Stanford University has, in my somewhat biased opinion, the best computer science department in the world. I think that almost all would agree that it is among the top three schools. Other contenders would be Carnegie-Mellon, MIT and the University of Toronto.

However, Stanford does not offer an undergraduate major in computer science--it is strictly a graduate department. This does not mean that they do not offer courses for undergraduates but only that they award only graduate degrees. Thus, if your fixend's son were an undergraduate student there, he would take courses in computer science but would have to major in something else like mathematics, engineering or physics.

In California, he couldn't go wrong at any campus of the University of California although UCLA is probably the best, followed by Irvine, Santa Cruz and Berkeley. Further, any campus of the State University of California system would do well by him. And among the private schools, the University of San Francisco has a well-respected department and does offer an undergraduate program and degree in computer science.

Sincerely yours,

Paul Armer

PA:mt

cc: Jamie C. Fox ICCP Box 1442 Chicago, I11. 60690



Institute for Certification of Computer Professionals/P.O. Box 1442, Chicago, Illinois 60690 312/427 6746

Reply to:

November 12, 1975

Ms. Frances Reed CDP 198 East Kathy Ellen Drive Vallejo, California 94590

Dear Ms. Reed:

Thank you for your letter of November 4th requesting information on colleges in northern California. I've asked one of our directors in California to respond.

Sincerely,

Jamie C. Fox

JCF:ae



ACM: Association for Computing Machinery ACPA: Association of Computer Programmers and Analysts AEDS: Association for Educational Data Systems AIA: Automation One Association

**Constituent Societies** 

CIPS: Canadian Information Processing Society DPMA: Data Processing Management Association IEEE: Computer Society of the Institute of Electrical and Electronics Engineers SCDP: Society of Certified Data Processors

198 East Kathy Ellen Drive Vallejo, California 4 November 1975

Institute for Certification of Computer Professionals 304 East 45th Street New York, New York 10017

#### Gentlemen:

....

A man I work with has a son who wants to study computer sciences in college and doesn't know which colleges in California, especially in the San Francisco area, have the best computer science departments. I wonder if you could tap some of your many resources and advise me as to the three or four best colleges or universities for computer sciences in morthern California.

Thanking you in advance for your help, I am,

Sincerely yours,

Frances Reed

MS Frances Reed CDP # 120278

# CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

Telephone (415) 321-2052

202 Junipero Serra Boulevard • Stanford, California 94305

2 December 1975

Gardner Lindzey TO:

Paul Armer FROM:

SUBJECT: Miscellaneous Facts About the Use of Telephones at the Center

Copies to: JK/PC, AH

When I started looking at the telephone situation at the Center I felt rather strongly that the most desirable situation would be to have a telephone instrument on every Fellow's desk. I drew up an "Attributes of the Ideal Phone System" (copy attached), which, while not explicitly calling for a phone in every study, would give a lot of weight to such a situation.

Realizing that such a system would cost money, I set about trying to find ways to save the Center some money through foreign service schemes and/or WATS lines. Unfortunately, the telephone companies' tariff schedules are such that no such scheme appears to save us any money.

It would also be possible to save the Center money by recovering a greater percentage of the true costs of personal calls. This too was something I looked at. While some systems (e.g. CENTREX) would probably do better with this problem than our present system, 71% of the cost of long distance calls were recorded in the period February 10 through March 7, so it seems that the savings would not be large. They could be large enough to cover the cost of a system which put a phone, with its own separate PBX connection, in every study--operating cost, that is.

In the process of looking into this I generated a fair amount of data about the use of telephone service at the Center. On the chance that someone might someday find some part of it of interest or value, I thought I'd write it up. It is attached.

Baul

#### Attributes of the Ideal Phone System

1) Would be convenient to use--one would not have to leave one's study to go to the phone, would not have to look for a free phone if the nearest phone was in use, would not have to go back to one's study to fetch a letter or book needed during the call. One's files would be close at hand. Bad weather would not adversely affect access to and use of the phone.

2) Would provide privacy for the call

3) Would be unobtrusive. If a person decided in advance that he wished to ignore incoming calls, calls for him would be intercepted and messages taken. It would also be unobtrusive in the sense that the noise of the system in one study would not disturb the occupant of another.

4) The message taker would know something of the schedule of the person called. The better informed the message taker is, the better.

5) Messages would reach the person called in a timely fashion.

6) Would provide for incoming calls to a study 24 hours a day, seven days a week. Persons working when the switchboard is closed could thus be reached by their families and others.

7) Would provide information on which toll calls were made from which phones. This would tend to discourage unreported use of the phone system for personal calls.

The period studied was February 10, 1975 through March 7, 1975. In that period there were 19 working days (2-17 was a holiday.) This particular period was picked because it represented the busiest month in 1974-75. As such, it cannot be called a typical month. Thus, other months should be studied if a given decision would be sensitive to much variation in these figures.

In general, only calls charged to 321-2052 were studied. All of the numbers which follow are subject to minor errors. They haven't been checked for total accuracy but enough cross checks were possible to convince me of their general accuracy. When costs are given, they do not include taxes.

#### Outgoing Calls

In the period the following outgoing calls were made: (This data includes all calls including personal calls. Of long distance calls, 13% were admitted to be personal.)

	# Calls	<pre># per day</pre>	<pre># per day per person*</pre>	Cost **	Cost per call	Cost per person* per month
Local	2182	114.8	1.9	\$85.00	.04	1.42
Non-local but either 408 or 415 area code	397	20.9	.3	216.	.54	3.60
Long distancewithin California [not 408/415]	107	5.6	.1	258.	2.41	4.30
Long distancerest of U.S. & Canada	346	18.2	.3	1115.	3.22	18.58
Long distanceforeign	10	.5	.008	145.	14.50	2.42
(includes TG's)	463	24.4	.4	1518.	3.28	25.30
Sub-totallong distance Grand Total	3042	160.1	2.7	1819.	.60	30.32

\*Assumes 60 persons

\*\*Ignores cost of basic service which provides 480 local calls without cost.

### Switchboard Load

With respect to incoming calls, I would guess that they are approximately equal to outgoing calls. If the 160 calls were uniformly spread over the 8-1/2 hours the switchboard is open, they would arrive at the rate of one every 3.2 minutes. With the same unrealistic assumption about uniform placement, the switchboard operator will handle one outgoing call in that same 3.2 minutes.\* Of these, at least 85% will involve only the giving of an outside line to the caller. Of the 15% of the calls which are long distance, some are placed by

3

Since Fellows tend to bunch outgoing calls, the rate will appear to be somewhat less to the switchboard operator.

the caller and some by the switchboard operator. The breakdown was not determined but could easily be developed from Shirley's records. All of the above assumes that all calls were placed while the switchboard was open. While not strictly true, the number of calls placed outside of normal switchboard hours was quite small.

It is also the case that person-to-person calls were very rare, which is as it should be, given today's rate structure.

### Long Distance Costs By Area Code

Each of the following area codes accounted for more than \$50.00 in charges:

Area Code	Major City	# of Calls	Cost
212	New York	58	\$206
213	Los Angeles	79	198
415	S.F. Bay Area	295	185
202	Washington, D.C.	47	140
617	Boston	31	110
312	Chicago	16	58
514	Montreal	11	53
608	Madison	12	53

I have data on all long distance calls by area code if anyone is interested.

### Data on calls within A.C. 415

	<u> </u>	Cost
Berkeley	90	\$59
San Francisco	133	75
All others	72	50
Total	295	\$184

Data on calls within A.C. 408

	# of calls	Cost
Sunnyvale	39	\$ 9
San Jose	48	15
All others	15	8
Total	102	\$ 32

### Average Length of Long Distance Call

Working backwards from the cost of calls to Washington, Boston and New York, one can determine that we were charged for an average of 7.97 minutes per call. Calls to Southern California averaged 6.72 minutes charged.

### Personal vs. Center Business vs. Unrecorded

The following table indicates the percentages of calls falling into various categories according to whether or not they were recorded and if recorded, the division between "personal" and "center business."

			Percer	ntages		
The state of the state of the	Long-Distance		A.C. 408 & 415		Total	
	# Calls	Cost	# Calls	Cost	# Calls	Cost
Recorded as Personal Recorded as Center Business <u>Total Recorded</u> Unrecorded	13	14	2	2	8	12
	54	57	12	14	35	52
	67	71	14	16	43	64
	33	29	86	84	57	36

I have data on the number of calls (with costs) recorded by each Fellow and employee from February 10 to March 7, 1975. I also have data on the costs of recorded personal calls by Fellows and employees for the entire 1974-75 year. The highest total was \$195.00 while 14 Fellows did not record a single personal call during the entire year.

In the above table, it is interesting that the percentage of the cost of the calls recorded as personal is higher than the percentage of calls. This is also true of the calls recorded as "center business". This indicates that the callers were more conscientious about recording expensive calls than less-expensive ones. (Note that very few calls within A.C. 415/408 are recorded at all.) The cost of personal calls during the year varied as

	Personal	Total	(Personal/Total) x 100
October-December	\$303	\$4274	7.1
January-March	420	4878	
April-June	474	4734	8.6
		4734	10.0

Why costs increased in this fashion I cannot guess, but I would conclude from the above that Fellows and employees were not becoming less conscientious about recording personal calls as the year progressed.

Total long-distance and message unit charges for 321-2052 during the year were as follows:

Costs*				
Message units	Long-Distance	Total		
\$108				
		\$1067		
	1185	1313		
139	1282	1421		
116	1424			
121		1540		
135		1227		
	1652	1787		
	1737	1864		
142	1317	1459		
148	1661			
138		1809		
128		1466		
	1221	1349		
154	1198	1352		
	\$108 128 139 116 121 135 127 142 148	Message units         Long-Distance           \$108         \$959           128         1185           139         1282           116         1424           121         1106           135         1652           127         1737           142         1317           148         1661           138         1328           128         1221		

\* The breakdown here is between long distance and message unit calls. Elsewhere I have separated out calls to area code 415 and 408, some of which are billed as long distance calls and some of which are billed as message unit calls. For this reason, the March 8 figures will not match other figures for the

### Calls charged to Center Business

During the period February 10 through March 7, 1975, the top three consumers of telephone services involving long distance and message unit calls charged \$126, \$80 and \$74 to the Center. I did not develop data on calls charged to the Center by Fellow for the entire year so I can not say whether the individuals who called a great deal in this period were consistently big spenders. If we had such data to monitor, some money could probably be saved by pressuring the big spenders if you wanted to do so. Shirley could produce such data, in the same way she produces the "personal calls" data, but it would take time. In the absence of a system which assigned calls made to a specific telephone (and where telephones were assigned to specific individuals), the application of such pressure could result in the individuals neglecting to record calls as well as reducing the number of calls made.

Twelve Fellows did not record a single call as "center business" during the period under study. Of these, ten did not record a single call as personal, which would indicate that either they never used the phone for other than local calls or they never recorded toll calls.



### CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

Northridge, California 91324

SCHOOL OF ENGINEERING Department of Computer Science (213) 885-2183

November 26, 1975

Mr. Paul Armer 105 Hillside Avenue Menlo Park, CA 94125

Dear Paul:

Under separate cover, I am sending you a copy of the transcript of the 17th symposium, Problems of the AFIPS Societies Revisited (Quality Inn, Anaheim, May 18, 1975).

I had more than the usual difficulty in identifying voices at this year's session, so there are doubtless many remarks attributed to the wrong person.

On the other hand, I think that the session's output may prove to be more fruitful than usual.

Inasmuch as the problems being discussed were chiefly of interest only to the attendees, I will assume that the transcript is NOT to be made public.

The session was a pleasure for me, and I trust for you, too. Thank you for your time.

Cordially,

Fred

Fred Gruenberger

saj

November 24, 1975

Mr. Sidney Weinstein Executive Director Association for Computing Machinery 1133 Avenue of the Americas New York, New York 10036

Dear Sid:

Reference is made to the attached letters from Jean Sammet (75 November 13) and Paul Armer (75 November 19) dealing with citations made solely for completeness.

While I think there was (in the affluent days) some small merit to the notion of citing everything in such tomes as the NCC Proceedings, it appears that it is no longer reasonable to do so.

I think in future the primary entry should specify, as an editorial insert, that certain classes of material (such as undocumented panel discussions) will not be cited, and let it go at that.

We can work out the details after Thanksgiving.

Sincerely yours,

Ditr

Peter Zilahy Ingerman

:ms P. Armer ce: J. Sammet



Association for Computing Machinery

JEAN E. SAMMET President

1133 AVENUE OF THE AMERICAS NEW YORK, NY 10036 (212) 265-6300

Reply to: IBM Corporation 545 Technology Square Cambridge, MA 02139

November 13, 1975

TO: Pete Ingerman

SUBJECT: Apparently Non-Useful Information in Computing Reviews

I would be interested in knowing the rationale for including a large number of items in the October 1975 Computing Reviews which are the names of sessions or papers from the 1975 AFIPS conference, but for which no paper is published, and the only thing included in CR is the citation (e.g. #28, 925, 28, 951). My guess is that these consumed at least 2 full pages and perhaps more.

I can deduce that one reason might be to make sure that there is a one-to-one correspondence between the entries in the AFIPS Proceedings and those in the KWIC Index. If that is the purpose then it seems to me it would be far better to make sure (for darn sure!) that all papers in the AFIPS proceedings are indeed reviewed; thus anything missing from the KWIC Index would be known to be only a panel or presentation or position paper.

If my hypothesis as to the motivation for including this apparently useless information is wrong, I would be interested in knowing what the real reason is.

I guess I keep sending you notes because as a computer professional very interested in literature sources and searching I find what I believe to be some significant degradation in Computing Reviews over the past few years. Some of this is due purely to lack of money i.e. reductions in pages (and obviously I share the responsibility for that problem) but some of it seems to be sheer sloppiness or apparently strange decisions. I hope I'm wrong, but I'd like to be convinced of it.

Jean E, Sammet

JES:PAG



Dr. Richard I. Tanaka President

24 November 1975

Dear Paul:

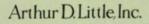
I just received the pictures from the DCA meeting. I didn't realize how much I remembered about that evening until I began to look at the pictures.

It was a very thoughtful thing to do - namely, sending me the pictures - and the very least I can do is buy your dinner the first time I get a chance to do so. (And Joan is included, naturally.)

Very best regards, Dick

Richard I. Tanaka

RIT:rmw



ACORN PARK CAMBRIDGE MASSACHUSETTS 02140 (617) 864-5770

November 21, 1975

MARTIN L ERNST

VICE PRESIDENT

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, California 94305

Dear Paul:

In response to your letter of 19 November:

- I did not present any written testimony to the Privacy Protection Commission and have not yet received a transcript of my oral testimony. If, as and when I do receive it, I will arrange to get you a copy.
- 2. The NSF study should be in production (at the GPO) by the end of this month. There has been much slippage on this one before, so don't hold your breath! In any event, your name is on a list of those to receive copies directly from the NSF so I assume you will get one as soon as they are available.

Sincerely yours,

Martin

/lsb

### INSTITUTE FOR THE FUTURE

2740 Sand Hill Road Menlo Park CA 94025 (415) 854-6322

November 20, 1975

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, CA 94305

Dear Paul:

Enclosed is a copy of "Group Communication through Computers."

I will call in the next two weeks to take you up on your lunch offer.

07

I hope all is going well for you and Joan.

Sincerely,

Roy Amara President RA/cj

Enclosure: R-35

Frederic G. Withington 125 Deacon Haynes Road Concord, Massachusetts 01742 369-5101 Recd NOU 19 1975 Did my dignity really permit me to do that? My wife says she understands that datenation weekende arent all like that. Thank you for your thoughtfulness led

FROM PAUL ARMER . Robina MAPSTONE 105 Hillside AUE 1090 PALMS Blud MENIO PARK, CA 94025 VENICE, CA GOZGI + SUBJECT DEAR BOBBIE - HOW ARE YOU? I'M FEELING DATE 11/19/75 MESSAGE Quite Well these days, shortly after you date 11/19/ WAS A COUPLE of YEARS of hEADAChes, But at last, the problem SEEMS fixed, ONE of these days I'll find time to go ONER, that INTERVIEW. MEANWHILE, 30 MONTHS TATER, NERE ARE COPIES of two MEMOS I PROMISED YOU AT the time of the interview. They RE both RAND MEMO'S by J.D. Williams. The dates ARE JUNE 5, 1947 AND ARE YOU STILL IN the COMPUTER HISTORY BUSINESS? IF Not, JUNE 12, 1953, What ARE YOU doiNg. SIGNED IN the WRITING OF A PROFILE OF ME FOR A NEW MASAZINE called Bottomline, being started by LARRY WELKE of INTERNATIONAL COMPLETER PROGRAMS. I thought that it turned out REASONAbly well, though the title is Awful. A copy is ENclosed. Daul CC with enclosures to DATE / / Col LEMPPERT SIGNED SEND PARTS 1 AND 3 WITH CARBON INTACT - PART 3 WILL BE RETURNED WITH REPLY Rediform @ 45 471

DETACH AND FILE FOR FOLLOW-UP

19 November 1975

Mr. Lee Revens Association for Computing Machinary 1103 Avenue of the Americas New York, New York 10036

Dear Lee:

Enclosed is a copy of page 420 of the October 1975 issue of <u>Computing</u> <u>Reviews</u>. I have circled reviews 28,915 and 28,917. Both report on presentations given at the 1975 N.C.C. for which no paper was published. If I count correctly, there are 18 similar entries in the October issue. The total of twenty occupies approximately 25 column inches of space.

Are they worth it? Let's suppose that some time in the future someone interested in "licensing" discovers the existence of review 28,917. He reads it and discovers that Oliver R. Smoot gave an oral presentation at the 1975 N.C.C. about licensing. He may now know a bit more than he did before but I think it's of marginal value. What does he do next to learn more? I suppose the argument is one of completeness (listing everything in the AFIPS Proceedings) but I think you've got better uses for the space. Do you treat Panel Sessions at ACM Conferences in the same way?

I suppose I'm still unhappy that you refused to review my paper "Obsolescence and Self-Assessment," which was published in the Proceedings of ACM's SIGCPR Conference of 1972, on the grounds that you didn't have space to cover such items.

Putting my personal pique aside, I still think there are better ways to use the space. If nothing else, don't use it at all and save ACM the money.

Best regards,

Paul Armer

PA:mt

cc: Peter Z. Ingerman Jean E. Sammet John A. Gosden

### [28,914]

### GRUENBERGER, FRED.

Computers and the social environment. John Wiley & Sons, New York, 1975, 164 pp. \$9.95.

The author has written a community-college level text for a course in the social implications of computing. The book is basically in two parts. The first part discusses computer technology, the milieu in which it functions, and the most common errors in the application of computers. The second part is devoted to the application of computers in society, the privacy problem, and the future of automation.

The book attempts to be objective, walking the line between a technologist tooting the horn of his technology and the social scientist seeing the computer as an element of a social process. As a technologist, the author capably describes the application of computers to engineering design, traffic control, and medical diagnoses. However, the applications material is presented in a disorganized way, sometimes to illustrate wishful thinking about the way computers should be applied, sometimes to support (inadequate) labor economics, and sometimes to present the author's understanding of a particular industrial process. Although several social issues, such as technological unemployment, are touched upon in the text, privacy is the only social issue given a major chapter heading.

This reviewer has difficulty recommending this book as a major course text. The book might be useful for supplemental assignment in both high school and community college courses on contemporary American society.

E. Raichelson, McLean, Va.

28.914

28.915 MILLS, RICHARD G. (Chairman) Technology transfer-a smouldering national issue. [Panel discussion; no paper published.]

[in Proc. AFIPS 1975 National Computer Conf. Vol. 44, AFIPS Press, Montvale, N.J., 1975. See main entry CR 16, 9 (Sept. 1975), Rev. 28,754.]

2.11 Economic and Sociological Effects See also: 28,975

28.916 STAMBUK, VALDIMIR. Increasing weakness of the social and economical organization resulting from the use of the computer. [in Man and computer, M. Marois (Ed.), North-Holland/

American Elsevier Publ. Co., New York, 1975, 511-516. See main entry CR 16. 9 (Sept. 1975), Rev. 28,764.]

Centralized around the computer, cybernetics is an expression of new technology representing a challenge to the social and economical organization of industrial society. It expresses the need for adjustment to the shocks of future changes and the new emerging needs of man. In what direction shall the civilization grow depends on the answer to this challenge. New technology may be the starting point of the long-term economic and social instability or the instrument for the realization of the new human needs.

Cybernetics with its rapid progress undermines and destroys: the centralized systems, the existing characteristics of labor, social distribution of labor, power system, social environment and the value system.

From the Text

2.12 The Public and Computers See: 28,975: 28,977

2.2 PROFESSIONAL ASPECTS See: 28,917; 28,920

#### 2.3 LEGISLATION; REGULATIONS See also: 28,918

28,917 SMOOT, OLIVER R. (Chairman) Making computers safer through licensing, certification, or professional responsibility. [Panel discussion; no paper

published. in Proc. AFIPS 1975 National Computer Conf., Vol. 44, AFIPS Press, Montvale, N.J., 1975. See main entry. CR 16, 9 (Sept. 1975). Rev. 28,754.]

#### 2.4 ADMINISTRATION OF COMPUTING CENTERS

2.40 General See: 29.007

2.41 Administrative Policies Sec also: 28,944

28,918 FREED, ROY N. (Chairman) Legal aid for EDP managers-computer related tax, recordkeeping, insurance and labor questions [Presentation only; no paper published.]

[in Proc. AFIPS 1975 National Computer Conf., Vol. 44, AFIPS Press, Montvale, N.J., 1975. See main entry CR 16, 9 (Sept. 1975), Rev. 28,754.]

#### 2.43 Operating Procedures See also: 28,922; 28,992; 29,008

28,919 ZMUD, R. W. (Clarkson College of Technology, Potsdam, N.Y.)

Two enhancements to a flexible pricing control system for allocating computer resources.

Computer J. 18, 2 (1975) 112-114.

The author's two enhancements to a flexible pricing control system for allocating computer resources have

Computing Reviews · October 1975

1115 Georgina Avenue Santa Monica, California 90406

November 18, 1975

Mr. Paul Armer 105 Hillside Avenue Menlo Park, California 94025

Dear Paul:

In Washington last week, I picked up the following signal from the usual reliable source. I was told that you were scheduled to be a member of the EFTS Commission up until a very last minute shift which evidently took place for some unknown political reason. I realize that fact can't make up for the disappointment of not being nominated, but I did think you would be interested in knowing of it.

I just happened to read the charter of the Federal Paperwork Commission, and it occurred to me that when you get the AFIPS roadshow on technology ready, you ought to take it not only to EFTS, and to privacy, but also to the Paperwork group as well.

The Privacy Commission is slowly getting off the ground, and as I'm sure you have heard, it's taking a look at the mail list problem first with hearings in New York City on November the 12th and again in Washington probably December 10 or 11. I can keep you posted with any details that might be of interest, so please do not hesitate to ask. Incidentally, I have made it known that you are willing to bring your roadshow into us, so you may discover a request coming forward from Carole Parsons, our Executive Director, to Phil Nyborg.

Sincerely, ilis

Willis H. Ware

/ph

### Nancy Foy DRUID COMPUTER LIMITED 8 PELLERIN ROAD, LONDON, N.16

### Telephone: 01-249 1177

17 Nov -7 5

Dear Paul -- bless you for the note, and the clipping. (I no longer invest in CW.) Donald Davies is out today, but I'll check the instance he mentioned ... suspect it is non-British because we don't have a state-run betting network (which implies OCB to me...neither does anyone else over here that I can think of.) You're right that it's the kind of story DTM can/should be chasing.

I've seen and enjoyed the Bottomline piece (though I suspect a photo would have been nicer than the drawing) ... and I've been taking your name in vain re EFTS all over Europe, including passing my own copy of the senate thing to Paul Sieghard who is drafting the apocryphal UK white papar (still hung up while civil servants try to pull its teeth, which will give me a fine headline if they succeed -- white paper whitewash.)

Life is hectic ... too many holidays this year, and not enough work ... and it is hard to face one's bank mangger with a fresh Corfu tan, breathlessly back from a three-day conference in Istanbul, and explain why one is overdrawn so many hundred pounds! So for the next couple of months I want to buckle down and churn out an article-a-day or thereabouts, wiping out some of the masses of research that have decorated all these trips. Hopefully by next Oct DTM will be so rich it will import me for the annual bash (I am, in my own head and Angie's, a full-fledged member). Whether they do or not, there's a possible client who might, not to mention mother who usually brings or invites us for christmas (but it was she who funded the Corfu outing last month, so we're not going this year) ... so I'll turn up on your doorstep VAT Number 239-8134-42. In the meantime, I'm working to get you involved in an Oct 76 little Director: Nancy Foy (U.S.A.) conference in Helsingør which should be fun. blessings Registration No. 973642 Registered Office: 100 Chalk Farm Road London NW1 n



### INSTITUTT FOR FREDSFORSKNING INTERNATIONAL PEACE RESEARCH INSTITUTE, OSLO 11-17-75

DAN This is self- Explanatory. I'd guess that GEORGE QUESTER WAS the FINAL SOURCE of the Suggestion that he send the material tomE -Postboks/P. O. Box 5052 I don't KNOW LEITENDERG. LOVE to PAT.

Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Blvd. Stanford, Calif. 94394 USA

Majorstua, Oslo 3, Norway Tel. (02) 44 43 33, 44 46 17 Telegr.adr./Cables: Peaceresearch, Oslo Bankgiro: 8200.01.44904 Postgiro: 20 07 25, Oslo

Oslo. 10th November 1975 Vår ref./Our ref.:

Dear Mr. Armer,

I am writing at the suggestion of Milton Leitenberg at the Center for International Studies at Cornell. He thought you would have Daniel Ellsberg's address. I wonder if I can ask you to forward the enclosed letter to Mr. Ellsberg? I have some questions about his work and have left the envelope open. You are perfectly welcome to read the letter:

I have some papers that I would like to send Mr. Ellsberg also, but feel somewhat reluctant to involve an intermediary in more re-adressing than necessary. The letter is the most urgent piece, however.

Yours sincerely,

11 alalist

Nils Petter Gleditsch Research fellow



### HARVARD UNIVERSITY PROGRAM ON INFORMATION TECHNOLOGIES AND PUBLIC POLICY

617-495-3986

ANTHONY G. OETTINGER Director JOHN C. LEGATES Executive Director

November 17, 1975

Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, California 94305

Dear Paul,

Your letter and the transcript surfaced just about the same time, and I was delighted by both. Many thanks for drawing on some of our material! I was glad that you found it useful in counterbalancing the Carey/Etzioni nonsense.

We have put you on our mailing list. If you'd like complimentary copies of any of the reports listed in the back of volume 2 of our annual report, just let me know. Developing the Program has been hard work but great fun. We are finding new mistakes to make, but the experience with Manny Mesthene, the National Academy of Sciences and others has been most helpful in avoiding some of the more obvious ones.

I find it incredible that Quincy Rodgers hadn't briefed the Vice President on the existence on the National Commission! What a circus!

Love to all of you from all of us.

Warmly,

Anthony G. Oettinger

AGO/sc



## INSTITUTT FOR FREDSFORSKNING INTERNATIONAL PEACE RESEARCH INSTITUTE, OSLO

Paul Armer Center for Advanced Study in the Behaviøral Sciences 202 Junipero Blvd. Stanford, Calif. 94394 USA Postboks/P. O. Box 5052 Majorstua, Oslo 3, Norway Tel. (02) 44 43 33, 44 48 17 Telegr.adr./Cables: Peaceresearch, Oslo Bankgiro: 8200.01.44904 Postgiro: 20 07 25, Oslo

Oslo, 10th November 1975 Vår ref./Our ref.:

Dear Mr. Armer,

I am writing at the suggestion of Milton Leitenberg at the Center for International Studies at Cornell. He thought you would have Daniel Ellsberg's address. I wonder if I can ask you to forward the enclosed letter to Mr. Ellsberg? I have some questions about his work and have left the envelope open. You are perfectly welcome to read the letter:

I have some papers that I would like to send Mr. Ellsberg also, but feel somewhat reluctant to involve an intermediary in more re-adressing than necessary. The letter is the most urgent piece, however.

11-17-75

DERR DR. Gleditsch

The MATERIAL WAS forwarded to MR Ellsberg ON this date

Baul Ann

Yours sincerely,

Moldina

Nils Petter Gleditsch Research fellow

### W. D. SCOTT & CO. PTY. LTD. MANAGEMENT CONSULTANTS

100 PACIFIC HIGHWAY, NORTH SYDNEY, 2060. TELEPHONE: 929-0033; TELEX: 21883

November 17, 1975

Mr. Paul Armer Center for Advanced Study in the Behavioural Sciences 202 Junipero Serra Blvd. Stanford, California 94305 United States of America

#### Dear Paul

Thank you very much for spending time with me and Mr. Ross Lennon on the 14th October. We very much appreciated the interesting discussion that we have and the very valuable information that you so kindly gave us.

It certainly seems that the sorts of social and political issues that you raised concerning the new technologies and particularly concerning Electronic Funds Transfer Systems are going to be the determinants of the rate of implementation of these systems.

During the rest of our time in the United States, we had some interesting discussions with people from SRI, Rand and I was also able to see some people at MIT and Arthur D. Little in Boston. Unfortunately, Tony Oettinger was away from Harvard during the time I was there, and so I was not able to spend any time with him.

Thank you very much again for the time and information that you gave us. I hope that I may have the chance to meet with you again during a visit to the United States and certainly invite you to contact me or our organisation any time that you happen to be in this part of the world if there is anything that we would be able to do for you.

I look forward to keeping you informed of what comes out of the study we are doing for the Australian Postal Commission and would certainly appreciate any further references or papers that come to your mind as being of particular relevance to the futures study that we are undertaking. Thank you again.

Kind Regards

Yours sincerely

John Conde

John C. Conde

### DANIEL D. MCCRACKEN

4 INNINGWOOD RD. OSSINING, NEW YORK 10562

914-941-2100 - OFFICE 914-941-8899 - HOME

"/16/55

pear land, They for M. In this yone sat. I find then very helpful - key it up? binsme a call some time .

bert, Da



**IBM World Trade Asia Corporation** 

Tokyo Nissan Building, 2-31, Roppongi 6-chome, Minato-ku, Tokyo 106, Japan Telephone: 403-4131

November 14, 1975

Dr. Paul Armer 105 Hillside Ave. Menlo Park, California 94025 U. S.A.

Dear Dr. Armer,

We are delighted that you will be available to come to Japan the week of December 8. This will be a stimulating and exciting experience for the Japanese and I hope you find it to be the case also.

My wife will make plans to show your wife a bit of Japan once we know when to expect her. The culture here is very different from what one knows in the States. As a result, a trip to Japan can be both fun and educational.

Your stipend of \$2,000 and your expenses will be paid from our office in Mt. Pleasant as there is a control over funds leaving Japan.

The agenda for your visit is being developed this week. It will be sent to you when completed.

Trends in Data Processing in Japan as I see them are:

- 1. Japanese firms spend a larger percentage of the Sales Dollar on plant and equipment. Therefore they are advanced in the areas of process automation. The result is tremendous productivity gains.
- The movement to on line systems is gaining momentum, particularly in the banking area where capital is available.
- 3. Japanese business is moving off shore, particularly where pollutants or raw materials are involved. As a result, high speed data transmission by satelite will be a future trend.

November 14, 1975 Dr. Paul Armer Page 2

- 4. Minis, which are justified on the basis of a stand alone application are proliferating. Maintaining the many programming systems and merging the data already captured into a single data base is a problem.
- 5. Centralized data bases are in their infancy, but as they are better understood, management is understanding slowly the implications of the use of computers as a management decision making tool.
- 6. The demands on software are expanded exponentially. More complex systems with more automatic features that are easier to use are being demanded. These developments come slowly as the complexity impedes development.

These are some of my observations. Hope they are useful to you.

Sincerely,

Shelly Molten

Shelby Molter Manager of Ind. Operations Support - Production Industries

SM/kf



APHO

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES 202 Junipero Serra Blvd. • Stanford, California 94305 • (415) 321-2052 11-13-75 PAM Many months ago & promised to send you a copy of an article by my boss at RAND, John D. W. Ilians. due finally dug the box out of my garage and decided to include a number of orticles watter than just the one I had. at the time. My promise was made during a dismission of writing and you express an interest in seeing what he wrote considuation as an example of good witting for one of your classes at Pitt. The article & bad in mind was "The Small World", so if die werchelning you with poper just read it & discord the rest. That poper had a number of predecessors, one of which (Some Attributer of the charging Society - RM-2285) is also enclosed. Another ("Toward Intelligent Marlines' P-2170) is somewhat related to A.I The work of Newell-Show-Seinon greatly influenced B-144 & B-136-1 are the first a last of a series of presentations to the Aris Force all given one oftenoo I don't have copies of the others (they were not given by JDW) but they can probably be obtained if you'd like. This resentation was aimed at setting the his Force to Support AT ( ) ( Support AI hind of research in the Command ;

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Blvd. • Stanford, California 94305 • (415) 321-2052 Central area. IDW was again influenced by N55 work and by my pounding on him that the "Russians are coming" I yould remember my "Attetudes Toward dutelligent Machines in Computers & Thought based on the May 1959 trip that Willis Wore & I (and others) made to the USSR in May 1959] By the way, did d ever tell you that I reconted that thought? If not, a copy of it is enclosed. Il's P-3641 The vest of what's enclosed a random Selection of RAND Memoranda ( 9/19/63, 2/25/57 6/12/53) and even a letter (2-1562 of 1-25-55) Jastly is a profile of John from Rand's lione of an of May 1956. I thought you might be interested in Isnowing a bit about the man. In case you haven't guessed the was one of my household gode. Not just "one", but the highest in rank. If you'd like more, I have more. Best personal regards Baul

Mr. Shelby L. Molter IBM World Trade Asia Corporation Tokyo Nissan Building 2-31 Roppongi 6-Chome Minato-Ku Tokyo 106 JAPAN

Dear Mr. Molter:

As promised, enclosed are copies of several papers of mine and a copy of my vita. I'll write concerning my travel arrangements in a day or so.

I look forward to meeting you.

Sincerely yours,

Paul Armer

PA:mt

OFFICE OF TELECOMMUNICATIONS POLICY EXECUTIVE OFFICE OF THE PRESIDENT WASHINGTON, D.C. 20504 November 7, 1975

DEPUTY DIRECTOR

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, California 94305 Dear Paul:

As you requested, enclosed is a copy of Professor Rule's study. I also have asked that your name be added to our mailing list for privacy material. I too was pleased to meet you at the recent Roundtable discussion. I hope

Sincerely,

John Eger Acting Director

Enclosure

Prof. Eric von Hippei Principal Investigator NSF Innovation Study Room E52-537



11-7-75

douber Notetured the cal signafies, douber Notetured the cal signafies, a have a distribute to your on dis been because about sid your and dis been plane about sid your and dis been Massachusetts Institute of Technology Alfred P. Sloan School of Management **50 Memorial Drive** Cambridge, Massachusetts, 02139

August 22, 1975

Mr. Paul Armer Behavioral Sciences Corp. 202 Junipero Serra Boulevard Stanford, CA 94305

Dear Mr. Armer:

Thank you again for your willingness to share your knowledge of innovations in electronic computers.

We have merged certain of the items of information which you gave us with information from others and have come up with the composite innovation history which we enclose for your inspection. Would you be willing to check what we have written and see if it accurately corresponds with your knowledge of events?

If you feel that we have misunderstood what you told us, we would be very grateful if you would point it out. Please note any comments you may have on the sheet and return the sheets in the enclosed envelope. If the innovation key is essentially correct, please so note on the enclosed card and return it to us.

Sincerely yours,

Ante

Charles Musselman Marc Sievers Research Assistants

CM:1k

Enclosures Dear Paul-

you sent ! Your "oral history" transcript and Pan McCorduck's chapter wire especially rich and interesting. please let us know if there's any way we can Vepay you. Yours, C. Oh! and I did contact Willis ware and his helpful comments contained no suprises.

Bill Atchison



Institute for Certification of Computer Professionals/P.O. Box 1442, Chicago, Illinois 60690 312/427 6746

Reply to:

President: John K. Swearingen, CDP Vice President: Fred H. Harris Secretary: Paul M. Pair Treasurer: G. Gary Casper, Ph.D., CDP Corresponding Secretary: Jamie Fox

November 7, 1975

Mr. Paul Armer Center for Advanced Study in Behavioral Sciences 202 Junipero Serra Blvd. Stanford, California 94305

Dear Paul:

The Institute for Certification of Computer Professionals (ICCP) is conducting a workshop for the purpose of planning for the future structure of certification examinations for computing personnel. The workshop will involve 12 to 15 participants with relevant expertise, and the first session will be held at Nordic Hills, Itasca, Illinois (near the O'Hare Airport) on December 15-17, 1975. A more extensive description of the workshop is enclosed.

The purpose of this letter is to confirm your invitation to participate in the workshop. All your travel and local expenses will be paid but, due to limited funds, we are not able to pay consulting fees or honoraria.

The results of the workshop will have substantial influence on the future development of ICCP's testing programs, and I hope that you will be able to assist us in this effort. Please call me at 312/753-8401 if you have any questions.

Sincerely yours,

Fred H. Harris Vice President

FHH: jf enc.

ACM: Association for Computing Machinery ACPA: Association of Computer Programmers and Analysts AEDS: Association for Educational Data Systems AIA: Automation One Association

**Constituent Societies** 

- CIPS: Canadian Information Processing Society
- DPMA: Data Processing Management Association
- IEEE: Computer Society of the Institute of Electrical and Electronics Engineers
- SCDP: Society of Certified Data Processors

#### Planning Workshop

on

### Future Structure of Certification Examinations

The Institute for Certification of Computer Professionals (ICCP) plans to conduct a Planning Workshop to define the future structure of its certification examinations for computing personnel. External funding for support of the Workshop is now being sought and a list of suggested participants are being contacted to determine their availability.

### 1. The Objectives

ICCP recognizes the need to establish a framework within which it can make decisions for the expansion of its programs as it responds to the growing need for broader, more effective testing programs for personnel in the computing industry. Thus, the objectives of the workshop are threefold:

the definition of a long-range structure for testing programs;

the evaluation of existing programs and suggestions for enhancement thereof;

the development of a schedule, with priorities, for implementing new programs.

### 2. The Problem

Information processing is one of the most rapidly expanding industries in the world today. Because so much of man's activities involve information processing, the computer becomes more pervasive every day. In some of its applications (e.g., medicine or aircraft design), human life and well-being may be at risk. In other applications (e.g., government and business), organizational life and well-being may be at risk. Consequently, there has arisen a demand for certification of the persons who design, build and operate computer systems. There are some who believe that these computer professionals should be licensed by governments (local or national) before being allowed to practice. In order to effectively certify (or to license if one believes that certification should be a prerequisite to licensing) computer professionals over the complete spectrum of the field, a number of things must exist. We might think of what follows as a "task list." First of all, we require a taxonomy of functions (detailed job descriptions). Secondly, we need a taxonomy of the knowledge/skill areas appropriate to the information processing profession. Thirdly, we need a mapping of the knowledge/skill areas onto the various job descriptions. Fourthly, we require valid tests to measure various competence levels in all knowledge/skill areas.

The above applies equally to both certification and licensing since we believe that certification should be a prerequisite (it doesn't have to be so) to licensing. However, if one is to approach licensing for our field in a meaningful way, there is a fifth requirement: the specific job functions to be restricted to licensed personnel must be identified. The primary focus of the workshop will be on plans for certification rather than licensing.

## 3. Who Will Be Served?

Briefly, certification serves the interests of several groups. From the government's viewpoint the primary interests are ones of public safety and welfare. In the same sense that other professions are monitored when these issues are involved, the computer profession will be also.

From the public's standpoint, it is an issue of responsibility in the conduct of professional duties as they impact the public's safety and welfare.

From the employer's perspective, it is a desire to have a more meaningful yardstick on which to evaluate individuals for employment and advancement.

From the practioner's viewpoint, it is a desire to obtain a credential of substance with respect to peer group evaluation. The issue of substance, of course, is certification's value as a standard among the peer group, as a potential requirement for practicing in certain job functions, and--perhaps most important of all--for its monetary value in the marketplace.

We believe that certification is needed today and that licensing may become socially desirable at some time in the future. But even if certification and licensing were not required, we believe that our task list is socially desirable in order to help individuals stave off obsolescence through selfassessment tests. And what are they?

The information processing field is one of the most rapidly changing areas of science and technology of our age. Consequently, the knowledge that was sufficient for an individual to practice in a given position five years ago is apt to be quite insufficient today. Unless the individual works at keeping current with developments appropriate to his job function, he becomes obsolete. Self-assessment tests are a scheme for helping the individual avoid unwitting obsolescence by providing him with an evaluation of how he stands vis-a vis his peers. They help him to know what it is he doesn't know and direct him in a reading program (or in other modes of continuing education) to alleviate his ignorance. Self-assessment testing has been in use within the medical profession since 1968. Re-certification would provide evidence of currency.

### 4. What Is The ICCP?

ICCP is a non-profit organization established in 1973 for the purpose of testing and certifying knowledge and skills of personnel in computing. Its members are the professional societies in information processing. As a result, the Institutes program is a coordinated, cooperative, industry-wide effort.

The Institute acquired in early 1974 the testing and certification programs of the Data Processing Management Association (DPMA), including the Certificate in Data Processing (CDP) and the Registered Business Programmer (RBP). The CDP examination is given annually in test centers in colleges and universities in the U.S. and Canada. Since the inception of the CDP examination under DPMA in 1962, some 31,531 individuals have taken the exam. Of that number, 15,115 have been awarded the CDP. The test is directed primarily at business-oriented data processing at the management and supervisory level. It consists of five sections, each with sixty questions. The sections are:

- 1. Data Processing Equipment
- 2. Computer Programming and Software
- 3. Principles of Management
- 4. Quantitative Methods
- 5. Systems Analysis & Design

The RBP program has not been given for the past three years, and ICCP is committed to re-offering it as soon as possible.

ICCP has recently signed a long-term agrreement with the The Psychological Corporation for the conduct of testing and related programs for personnel in the computing industry. Under the agreement, The Psychological Corporation, through its Professional Examinations Division, will provide ICCP with (a) psychometric consultation and services and (b) administrative support for ICCP's testing programs, particularly the Certificate in Data Processing (CDP) Program. Equally as important, the agreement provides for cooperative efforts in the expansion of ICCP's programs to provide broader, more effective certification test coverage for personnel in the computing industry.

Currently there are eight associations and societies which are members of ICCP and support its activities. They are:

- ACM: Association for Computing Machinery
- ACPA: Association of Computer Programmers and Analysts
- AEDS: Association for Educational Data Systems
- A1A Automation One Association
- CIPS: Canadian Information Processing Society
- DPMA: Data Processing Management Association
- IEEE: Computer Society of the Institute of Electrical and Electronics Engineers
- SCDP: Society of Certified Data Processors

The combined membership of these societies exceeds 75,000.

#### 5. An Attack On The Problem

The ICCP exists primarily to address the problem previously described, and the Workshop to be held will provide ICCP with the planning necessary for a more active attack on it. As outlined in the first section, a major objective of the workshop is the development of a long range (ten year) structure for examinations (both for certification and self-assessment). It is ICCP's intent that this structure be based upon job functions on the one hand and knowledge/skill areas on the other. Thus the development of the two taxonomies in question (the first two items on the "task list") will constitute a major part of the Workshop's activities. In addition, as stated in the first section, other goals are the evaluation of the CDP and RBP programs with respect to the suggested structure with recommendations for changes in these programs, and the development of a schedule with priorities for implementing new programs.

The workshop will be made up of 12 to 15 individuals with expertise in psychometrics, curricula development, testing, occupational classification, personnel administration, and, of course, information processing. Among the participants we will have members of ICCP's Board of Directors, the Certification Council (which has responsibility for planning and directing the CDP Program), The Psychological Corporation, and other participants with expertise in the above areas.

The workshop will consist of two meetings: the first of three day's duration with participation by all parties involved; the second of two days with three or four of the participants to refine the activities of the larger group and prepare a report. The first meeting is scheduled for December 15-17, 1975 in Itasca, Illinois (near the O'Hare airport). Dates and place of the second meeting are not yet determined.

11/75 EF

Association for Computing Machinery Bernard A. Galler Department of Comp

**1133 AVENUE OF THE AMERICAS** NEW YORK, N.Y. 10036

Department of Computer and Communication Sciences 2076 Frieze Building Ann Arbor, Michigan 48104

November 5, 1975

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences Stanford University Stanford, CA 94305

Dear Paul:

I really enjoyed talking with you at length in Minneapolis. As you could tell, I was pretty fed up with the Council by the end of the week. I've decided to pretty much call it quits with ACM now. I'm not a committee chairman any more, I probably can't get travel funds, and I'm just very disappointed. So I "pass the baton" to you and the others, and I certainly wish you well. Thanks for your generous help on the proposal and everything else, and let's keep in touch, of course.

Sincerely, ence Bernard A. Galler

BAG/deb

State University of New York at Stony Brook Stony Brook, New York 11794

Department of Sociology telephone: (516) 6720/21/22

5 November 1975

Dear Prof. Urmer, I meant to write much earlier to thank you for sending me the copy of your testimony on June 23rd of this year. I foiled it very useful and I was pleased to see that I we have a number of concerns I have recently finished my report for Chris Helir's Offici, and I hope that they have shot iny own you a copy (I have not received my own Opres, but it was published only last week). with best wisher, yours, Jun Rule

StonyBrook

Dr. George E. Brosseau, Jr. National Science Foundation Advanced Productivity R&D 1800 G Street, N.W. Washington, D.C. 20550

Dear George:

Enclosed is a copy of a flyer on <u>Computer Power and Human Reason</u> by Joseph Weizenbaum--one of the books resulting from the Center's Program on Science, Technology and Society. It has been selected as an alternate selection by the Book-of-the-Month Club; an unusual occurrence for a scholarly book.

Best regards,

Paul Armer

PA:mt

Professor Anthony G. Oettinger Aiken Computation Laboratory Harvard University Cambridge, Massachusetts 02138

#### Dear Tony:

It was great to see you around Mr. Rockefeller's roundtable. Too bad you had to miss the second day. Not that you missed much, but it was different. It wasn't the fiasco that I feared it would be at the end of the first day, but it wasn't a howling success either. Carey and Etzioni pursued their narrow view to the bitter end.

I presume that you have seen the transcript. If so, you'll note that I drew on some of the material in Volume 1 of your program's report. You are to be congratulated for initiating such an important program. Would you put me on your mailing list?

A vignette from the roundtable: Rockefeller opened the press conference with a few words about the Domestic Council Committee on the Right to Privacy. After correctly naming it the first time in subsequent references he often called it the "Commission." A reporter later asked him if he saw any redundancy or overlap with the "Privacy Commission." Rockeffiler's response was that there was none--they were one and the same. This dumbfounded the reporter who asked the question but another reporter jumped in to say that what the other reporter referred to was the "Privacy Protection Study Commission." Rockefeller then asked something like "Is that a new Congressional Committee or something?" The reporter then explained that it was a Presidential Commission mandated by the Privacy Act of 1974. More than a little embarrassed, Rockefeller said that he didn't feel competitive; in fact, "he stood ready to turn the whole problem over to them." Quincy Rodgers didn't look very happy at that moment. I suppose the incident is a testimony to the incredible breadth of issues with which a President and Vice-President must be cognizant rather than to his disinterest in Privacy. In any event, it was a symbolic end to the roundtable.

Joan joins me in sending love to Marilyn, Margie and Doug.

Best regards,

Paul Armer

PA:mt

Dr. Edward A. Tomeski 280 N. E. Spanish Court Boca Raton, Florida 33432

Dear Dr. Tomeski:

I have received a copy of <u>People-Oriented Computer Systems</u> but have not yet had a chance to move than glance through it. Thank you for sending it to me.

Enclosed is a copy of the article of mine which you quoted. In "adapting" my graphs, you made several changes and one omission. The original graphs, which ended up as A, B & C on page 146 of your book, all referred to "CPU/Storage." Page 146 says only "Storage." I used the compound term as way of referencing the combination of the two. "Additions" on the X-axis of the graph (see B & C) doesn't seem appropriate for "storage." So, "storage" should be replaced by "CPU/Storage" in A, B, and C.

The X-axis of B should read "In thousands of additions per second" and not just "In thousands of additions."

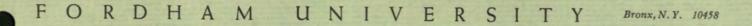
The reference should read "Adapted from Paul Armer, <u>Computer Aspects</u> of <u>Technological Change</u>, <u>Automation and Economic Progress</u>, Santa Monica, California: Rand Corporation Paper P-3478, February 1966, pp. 211, 212, 229.)

Sincerely yours,

Paul Armer

PA:mt

P.S. I'm enclosing a recent paper of mine. Senate Tuesternony of 1975 College of Business Administration



October 31, 1975

Dr. Paul Armer, Fellow Center for Advanced Study in the Behavioral Sciences

Dear Paul:

I trust that by now you have gotten a copy of my book PEOPLE-ORIENTED COMPUTER SYSTEMS.

It is already going for reprint, and I wish to ask your advice on your chart on p. 146. I am advised that in setup the titles of the charts were reversed.

Unfortunately, my copies of your original article are at home (I am on sabbatical fellowship in Florida), and the local university library does not have your article.

Maybe you could have your secretary send to me an Xerox copy of the original page, or you can send me a note about any incorrect data in the chart (it is from your article "Computer Aspects of Technological Change, Automation, and Economic Progress" pp. 211,212, 229, published by Rand Corp.).

Thank you so much in this regard.

With all best wishes,

Cordially,

Dr. Ed Tomeski

Please send reply to: 280 N.E. Spanish Court Boca Raton, Fla. 33432

933-2233 Ext. 275

As I hope our pathe may cross, for it would be enjoyable to Converse with you

# W.H.Freeman and Company

Publishers

660 Market Street, San Francisco, California 94104 Telephone: 415 391-5870

November 3, 1975

Mr. Paul Armer 105 Hillside Avenue Menlo Park, California

Dear Mr. Armer:

At the author's suggestion, we are sending you separately a complimentary copy of COMPUTER POWER AND HUMAN REASON by Joseph Weizenbaum. From the very beginning I have found this an exciting book. This excitement is shared by those, both here and elsewhere, who have had the opportunity to read the book in manuscript. These readers, as a group, and I, in particular, feel that this book will contribute significantly to understanding the effects of computer technology on man's view of himself and his world. We feel that this book deserves and will win a wide readership. With this in mind, I am sending copies to selected persons prior to the January 2, 1976, release date.

It is my hope that you, too, will be caught up by the author's arguments. I hope you enjoy the book and find it a valuable contribution to the debate, not only on the effect of computers on modern man, but on the broader issues raised by the author as well. If you agree with me on the importance of this book, I hope you will bring it to the attention of others through personal contacts or possibly in a review or other public comment. In any case, we are interested in your comments on this book and hope you will use the insert in your copy to send them to us.

Yours,

Peter Rezz

Peter L. Renz Editor

PLR:imp

P.S. I hope to get to gether with you some time at the Center. Petter

30 October 1975

Dr. Vivien Shelanski, Executive Director Program on Public Conceptions of Science Harvard University 358 Jefferson Physical Laboratory Cambridge, Massachusetts 02138

Dear Dr. Shelanski:

First of all, I want to thank you for your kind letter of 3 September 1975 and for the description of our Program on Science, Technology and Society which appeared in the October issue of your newsletter. Gerald Holton shared his copy with me. Would it be possible for you to add me to your mailing list?

Sincerely yours,

Paul Armer POSTS Program Coordinator

PA:mt

American Federation of Information Processing Societies, Inc.

210 Summit Avenue Montvale, New Jersey 07645 201-391-9810

October 29, 1975

TO:

ลโ

Paul Armer Chairman, EFTS Committee

FROM:

Albert S. Hoagland

SUBJECT:

Committee Charters

We are attempting to update the charters of AFIPS Committees and where there are committees with no charters of record, to develop one.

I have not been able to locate a charter for your committee. Would you please prepare a version that you believe represents your understanding of the role of your committee and forward it to me for our consideration. I would appreciate receiving this by November 14 if at all possible.

Thank you for your cooperation.

cc:

A. Ralston R. Rector memorandum

28 October 1975

Professor Joseph S. Szyliowicz Graduate School of International Studies The University of Denver University Park Denver, Colorado 20210

Dear Professor Szyliowicz:

Thank you for the invitation to participate in your conference on "The Future Interdependent Technological World." I have a previous commitment to be in Chicago by noon on April 23. This means that I would have to look to the University of Denver only for my marginal expenses (\$ 31.00 in airfare at today's rate schedule plus local expenses in Denver). But it also means that I would miss the third day of the conference. I leave it to you to decide whether or not you want to expend your limited funds in this fashion.

Should I attend, I believe that I could contribute more to the panel on administrative and organizational questions than to the other three.

In any event, I wish you success with the conference. I think it is an important topic.

Sincerely yours,

Paul Armer

PA:mt

# UNIVERSITY OF DENVER UNIVERSITY PARK + DENVER, COLORADO 80210



THE GRADUATE SCHOOL OF INTERNATIONAL STUDIES / THE SOCIAL SCIENCE FOUNDATION / 303 • 753-2324

October 23, 1975

Paul Armer, Coordinator Program on Science, Technology & Sociology Center for Advanced Study in the Behavioral Sciences Stanford University 202 Junipero Serra Boulevard Stanford, California 94305

Dear Dr. Armer:

I am writing to you because of your well known concern with the relation of technology to society to invite you to participate in a conference entitled "The Future Interdependent Technological World: A Conference on Graduate Education for Technology Management and Policy Analysis." The purpose of the conference is to bring together academicians who have been involved in graduate programs that seek to relate technology to society and persons from government, industry and research organizations who are potential employers of the graduates of such programs in order to discuss the present condition of these programs and the ways in which they meet (or fail to meet) existing and projected needs. The conference which will run April 21-23, 1976, will be one of several events we are planning for 1975-1976 to commemorate the 50th anniversary of the Social Science Foundation. It is being organized by our Program in Technology, Modernization, and International Studies which has received financial support from HEW and IBM. I am enclosing a brochure which briefly describes its goals and content.

Dr. Harrison Brown has agreed to deliver the keynote address and will discuss the problems that are created for graduate education by technological developments over the coming decades and the ways in which one might produce persons who can cope with the new environment in management and policy-making roles. In the afternoon we shall consider the same issues from the perspectives of persons engaged in a day to day basis with technology policy. We expect that Mr. Bodo Bartocha of the National Science Foundation will chair a panel that will include representatives of multinational corporations, government organizations and international agencies. In the morning of the second day a representative of the Cornell Program (Ezra Heitowit and/or Ray Bowers) will present the results of their NSF study on activities in this area. Professors J. C. Mathes and/or Kan Chen of Michigan will also participate. In the afternoon we shall move to a discussion of specific issues of goals and scope, curriculum, organization and the like under the chairmanship of Professor A. H. Rubenstein of Northwestern. The third morning will be devoted to a continuation of the discussion of these items (if necessary), and to questions of funding, cooperative arrangements, evaluation, etc. Two other experts who will also be involved in an active way in our program are Professor Eugene Skolnikoff of MIT and Mr. William Carey of the AAAS.

We are planning to maximize the participation of all who attend and the panels that we are organizing will therefore be structured in such a way as to permit as much interchange as possible between and among the panel members and the audience. At present we are considering four panels that will deal with:

- Intellectual issues (such as the goals of graduate education, the distinguishing element of programs such as these, and their relevance 1. to future needs).
- Problems of curriculum (What should be the content of a curriculum in terms of the skills or knowledge -- factual and theoretical? What should a student know at the end of his studies? What specific problems does 2. the interdisciplinary or multi-disciplinary approach pose? What are the problems and advantages for students, for employers of such training?, etc.)
- 3. Administrative and organizational questions (What are the strengths and weaknesses of various approaches available to an institution concerned with this issue area--dual degrees, collaborative centers, etc.? What is the ideal undergraduate training for those seeking placement in graduate programs in technology policy analysis? How does one recruit students? How should career guidance and placement efforts be organized? What internships are available?)
- 4. Future needs and prospects (What sources of funding are available? What inter-institutional linkages should be associated? What is the role of
- scholarly associations such as AAAS?)

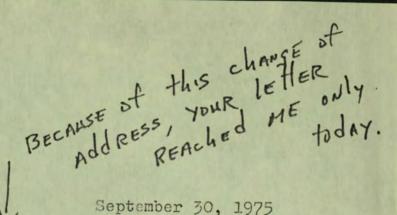
I invite you to share your experience and expertise on one of the above panels and if you could indicate your preference we will do our best to accommodate you. If you would prefer to attend as a workshop participant please let us know.

Like all university programs we are, unfortunately, in a very tight financial situation and we are trying to organize what should be a stimulating and important conference on what is really an inadequate budget. Accordingly we would like to impose upon your goodwill and concern with the development of this field to ask whether you are in a position to assist us by defraying all or part of your expenses from your own resources. Should it be necessary, however, we are in a position to negotiate with you about our participation in expenses since we believe that you could make an important contribution to the success of this conference. I look forward to hearing from you soon so that we might make the appropriate

arrangements.

Sincerely yours, Szyliowicz Joseph S. Professor

JSS gt Enc



September 30, 1975

MR Prof. Paul Armer Computation Center-Stanford University. Stanford, Calif. 94305

CENTER FOR Advanced Study IN the BEHAVIORAL SCIENCES 202 JUNIPERO SERRA Blud

Dear Prof. Armer,

I would be grateful for a reprint of your article

The Individual, His Privacy, Self-Image and Obsolescence in Computers and People

as well as any other papers on this (subject.)

10 27 75

WMAT do YOU MEAN by Sincerely, HLIS SUBJECT '' Do YOU Lester Mail HEAN 'Dbsolescence DR " JOI Vest AV MEAN '' DR Self-IMAJE ''PRIVACY DR Self-IMAJE ''RIVACY DR Self-IMAJE COMPUTERS' OBSOLESCENCE (SIGCPR-1972) COMPUTERS' OBSOLESCENCE (SIGCPR-1973) COMPUTERS' OBSOLESCENCE (US, SeNATE -1973) A PAPER ON OBSOLESCENCE (US, SeNATE -1973) A PAPER ON A PAPER (4th Austantian Computer Con A PAPER ON PAPER (4th Austantian Computer Con PAPER ON JENERAL PAPER (4th Australian Computer Cont. -1969)

or

Lester Mailman

910 West Ave. #434 Miami Beach, Fla, 33139



Institute for Certification of Computer Professionals/P.O. Box 1442, Chicago, Illinois 60690 312/427 6746

Reply to:

October 22, 1975

William J. Horne, CDP Boston College School of Management Chestnut Hill, Mass. 02167

Dear Bill:

You asked me to put in writing the suggestion I made at the ICCP Board meeting in Chicago about enhancing the selfassessment aspects of the CDP examination.

Put in its simplest terms, two things are required. First of all, for each test item we need the answer to the following question: "If this test item was missed, reading pages n to m of textbook x and/or journal article y and/or journal article z will enable (we hope) the testee to answer the item correctly the next time.

The second requirement is to return to each testee information on which questions he missed by item number. Since he doesn't get the actual question back, test security is maintained.

Re security, we must assume that the list of text books and journal articles will be used by subsequent testees. In fact, that list becomes a bibliography or reference list of sorts. We might even mail year n's list to the applicants in year n + 1. If said list does not cover the field, then we would worry that testees might limit themselves to just the books and journals on the list. The obvious answer to that is to make sure the list does vary from year to year.

The above is the only cost other than financial costs which I see for this program.

The added attraction of taking the exam as a self-assessment exercise would, I suspect, (I don't really know the financial costs at this moment) generate enough income to pay the added



ACM: Association for Computing Machinery ACPA: Association of Computer Programmers and Analysts AEDS: Association for Educational Data Systems AIA: Automation One Association **Constituent Societies** 

CIPS: Canadian Information Processing Society

DPMA: Data Processing Management Association

IEEE: Computer Society of the Institute of Electrical and Electronics Engineers SCDP: Society of Certified Data Processors William J. Horne, CDP October 22,1975 Page -2-

financial costs.

Best regards,

Paul

2. . .

Paul Armer

cc: All Members of the Board

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### DATA PROCESSING MANAGEMENT ASSOCIATION



### WESTERN COMPUTER CONFERENCE & EXHIBITS

P. O. Box 7953 San Francisco, California 94120

October 21, 1975

Mr. Paul Armer, 105 Hillside Ave. Menlo Park / Ca 94025

Dear Mr. Armer,

Enclosed please find our check for \$ 4.50 for your travel expenses to San Francisco at the occasion of our regional Western Computer Conference.

Judging by the many compliments we have received from the registrants, your presentation at the conference was a major contribution to the success of our endeavour and once more we express our gratitude for your consent to be a speaker at our conference.

Sincerely,

Louis F. Wayers, Chairman WESTERN COMPUTER CONFERENCE & EXHIBITS

the particular and the particular to

EFT Street, N.W., Washington, D.C. 20037 202-296-0590



Philip S. Nyborg Director, Washington Office

October 20, 1975

Mr. Paul Armer Center for Advanced Study in Behavorial Sciences 202 Junipero Serra Blvd. Stanford, California 94305

Dear Paul:

In a recent meeting with Pender McCarter, editor of the new EFTS. Industry Report, I suggested that AFIPS and EDP News Services might cooperate in producing a conference on EFTS. You will see from McCarter's enclosed letter to me that the reactions of both McCarter and his publisher are generally positive. I will hold off on proceeding further until I have your reaction, but it seems to me that a cooperative effort would substantially help to insure the success of such a conference.

I have also enclosed a Comptroller of the Currency news release which should be of interest to you.

Very truly yours, 1S. Hyborg Philip S. Nyborg

PSN/mt

cc: A. Ralston R. Rector Washington Activities Committee

enclosures

& and to diet (Amer



news services

of washington

7620 LITTLE RIVER TURNPIKE, ANNANDALE, VA. 22003 . PHONE (703) 354-9400 . TWX 710-831-0032

October 16, 1975

Mr. Philip S. Nyborg Director, Washington Office AFIPS 2100 L Street, N.W. Washington, D.C. 20037

Dear Phil:

Thanks for the lunch and for your time today. I was glad to have a chance to get better acquainted.

I agree that the idea of an AFIPS/EDP News Services Conference on EFTS is intriguing. I have discussed it with both our managing editor and publisher. Both seem very interested. I feel we could contribute much in time, publicity, sources, and other information.

I have enclosed a copy of the Comptroller's statement suspending his CBCT regulation, a recent magazine article on EFTS by Russell C. Browne, information on two ABA publications, a press release on AM's Card Security Feature, background on the ABA's Bank Card Security Seminar in Louisville this week, and another press release on an EFT seminar.

I appreciate your information on EFTS publications as well as the news on the Association of Government Accountants Conference in Baltimore. From our talk today, I hope to emphasize legal implications of EFT more in our newsletter. I will welcome your suggestions about the content of <u>EFTS -- Industry Report</u> as we go along. Hope you will let me know when you would like to visit our offices; I would like to treat you to a meal at Vivas in Annandale. Talk to you again.

Sincerely,

Ponder

Pender M. McCarter Editor



Enclosures





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FOR RELEASE October 10, 1975

The Comptroller's Office has received many inquiries concerning the status of Interpretive Ruline 7.7491, Customer-bank Communication Terminals ("CBCTs"), 40 F.R. 21700 (May 9, 1975, in view of recent litigation relating to this ruling. This statement is being issued in response to those inquiries.

Eight different lawsuits have been filed challenging I.R. 7.7491. The Comptroller is a party to five of these lawsuits. In two of these lawsuits federal district courts have entered final decisions and orders. <u>State of Colorado</u> v. <u>First National Bank of Fort Collins and Smith</u>, D. Colo., Civil No. 75 M 397 (May 28, 1975), <u>appeal pending</u>; and <u>IBAA</u>, <u>et al</u>. v. <u>Smith</u>, D. D.C., Civil No. 75-0089 (July 31, 1975), <u>appeal pending</u>.

The <u>Colorado</u> opinion upheld the Comptroller's ruling except to the extent that the CBCT in that case was permitted to receive each or other item: for subsequent deposit. In the <u>IBAA</u> case, the district court found the Comptroller's entire ruling to be "without merit". The Court entered an order reading in part as follows: FURTHER ORDERED that Defendant and all persons acting under his direction and authority or in active concert or participation with him be and hereby are, permanently enjoined from further implementation of the ruling, and any authority heretofore given to national banks by the ruling is hereby rescinded.

No national bank was a party to the <u>IBAA</u> case. A stay of the District Court's order pending appeal was sought by the Comptroller and denied. The Court of Appeals, however, has granted an expedited hearing on the merits of the appeal.

Inasmuch as the Comptroller's implementation of the interpretive ruling has been enjoined, the Comptroller has, suspended it pending further appellate proceedings. Accordingly, the 30-day notice requirement and all other provisions contained in the ruling are no longer in effect. National banks seeking to establish CBCTs must rely upon the advice of their own legal counsel.

The Comptroller intends both to pursue the appeal of the IBAA case and to defend the other lawsuits involving CECTs to which he is a party. Consistent with the Comptroller's position before the courts, the Comptroller will not accept or process branch applications for the installation of CECTs. However, national banks are cautioned that the Comptroller will not hesitate to use his supervisory powers to eliminate any unsafe, unsound, or anti-competitive practices among national banks which might come to the Comptroller's attention.

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- 2 -



THE VICE PRESIDENT WASHINGTON

October 17, 1975

Dear Paul:

I want to express my personal appreciation for your participation in the Domestic Council Privacy Committee's Roundtable discussion on Privacy and Information Policy. It was a very thoughtful and stimulating session. Your willingness to spend a considerable amount of your time in this process was a great contribution to our inquiry.

The briefing and the sessions which preceded it were rich in ideas and concepts. The process of digesting them will now begin. I hope that we can continue to call upon you as this proceeds.

With warm regard,

Sincerely,

Melimas Corey der

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Dr. Paul Armer Center for Advanced Study in Behavioral Sciences 202 Juniper Sierra Stanford, California 94305

### STANFORD UNIVERSITY STANFORD, CALIFORNIA 94305

COMPUTER SCIENCE DEPARTMENT

Telephone: 415-321-2300

October 17, 1975

Dr. Paul Armer 105 Hillside Avenue Menlo Park, CA 94025

Dear Paul:

Thanks very much for the picture

from your party. We should get

together some time again.

Shall we have lunch soon?

Sincerely yours,

06

Robert W. Floyd

RWF:jb

16 October 1975

Mr. John Chancellor NBC News 30 Rockefeller Plaza New York, New York 10020

Dear Mr. Chancellor:

Early last June NBC News carried several stories about government computer networks--the reporter being Ford Rowan.

While I am most sympathetic to Mr. Rowan's concerns about privacy and the government's misuse of computer technology, I believe he does the cause much more harm than good when he attacks the government for things which they have not done. Because the government can readily point out that Mr. Rowan had many of his facts all wrong, all critics of the government's use of computers and data banks become suspect. In fact, he had things so badly fouled up that I felt compelled to defend networks and the government against Mr. Rowan's newscasts when I was invited to testify in the U.S. Senate about computers and surveillance. A copy of my testimony

One of the hallmarks of wisdom is to understand our own limitations. In this regard I believe that Mr. Rowan's behavior with respect to the stories of last June was grossly irresponsible. I trust that in the future Mr. Rowan (or whoever is doing stories on computer abuse) will have the good sense to check with experts in the computer field before reporting so confidently on a subject about which he obviously knows so little. In this regard I was pleased to hear that Mr. Rowan had been in touch with Dr. Philip S. Nyborg of the Washington office of the American Federation of

I must say that Mr. Rowan's reporting has shaken my faith in NBC News. Is your reporting in fields where I wouldn't recognize hogwash any better than it was when I was in a position to know that it was so poor?

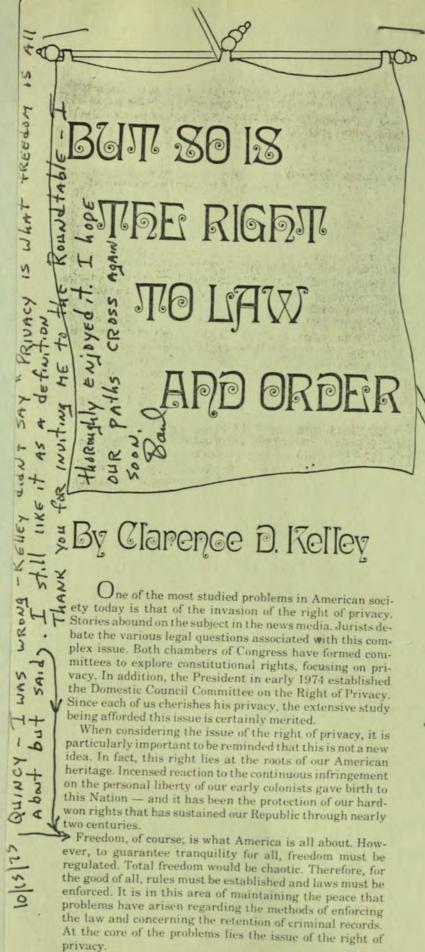
Sincerely yours,

cc: Mr. Ford Rowan Dr. Philip S. Nybord

Paul Armer Fellow

PA:mt

bcc: Dr. Robert Rector Dr. Willis H. Ware



Clarence D. Kelley is the Director of the Federal Bureau of Investigation.

January/February 1975 TRIAL MAGAZINE Interestingly enough, this right is not defined nor specified in our Constitution. Yet, the principle of privacy permeates this document. Though privacy is not specifically mentioned, it is certainly a factor in the First Amendment (religion, speech, press, assembly; Third Amendment (quartering troops); Fourth Amendment (unreasonable search and seizure); Fifth Amendment (selfincrimination); and Ninth Amendment (rights enumerated in the Constitution not to be construed to deny or disparage others retained by the people). Therefore, to paraphrase my earlier statement, privacy is what freedom is all about.

In its more than 60 years of operation, the Federal Bureau of Investigation (FBI) has been acutely attuned to protecting individual rights and liberties. The right of privacy is - and has been - of importance to the FBI in all of its activities. For instance, FBI records contain a vast amount of information which, if improperly maintained and disseminated, could be the cause for genuine concern by those most interested in the right of privacy. Fully realizing this, the FBI remains keenly aware of the necessity to safeguard the data entrusted to our organization. In addition to protecting the privacy of persons by imposing strict controls over accumulated data, the FBI also confronts the issue in certain phases of its investigative efforts. The right of privacy is one of the factors concerning how penetrating an FBI investigation can be and to whom the results can subsequently be reported.

### INFORMATION SYSTEMS

Criminal justice information systems are the target of those most concerned about the possibility of the invasion of privacy. Criticism is leveled at the types of information stored in the systems, the validity of the data, the necessity for the information, the dissemination of the material, and the eventual purging or retention of the information. While

(continued on page 27)

#### DIPL.-ING. FRED MARGULIES Sekretär der Gewerkschaft der Privatangestellten

WIEN, AM 1975-10-14 A-1013 WIEN, DEUTSCHMEISTERPLATZ 2 TEL. 34 35 20 - DW 204

Prof. Faul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Bd. Stanford, CA 94305 USA

Oct 14, 75

Dear Professor Armer,

I was very pleased to receive the clipping from the "New Scientist" you sent me. It was very kind of you to pass this interesting piece of information on to me and I was especially glad to see that you continue to take interest in TC 9.

You will have received Kelly Gotlieb's report on our Boston meeting which, I believe, was very successful and promising. We intend to meet again in February in Amsterdam. Willthere be any chance of having you with us? We should be only too glad.

Hope you are keeping well and your health has improved further.

Best regards,

Fidlangenhin



# International Computer Programs, Inc.

August 1, 1975

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, California 94305

Dear Paul:

We received your article for SOFTWARE FORUM on July 30 and will be glad to send you at least six copies of the magazine when it hits the street.

Just Received A copy of Vol. 1

NAME of YOUR NEW MASAZINE DUER

MAGAZINES? IN ANY EVENT, I'd LIKE

to hold you to your promise to send

And since you didn't use the pictures of my family and ME taken by David KERR, would it be

POSSIBLE FOR YOU TO RETURN THEM TO ME

OR to David if YOU prefer to do it that WAY? HE Suggested that I write to you and

ENclosed is my check and subscription form.

Software FORUM. OR ARE tHERE two

No. 1 of Bottomline And ASSUME

10/6/75

Sincerely,

Gwen Wilson Administrative Assistant that Bottomline wow out as the to the President

1119 Keystone Way 🔹 Carmel, Indiana 46032 🔹 (317) 844-7461 🔹 Telex 027-2326

ASK FOR thEM.

ME Add, tioNAL copiES.

### INTERNATIONAL FEDERATION FOR INFORMATION PROCESSING

TAX R MEXIX AN

The Past-President

Mr. Paul ARMER Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Blvd. Stanford, CA 94305 USA

Vienna, 1975-10-01

Dear Paul,

It is really good news that your health troubles are almost gone. I cordially wish they go totally and never come back.

Thank you for the copy of the "New Scientist", which gave me the original to a much less understandable, shorter version in the form of a press cable that created some confusion in our Paris Headquarters.

TC 9 seems to proceed well and I hope it will remain a sound child of IFIP. Please continue to support it! Its next activity will be the Varna Conference and I hope that Hatvany and the Bulgarians will do a good job.

If I come to California I will tell you in advance and try to meet you.

Once more best wishes,

Sincerely yours,

Prof. H. Zemanek

I read with Sad Smile (if this is the correct term) the Naucy Toy article on Barcley's Bank traveller cheppe exchange and your connect

# 1976 National Computer Conference June 7-10 New York Coliseum

Stanley Winkler Program Chairman IBM 18100 Frederick Pike Gaithersburg, Md. 20760 301-840-7384

September 24, 1975

MR PAUL ARMER CENTER FOR ADV STUDY IN BEHAVIORAL SCI 202 JUNIPERO SERRA STANFORD CA 94305

#### Dear Colleague:

I want to thank you for becoming a member of the Referee Team for the 1976 National Computer Conference. In the interval since you accepted Carl Hammer's invitation to join the Team, much of the preparatory work for the Conference has been completed. We are now ready to receive papers and send them to the Referees. With each paper you receive, there will be instructions and a review form.

I am happy to report that we have a computer program (writ by Carl's hand) to keep track of all papers. Our Team is over 1200 strong and therefore, unless human error occurs, you will receive only one or two papers in your specialties to review and only one paper at a time. Incidentally, the mailing label for this letter was prepared by Carl's program. Since the computer sometimes misreads Carl's Gothic script, would you correct any error? Please send me any changes which should be made in the listing of your name and address. Is your name printed as you want it to appear in the 1976 National Computer Conference Proceedings?

A reprint (with permission) of Jean Sammet's ACM President's letter, "About the Refereeing Process" is enclosed just in case you missed when it appeared. Also enclosed is a copy of the latest '76 NCC Brochure for your use, as well as a copy of the Call for Papers. You are invited to submit a paper, but, of course, you will not be asked to referee your own paper.

I am delighted to be part of the same Team with you. I know that, because you are helping, the technical quality of our Conference will be the best in the 25 year history of these meetings.

Cordially yours,

cc: Dr. Carl Hammer

# **Privacy Journal**

An Independent Monthly on Privacy in a Computer Age

P.O. Box 8844

Washington, D.C. 20003

(202) 547-2865

ROBERT E. SMITH Publisher

September 22, 1975

Paul Armer 105 Hillside Avenue Menlo Park, CA 94025

Dear Paul,

I'll be in San Diego for a speech November 14. If you -Aknow of any groups looking for a speaker on privacy immediately before or after that engagement please I don't KNOW tell them of my availability. I usually get \$100 of ANY At the plus expenses (from San Diego) but that could be altered if it presents a major problem for an organization.

If I Responded the back page of the July issue indicating we don't disclose our mailing list? It was dedicated to you. EVERY TIME

Keep me in mind as you come across privacy news. - Will do

With best regards.

be VERY yours truly,

REED with

MOMENT

YOU WROTE

Something

9/29

Robert Ellis Smith

busy to YOU .

BEST RESARds Ren

Same Letter to Ken Arrow

September 12, 1975

Dr. Lewis M. Branscomb I.B.M. Corporation Old Orchard Road Armonk, N. Y. 10504

Dear Dr. Branscomb:

As you know, we have just begun the last year of our POSTS grant. With programming and planning decisions behind us, the need to husband the remaining funds of the grant dictates that we plan no further meetings by the Advisory Council. If you have other thoughts on this, I'll be pleased to discuss them with you.

On behalf of the Center, O. Meredith Wilson and myself, I want to thank you for your contributions not only to POSTS but to the Center in general. The Center has benefitted significantly from your participation in POSTS and Center affairs.

Should you have any expost facto thoughts about POSTS or the Center, I would appreciate hearing them. I hope that the spirit of the relationship which existed between you and the Center will continue. Ve need friends like you.

With best regards.

Cordially yours,

Gardner Lindzey

GL:G

September 12, 1975

Dr. David A. Hamburg Dept. of Psychiatry Stanford University Medical School

Dear Dave:

As you know, we have just begun the last year of our POSTS grant. With programming and planning decisions behind us, the need to husband the remaining funds of the grant dictates that we plan no further meetings by the Advisory Council. Similar reasoning leads us to conclude that it might be better not to reactivate your "scientist in residence" status at the Center for 1975-76. If you have other thoughts on this, I'll be pleased to discuss them with you.

On behalf of the Center, O. Meredith Wilson and myself, I want to thank you for your contributions not only to POSTS but to the Center in general. The Center has benefitted significantly from your participation in POSTS and Center affairs.

Should you have any expost facto thoughts about POSTS or the Center, I would appreciate hearing them. I hope that the spirit of the relationship which existed between you and the Center will continue. We need friends like you.

With best regards.

Cordially yours,

Gardner Lindzey

GL:G

### UNIVERSITY OF CALIFORNIA, SAN DIEGO

SANTA BARBARA · SANTA CRUZ BERKELEY · DAVIS · IRVINE · LOS ANGELES · RIVERSIDE · SAN DIEGO · SAN FRANCISCO Phone lim in Wind November wind November Novepart THIRD WORLD STUDIES LA JOLLA, CALIFORNIA 92037 THIRD COLLEGE September 12, 1975 Dear Paul : The enclosed summarizes my forthcoming book, which has changed substantially since my year at the Center. It occurs to me that you should know what the end product will be, as a I would not want to acknowledge NSF support and Then learn that the acknowledgement is a source of embarrasment for your because of the discrepancy between my All the best hepter P.S. I'm Adjunct Propessor here at UCSD, and Offering a come on The History of the Third World, which is The subject of my current project.

# DOMESTIC COUNCIL COMMITTEE ON THE RIGHT OF PRIVACY

WASHINGTON, D.C. 20504

September 12, 1975

Dr. Paul Armer Center for Advanced Study in Behavioral Sciences 202 Juniper Sierra Stanford, California 94305

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Dear Dr. Armer:

This confirms your participation in a Roundtable on Information Policy, to be sponsored by the Domestic Council Committee on the Right of Privacy (DCCRP), on October 8 and 9, 1975, in Washington, D.C. The Roundtable will explore questions of information policy and options for government strategies to deal with information in a free society. in the

The Roundtable will culminate with a briefing by the participants for the Vice-President, who is the Chairman of the DCCRP. The briefing will involve a dialogue with the Vice-President about the ideas which emerge from the discussions.

Though the Roundtable will begin on the morning of October 8, participants are urged to gather for dinner on Oct. 7. Further details concerning arrangements will follow shortly.

Questions concerning information and knowledge (e.g., creation, collection, dissemination, availability, ownership, control, use, purpose) are being addressed increasingly by policy makers in government and the private sector. Federal attention currently centers upon freedom of information and privacy; these issues are the leading edge of a host of related information policy matters. Attached is a bibliography provided for the purpose of stimulating your thinking about the Roundtable. Also included is a copy of a Conference Board Report which addresses some of these problems. These documents are meant to be suggestive - not exhaustive. The participants will be the primary force in setting the Roundtable agenda, both through discussion with one another and with staff of DCCRP prior to the assembly.

We are pleased that you can join in this most important exercise. We look forward to the Roundtable.

Sincerely,

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M. S. Star

Quincy Rodgers V Executive Director

QR:sp Enclosures

2.33 Cather Street State Co



September 11, 1975

For localded

MEMO TO: Elkana, Lederberg, Merton, Thackray and Zuckerman FROM: Gardner Lindzey SUBJECT: Further Funding Under POSTS

This is in response to Josh's letter of 1 September 1975 requesting additional POSTS funding for your joint effort on continuity and discontinuity in scientific development. While it is clearly worthwhile and appropriately a part of POSTS, unfortunately all the funds remaining under the grant have been earmarked. To divert POSTS funds to your effort would require Center funds to cover the displaced expenses.

Consequently, it would seem appropriate to pursue the "new grant application" mentioned in the first paragraph of Josh's letter. Since the time period of the new grant would overlap with POSTS (and for other reasons), RANN would not seem to me to be the place to seek support. You are probably a better judge than I am of just where to submit it, although I do have some thoughts if you want them. It is also my opinion that the request should cover just your proposed project and not be part of a proposal from the Center for a general effort in the science, technology and society area. In view of the past history of the project, having the Center as the grantee for the continuing effort seems quite appropriate to me. It has the added advantage that there would be no need for any indirect costs to be added to the budget.

Paul Armer, Pam Gullard and I stand ready to help with a new grant application in any way we can.

### CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Boulevard • Stanford, California 94305

Telephone (415) 321-2052

10 September 1975

Mr. Quincy Rodgers, Executive Director Domestic Council Committee on the Right of Privacy 1800 G Street, N.W., Room 709 Washington, D.C. 20504

Dear Mr. Rodgers:

PA:mt

First of all, I want to repeat my acceptance of your invitation for October 7-9. Secondly, I want to urge you to give some emphasis in the program to a discussion of Electronic Funds Transfer Systems. I grant that most people would consider it just another piece of the privacy issue, but I think its surveillance aspects make it a bit broader and different. Further, I think the surveillance problem is not well known at this time. I suspect that it will come to the public's attention before many of the other issues do. I am enclosing copies of testimony I have given on this on two occasions before Senate committees.

Another issue I am personally concerned with is the obsolescence of skills. While an impact of technology in general, rather than of computer technology in particular, I often include it under computers and public policy for a number of reasons. For one, I first encountered it in the computer field. For another, the computer is an agent of change in almost every field. I'm including a copy of testimony on this topic given before the House Committee on Science and Astronautics.

And in case you had trouble finding it, I am also enclosing a copy of the article I mentioned to you yesterday entitled "A Problem-List of Issues Concerning Computers and Public Policy" from <u>Communications of the</u> ACM, September 1974.

I look forward to meeting you and to participation in the meetings of October 7-9.

Sincerely yours,

Band Ann

Paul Armer Fellow

P.S. MAY I AGAIN SuggEst INcluding DANIE! McCRACKEN (the chairman of ACM's Committee on Computers and Public Policy) Among the INVITEES? His phone Number 15

### TECHNOLOGY ASSESSMENT BOARD

OLIN E. TEAGUE, TEXAS, CHAIRMAN CLIFFORD P. CASE, N.J., VICE CHAIRMAN EDWARD M. KENNEDY, MASS. MORRIS K. UDALL, ARIZ. RICHARD S. SCHWEIKER, PA. TED STEVENS, ALASKA MARJORIE S. HOLT, MD.

ERNEST F. HOLLINGS, S.C. GEORGE E. BROWN, JR., CALIF. HUBERT H. HUMPHREY, MINN. CHARLES A. MOSHER, OHIO EMILIO Q. DADDARIO

Congress of the United States OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON, D.C. 20510

EMILIO Q. DADDARIO DIRECTOR DANIEL V. DE SIMONE DEPUTY DIRECTOR

September 9, 1975

Dr. Paul Armer Center for Advance Studies and Behavioral Sciences 202 Junipero Serra Blvd. Stamford, California 94305

Dear Paul:

Thank you for your August 1st package of POST REPRINTS, I found them, as one might expect, both fresh and instructive. Your testimony on computer technology on surveillance was particularly felicitous, perhaps because our thinking is so much in parallel. I would like to receive the material you mentioned in relation to Senator Percy's Amendment #495 to S-495. The enclosed annual report may interest you.

Yours truly,

Joe Coates

1115 Georgina Avenue Santa Monica, California 90402

September 8, 1975

Mr. Paul Armer 105 Hillside Avenue Menlo Park, California 94025

Dear Paul and Joan:

I was always told when Paul was here that it was Helen Snell who kept his date book of birthdays, anniversaries and other important events. Obviously, however, since Paul so thoughtfully remembers me each year, that was a cover story for his own careful and thoughtful recordkeeping. I do appreciate your kindness in sending a card to me.

I have no present plan to be in the Bay Area, but I am gradually accumulating a number of things to do, and hopefully one month soon I will have a chance to visit. Certainly, you two will be at the top of my list. The computer study has required much more immediate follow-up than any of us expected, and so my anticipated slack off in workload here in September has not yet materialized. Such is life.

I hope all is well with you two and the family, and I'm sure that Joan is having an exciting time with her new career in nursing. Floy sends her regards to you both.

Best wishes,

Willism

Willis H. Ware

WHW:ph

Fred

Dear Paul:

WEd

1:30

Thanks for the critique of my paper. Your comments are acute, and will lead to changes. I must refute some of your remarks, thoouugh.

You should still have a copy of COMPUTERS IN THE SOCIAL ENVIRONMENT. See page 147, where an actual sales slip from Sears is reproduced, digit by digit. It's the original (by "<u>unreadable</u>" I meant that it's <u>undecipherable</u>). Even with the legend given just above it, to explain what I knew I had done, it's still quite a chore to figure the damn thing out. And it's getting worse, not better. The degree of human engineering here is like zero. Why we put up with it, I don't know. But you're right in that I shouldn't compare a cash transaction with a credit transaction.

Fred Brooks' article in DATAMATION documented pretty well how the cost of software goes up with complexity-it also, for the first time that I know of in public, showed just what those costs are, and they're a lot higher than we used to think. Walt Bauer has kept statistics over some years, which show a steady trend up. For large size jobs that require original code (that is, s that do not utilize large hunks of previously checked code), the cost per instruction (statement, or what have you) has gone steadily up over the years and is still climbing.

I'll agree that you're smarter than my average reader; sometimes you're smarter than almost anybody. Incidentally, I may not send that article to D/M after all; when I polish it up a bit, it may be more suitable for PC, which is where my heart is. Our circulation keeps going up, slowly, to be sure, but steadily. When we started, we felt that by the time computing became a national fad, we would be in our 4th year already. It has come sooner than that, and there we are, the oldest publication in this hot new field. Sure you wouldn't like to go back on the masthead? It's

BROOKS- DTM- WHEN? DEC 74

## HARVARD UNIVERSITY

### DEPARTMENT OF PHYSICS

JEFFERSON PHYSICAL LABORATORY CAMBRIDGE, MASSACHUSETTS 02138

3 September 1975

Dr. Paul Armer Program Coordinator Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, CA 94305

Dear Dr. Armer:

I am grateful to you for providing me with the Second General Report of POSTS. The concise yet substantive descriptions of the various research projects provide an excellent overview of the program's scope. The Report will be included in the bibliography of the next issue of the publication of our program, The Newsletter of the Program on the Public Conceptions of Science.

Sincerely yours,

Vivien Shelenski

Vivien Shelanski Executive Director Program on Public Conceptions of Science

/j1

September 3, 1975

Dr. Willis H. Ware The RAND Corporation 1700 Main Street Santa Monica, California 90406

Dear Willis:

Thank you for your letter of August 13. In it you mention that you are enclosing two letters re the Rowan (NBC) business -- they were not enclosed. I would be interested in seeing them. I would also be interested in seeing the Dick Eberhardt survey instrument you offered to send me.

I'm pleased to hear that your intensive review of the Air Force computer problem seems to be going well. I had a call from J. M. McKenney of Harvard on Tuesday re your letter to the <u>Harvard Business</u> <u>Review</u>. Since he should have reached you by now, I won't repeat what he had to say. If he hasn't reached you, call him.

I hope we get to see you before too long -- either up here or down there, or in Washington. I'm beginning to wonder if Ford will ever appoint the EFTS Commission.

Best wishes,

Paul Armer

PA: jw



August 13, 1975

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences, Inc. 202 Junipero Serra Stanford, California 94305

Dear Paul:

Thank you for your letter of 23 July and its several enclosures. In response to your question, my best intelligence is that the other two votes for Ware were Goldwater, Jr. and Bill Bailey of Aetna Life Insurance. A possible conjecture to explain the vote is simply that of a partisan position.

In connection with the Rowan business, enclosed are copies of two letters that drifted in to me in its aftermath. They might be of interest to you. It happened that I heard his appearance on the Today show, and I find it very distressing. To me, he came across as a young journalist who thought he had another Watergate in his hands and would get a Pulitzer Prize for exposing it. So far as I could conjecture, he had picked up fragments of information about the ARPANET, COINS, NCIC, and who knows what else, and then built the most flamboyant story that he could conceive. I happened also to hear him once or twice again in that same week when he gave short spot aspects of his supposed picture. That same week, I cooperated with the Domestic Council Committee on Privacy and also to some extent with ARPA and also with Rand in formulating a rebuttal position in case anyone should be directly approached for comment.

You may know that Dick Eberhardt of Commerce has been proposing to do a survey of private industry to ascertain how it uses personal information and what the opportunities for abuse are. His survey instrument has been through roughly eight iterations and is consistently growing better. I recently commented on the "final version" and I would estimate that one more iteration will have it in satisfactory shape for mailing. If you have not seen this and would be interested, I can certainly supply you the most recent version of it. It has been sent to OMB for clearance, but my critique and comments on this last version went both to Eberhardt and OMB, so I would anticipate that some changes will yet be made before final approval.

Mr. Paul Armer August 13, 1975 Page Two

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I won't go into enormous detail at the moment, but it appears that our intensive review of the Air Force computer problem will have very desired consequences, and it may even be that at long last we have managed to get the Air Force into a more appropriate position. I hope to visit the Bay Area before too long, and when I do, I'll make sure to bring you up to date on the details of what we

Best wishes, Willis

Willis H. Ware Corporate Research Staff

WHW:ph

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Blvd. • Stanford, California 94305 • (415) 321,2052 9/3/75

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ENCLOSED ARE: 1) THE HARVARD BUSINESS REVIEW ARTICLE ON "PERSONAL PRIVACY VS THE CORPORATE COMPUTER" PLUS VARIODS REVIEWS of IT And of the Ph. D. thesis behind it. 2) A copy of My SENATE TESTIMONY of JUNE 23. I MAY HAVE AlREADY SENT YOU ONE. If SO, FORGINE MY POUR RECORD KEEPING AND JUNK IT. 3) AN ARTICLE FROM COMPUTERWORLD ON the EFTS COMMISSION.

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#### CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES

202 Junipero Serra Boulevard \* Stanford, California 94305

Telephone (415) 321-2052

March 11, 1975

TO: John Kirkley FROM: Paul Armer SUBJECT:Goldstein-Nolan Article in Harvard Business Review

Enclosed is an article from the March-April 1975 issue of the <u>Harvard Business Review</u>. It's on the costs of complying with hypothetical privacy laws. It's the first of its kind that I'm aware of. And I don't think it's very good. It tells you very, very little about how they arrived at the costs which appear in Exhibit 1 (pg. 66). But it's a very important topic--so, I recommend:

1. Do a story on the article--observe that there is very little clue as to how they arrived at the numbers. Observe that whereas they estimate the privacy conversion costs for system 3 (personnel system) to be \$142,000, they say in the text that "securing the computer installation, a step which should probably be taken regardless of privacy regulations, accounts for more than 80% of the conversion costs." That being the case, it hardly seems fair to charge it against "privacy conversion costs"! Exhibit one shows the annual operating costs for system 4 (credit) going from \$14,000,000 per year to \$34,453,000 per year becuase of privacy--an increase of 146%! There is hardly any clue as to what this money is spent for. And whereas there do not now exist laws re privacy of a company's personnel data base, we have had the Fair Credit Reporting Act for several years. What assumptions about new laws re credit systems give rise to a 146% jump in costs?

2. Write Goldstein and Nolan and ask if they'd be interested (jointly or singly) in writing a version aimed at a DP audience and submitting it to DTM. You might also ask them to react to my comments and questions above.

3. Get a copy of Goldstein's Ph.D. Thesis (see bottom of page 65). Have it reviewed. If RLP doesn't want to do it, try Friedman or Hoffman, in that order, at U.C. Berkeley.

P.S. The letter from John McCarthy to <u>CACM</u> (attached) tells a delightful "Trojan Horse" tale that deserves space in <u>DTM</u> because it's instructive. Either just write it from the enclosed or send Ed Yasaki over to Stanford's AI Lab to write it up.

Van

Enc.



1 July 1975

Professor James L. McKeeney School of Business Administration Harvard University Cambridge, Massachusetts 02138

Dear Sir:

At a chance encounter recently with Paul Armer, we were talking about the article on the cost of privacy that appeared in the March-April issue of the <u>Harvard Business</u> <u>Review</u>. As it turns out, each of us was quite concerned about the tone and content of it. I remarked to Paul that I had written a letter to the editors, but that a return note suggested that it would not be published.

Paul suggested that I correspond with you because he felt it important that you know about this incident. For your information, I have enclosed a copy of the letter that I wrote, and I might also add that a later letter from Professor Goldstein (one of the authors) advises me that he would like to write a reply in answer to the points I raise. I do not know the policy of the <u>HBR</u> on the question of letters, but I would note that the privacy issue and the cost implications of it for industry are of sufficient importance that I think the <u>Review</u> would serve a significant service by making sure that the points of concern about the Nolan-Goldstein article are properly resolved. I anticipate from Paul's comments to me that you will probably hear from him as well with his own views about the article.

Sincerely,

Original Signed By WILLIS H. WARE

Willis H. Ware Corporate Research Staff

WHW:ph cc: Mr. Paul Armer Mr. Paul Armer-FYI



bcc: Prof. Goldstein Prof. Nolan S.P. Jeffries

May 29, 1975

Editor Harvard Business Review Harvard University Graduate School of Business Administration Soldiers Field Boston, Massachusetts 02163

Gentlemen:

The cost of privacy safeguards to meet present and proposed legislation is a topical but poorly understood subject. Furthermore, it is one on which there is very little hard data; hence, I had high expectations for your recently published article [Personal Privacy vs. The Corporate Computer; March-April, 1975]. Regrettably, as written -- and edited -it is neither an objective nor balanced discussion of the subject, and I fear that its publication further confuses rather than clarifies an involved issue. It is doubly unfortunate that the article does not have more cohesive content in view of the stature of the Review, the authority of its word, and the corporate leadership that it reaches.

I would have written sooner, but I awaited the arrival of Professor Goldstein's thesis for reading first. He is to be commended for constructing a model to estimate the cost of privacy; there is no doubt that such an analytic tool is needed. Since this general purpose model contains cost terms for the many provisions that <u>might</u> appear in privacy legislation, as with any model, it is expected that the user will include only the parts of it that are relevant to the circumstance at hand. I have no discomfort with his work; I believe it is excellent. However, I am distressed with the fragmentary and superficial presentation of it in the article and with the inadequate exposition of the context in which it must be understood.

A part of the difficulty is that the time dimension of the article is wrong. It speaks as though privacy legislation were a thing to come, whereas President Ford signed the Privacy Act of 1974 on New Year's Day 1975. I have learned from private discussion with one of the authors that this article was Harvard Business Review Page Two May 29, 1975

originally written for publication in the fall of 1974, and I must therefore fault the editors for not realizing that subsequent events would mar the storyline. Having held it for whatever reason, the editors should have asked the authors for appropriate revision of the material rather than publishing something that, because of events, has become misleading.

The article leaves the reader with a serious lack of perspective. Since there is no description of precisely what privacy safeguards the five sample systems were asked to respond to, one can draw no solid inferences between cause and effect. There is no way to relate particular items of cost to particular legislative provisions. Since the research was done at a time when no legislation existed, Dr. Goldstein properly used his complete model to price the cost of privacy for each of the five systems. However, Federal legislation does now exist, and unless the reader appreciates that the Federal Privacy Act of 1974 does not include all features that the model provides for, he is led to anticipate major costs that will never materialize.

For example, it becomes clear from a study of the thesis that the significantly higher cost for system 4 arises (in a major part) from the requirement to mail each data subject an annual notice; this provision is not present in Federal law. There may be other anomalous events or misunderstanding in the stated costs. Thus, the reader has no basis for relating what the article says about cost to his own corporation situation. I repeat, however, that this is not a criticism of the graduate thesis, but rather a consequence of how the article has been structured and edited; perhaps it was simply not allowed enough space to present the whole story.

The bad time perspective unfortunately leads to a second difficulty. The Privacy Act applies only to the Federal sector, but to both computerized and manual systems. It does not necessarily follow that a privacy law for the private sector -- when and if it comes -will have the same or even similar provisions. Hence, the content of this article cannot be a valid basis on which a company can plan its response to privacy.

The editorial treatment has of itself produced biased perspective, even bordering on scare tactics. Of the five systems reported on, three of them estimate the cost of privacy to be less than 15%. This is hardly grounds for asserting in the small-font vertical lead-in (on page 62) that "the cost of complying with them [privacy laws] will be high." Nor is it appropriate to urge in the secondary head, "Now is the time...to plan for costly changes...to comply with [privacy] laws..." With private sector law not yet on the books,

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Harvard Business Review Page Three May 29, 1975

a corporation cannot know what to plan for, much less estimate the cost consequences. When the time does come, Goldstein's model will be a helpful tool.

Such points aside, the issue of personal privacy as it relates to the use of personal information by the private sector is far too important to the readership of the Review to leave unresolved. I would urge that you give the authors an opportunity to do a follow-on article that, among other things, could correct the cost data for the actual Privacy Act as it exists in law, and perhaps discuss the cost implications of proposed state legislation.

It is an unfair information practice to be anonymous in a critique of a published article. My credentials for the comments above include being Chairman of the HEW Committee that produced "Records, Computers, and the Rights of Citizens," being a long-time contributor to computer security, and having produced numerous articles and presentations on many aspects of computer privacy.

Sincerely,

Willis H. Ware Corporate Research Staff 1 10

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#### **Computing Milieu**

tutes a social problem, on the prevalence of those problems, on the shortfalls of data processing technology, and on the failure of society at large to invoke computation in acking said problems. A final paragraph proposes that

IP "consider the desirability of sponsoring" a computational laboratory for attacking social problems. Very general objectives are given, but the practicalities are not addressed.

The author had expected to discover a significant contribution by computer technology to the solution of societal problems. What he did discover is worth noting:

Cybernation has helped increase production and raise standards of living, but the desires and expectations of the world's population have increased even more rapidly. The gap between expectations and achievements is now greater than ever, and so are the problems confronting society.

C. A. Ford, Don Mills, Ont., Canada

### 2.12 The Public and Computers

GOLDSTEIN, ROBERT C.; AND NOLAN, RICHARD L.

Personal privacy versus the corporate computer.

Harvard Business Review, 53, 2 (March-April, 1975), 62-70. The authors examine the cost of privacy legislation. Five

data-base applications are selected for analysis-medical, nsurance, personnel, credit, and law enforcement. Basic tructural data for these information systems are input to a computer model which calculates costs in six categories-programming, computer processing, information storage, data communication, administration, and capital equipment. The authors neglect to present the assumptions of the cost model, exactly what input data drives the model, or even what model was used to predict costs. A footnote references the first author's doctoral dissertation where, we hope, the interested researcher can obtain the information necessary to replicate or criticize this research. Regardless of the poor documentation of research, the

results direct attention to the possible high cost of conforming to privacy legislation. The data presented indicate that cost per transaction increase may range from 11 to 146% for the data bases studied. Four corporate policy guidelines are suggested to assist planning for privacy legislation. The article also contains data which should allow each information system manager to determine approximately what cost increase class best describes his

installation. All information system managers, educators, researchers, and state and federal legislators should read this article. The focus on individual privacy without also considering the cost and effect on institutions, which in turn will affect the individuals being protected, can only lead to a suboptimal societal system.

Fred F. Newpeck, Albuquerque, N.M.

Fred Gruenberger, Publisher, Box 272, Calabasas, Calif. Annual subscription \$18 (\$15 if remittance accompanies

[Editor's Note: This continues our running report on the the order). lively contents of "Popular Computing." See CR 15, 12 (Dec. 1974), Rev. 27,541.]

October 1974 (No. 19) opens with some fresh looks at primes; the cover illustrating, for example, that the lattices formed by the successive odd primes enclose most often rectangles, but occasionally squares. The problem posed is the ratio of squares to rectangles. This is followed by the always intriguing question of testing a number for primality, and presents some new approaches, citing the Lucas-Lehmer test as cheaply performed on a computer, but recaps some other distinguished computer approaches. Two problems about primes are then offered, followed by discussions of "chained primes." Happily, solutions are always given. The issue concludes with "Future of Programmers," which tries to structure job titles and indicate how the progress of applications (solutions) "package programs" will affect the market for programmers. Some strong recommendations are made for responsible rethinking of instructions and training for the realities of the future need for programmers.

No. 20 (November 1974) offers another problem for computer solution, akin to the Mathematical Mailman problem (Martin Gardner) and the Gruenberger - Jaffray "The Pushbutton Radio problem." A new approach to finding the square root is offered and is compared with various methods, including Newton's own. The eleven pages devoted to this, the author self-deprecatingly subtitles "more than you ever wanted to know about square root," but for the browser as well as the afficiando, it is not a decimal point too much.

No. 21 (December 1974) is a tour of random number rationale and theory, and who doesn't know the good of having a random-number generator lying around for emergency use? The calculation of the inevitable transcendental "e" ends with a reference to the lengths to which its fellow transcendental, pi, has been taken (1 million digits), and prodigies of other calculations .- Fibonacci sequences, etc. The varied virtues of PLATO as a computer-based educational system are shrewdly evaluated, with succinct details of its hardware and software. Well worth reading-and adopting.

No. 22 (January 1975) devotes most of its pages to a meaty recap of the 15th annual one-day symposium on computing; this 1973 meeting was devoted to "Exploring the Future." Among the questions "polled" by Delphic techniques from such elder statesmen as Paul Armer, Bob Bemer and Fred Gruenberger were:

1. The date when half the computing power of the US

- would reside in what are now called minicomputers.
- 2. The future of PL/I and APL. 3. The date when the world's chess champion would be
- a computer program.
- 4. The date when language translation, from idiomatic language A to idiomatic language B, would be
- economically feasible by machine. 5. The date when fingerprint recognition would be

2.2 PROFESSIONAL ASPECTS

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GRUENBERGER, AUDREY. (ED.) Popular computing.



JRCE DATA provides information books, courses, references, reports, periodicals, and vendor publications.



#### Minicomputers in Business

Considering minicomputers? A 24page report, Minicomputers in Business Data Processing Applications, details business dp needs and shows how minicomputers can meet those needs. Application examples and system diagrams are used to discuss minicomputer-based systems in media exchange, disc subsystems emulation, text editing, etc. Advantages of minicomputer systems and future trends are presented. FORMATION, INC., Mt. Laurel, N. J.

FOR COPY CIRCLE 200 ON READER CARD

#### Data Base Systems

What are the benefits and costs assoted with DBMS/DMS? How do you lect DBMS/DMS software? Can DBMS/ DMS be cost justified? Answers to these and other questions are given in a 10-page report, A Quick Look at DBMS and DMS. Divided into a management summary and a technical outline, the report discusses data requirements, evaluation, performance analysis, and implementation. CACI, INC., New York, N.Y.

FOR COPY CIRCLE 201 ON READER CARD

#### The Information Connection

To help in understanding the growth of computers, terminals, and remote teleprocessing in industry and government, the csc report, The Information Connection, explores "some of the current thinking as well as . . . some basic concepts of how to make the information connection work." Three articles cover program management (the design and implementation stage of computerization), data base development (from the viewpoint of Infonet, csc's remote teleprocessing Information Network Div.), and the management of change (in terms of computer-assisted decision making). COMPUTER

ENCES CORP., Los Angeles, Calif. R COPY CIRCLE 202 ON READER CARD

#### Canadian Dp

An information service, The EDP Guide, issued quarterly, provides in-

formation on computer communications in Canada, analyses of the Canadian computer industry, a directory of Canadian suppliers and services, and federal and provincial government policies and practices. It claims to be the only Canadian information service that collects raw data on the Canadian dp industry, analyzes, summarizes, and presents it in one place. Introductory one-year subscription: \$95. THE EDP GUIDE, 987 Clarkson Rd., Mississauga, Ontario L5J 2V8.

#### Free ADL Publications

A catalog lists offerings of complimentary copies of ADL publications in the areas of management consulting, research, and engineering. All the publications were written by ADL staff members and discuss topics of interest in business and technology. "Beyond 1984: A Technology Forecast," by Frederick G. Withington (originally in DATAMATION, January 1975), "Ten Reasons Why Corporate Marriages Fail," by Allen H. Seed, III, and "Future Telecommunication Interfaces," by John P. Thompson are sample articles offered. ARTHUR D. LITTLE, INC., Cambridge, Mass.

FOR COPY CIRCLE 203 ON READER CARD

#### Facsimile Equipment Guide

The small, easily operated business facsimile which uses telephone lines to transmit information has, because of technical improvements, become a more flexible and reliable machine at lower cost. The AUERBACH Guide to Facsimile Equipment reports on 13 products covering the industry's major facsimile devices. In-depth technical, analytical, and marketing information is given, including a specification chart listing most of the product's lines on the market, and a supplier directory. Price: \$19.95. AUERBACH PUBLISHERS INC., 121 N. Broad St., Philadelphia, Pa. 19107.

#### Free Datapro Literature

Datapro Research Corp., with over 17,000 subscribers worldwide, has published a 32-page booklet, 21 Answers, which is a guide to its services-reference works, monthly report supplements, newsletters, and "dial-up inunity service." Sample report pages on specific dp products, classes of products, vendors, product surveys, users' ratings of products and services, and case histories of product usage are given.

A catalog of 26 new and revised research reports on dp and office products is also available. The reports describe characteristics, prices, specifications, and users' evaluations of hundreds of models of CRT terminals, minicomputers, proprietary software systems, and data communications facilities to word processing systems and office copiers.

The reports are mostly \$10 each, or can be obtained as part of Datapro's information service. Details of trial subscriptions are given. DATAPRO RE-SEARCH CORP., Delran, N. J. FOR COPY CIRCLE 204 ON READER CARD

Automatic Editing Typewriters

The market for automatic editing typewriters will grow from \$306 million in 1974 to about \$1.25 billion in 1980, according to the report, Word Processing—Automatic Editing Typewriter Industry. These typewriters are one of eight categories of the word processing market whose total estimated revenues will reach more than \$4.6 billion in 1975, with IBM and XEROX dominating with 80% of the total. These and other analyses and forecasts of specific products and the whole industry are presented by the report, which is part of the Industry Analysis Service of csi, or may be purchased separately for \$495. CREATIVE STRATEGIES, INC., San Jose, Calif. 95129.

FOR DATA CIRCLE 205 ON READER CARD

#### Small Keyboard to Disc Systems

A special evaluation package on small keyboard to disc systems is available. Analyses of Inforex 1303, CMC 3, CMC 5, Consolidated Computer Key Edit 50, and Mohawk 1200 are included. Price: \$12. MANAGEMENT INFORMA-TION CORP., 140 Barclay Center, Cherry Hill, N. J. 08034.



The Cost of Privacy

by Robert C. Goldstein Honeywell Information Systems 40 Guest St., Brighton, Mass. 02135, (1975) 150 pp. \$10 (Specify Order No. DD99)

This book is the doctoral thesis of the author at the Harvard Business School. It presents a methodology to estimate the cost to data bank operators of present and future privacy legislation. It is the first attempt at an analytic approach to a significant problem, and is a very valuable contribution. The early part summarizes the history of personal privacy-in the context of computer-based record systems-and Not the HBR ARTICLE

August, 1975

# source data

the legislative treatment of it.

The author has created a simulation model that contains terms for the various provisions that might appear in privacy legislation. Since his work was completed before the Federal Privacy Act of 1974 was passed, the results presented clearly pertain to no estant law. Costs are determined in terms of manpower, data storage, processing time, data transmission, and capital. The model characterizes a data system in terms of 29 attributes. For representative examples of six types, the model is used to estimate cost by each possible legislative provision and the total cost to each system.

For organizations faced with having to assess the impact of privacy legislation, this work is an important methodology. For his test cases, the author, of necessity, had to obtain estimates of various model parameters by a questionnaire and interview technique. A particular organization could, of course, supply its own cost parameters for the model and obtain correspondingly more accurate results; furthermore, the model can clearly be adapted to actual legislation. The author properly cautions that the language of legislation is sometimes vague, and that the model represents his interpretation thereof.

The author and his book are each to be commended for a significant contribution to a troublesome problem. It is to be hoped that organizations will exploit his approach and thereby provide important cost guidance to future legislative efforts.

Recently some of the material for this book has appeared in another publication. It would be better for the dp person to read the complete treatment and explain it to his management along with his own local cost parameters.

#### -Willis H. Ware

Dr. Ware, a senior computer scientist at the Rand Corp., is one of the three White House appointees to the seven member Privacy Protection Study Commission established by the Federal Privacy Act of 1974. He also serves as chairman of the AFIPS Special Committee on the Right of Privacy, and is co-recipient of DPMA's 1975 Computer Science Man-of-the-Year Award.

# Management of Information Technology

by Elizabeth B. Adams Petrocelli/Charter, 1975 196 pp. \$10

This collection of 16 short case studies on dp management is presented as "onthe-job training" for the student, offering a "systems approach" to solving real-world problems. However, how to solve problems using the "systems ap-

proach" is never mentioned; the term, in fact, remains undefined. Since the limited mater( ) here can hardly reach beyond an academic environment, it is difficult to see it as "on-the-job training."

The text supposedly can supplement any management text and, depending on the level of students, enrich the study of dp management. Underprepared students will have trouble with undefined acronyms and technical jargon, such as SCERT, PERT, exception reports, etc.

The table of contents may lead the reader to believe he has found a unique diversity of interesting subjects not dealt with in other books. Cases directed at inept management, vendoruser relationships, and management resistance are here and covered quite well. However, cases directed at analysis, design, and decision-making models address the subjects poorly; and the often mentioned MIS is inadequately covered.

The chapter on financial implications of dp is one of the better case studies. It involves several subsidiaries of a small corporation with decentralized control, one with its own dp operation and the others purchasing services outside the corporation. The

#### BOOK BRIEFS . . .

#### No Place to Hide

by Alan LeMond & Ron Fry St. Martin's Press, 1975 278 pp. \$8.95

The book jacket asks the question: "Are you being bugged?" The authors, in this "guide to bugs, wire taps, surveillance and other privacy invasions," answer with a resounding "yes," document ways and means used to collect and use information on individuals and organizations, and give advice on how to prevent or thwart such invasions of privacy. With newspapers and radio broadcasts daily uncovering new accounts of unauthorized use of information, and privacy legislation compelling new attention in Congress, this book is timely and informative.

### Programming Languages: Design and Implementation

by Terrence W. Pratt Prentice-Hall Inc., 1975 530 pp. \$13.50

Intended as a textbook for college students-an elementary background knowledge of one high level language and a basic knowledge of machine organization is presumed-this volume seems well organized and thorough in its approach. The two central concerns of the book are computer programming language design and the interplay between language design and implementation. Problems and examples are abundantly used; Part I builds a framework for analyzing languages re-

chapter's presentation however could be strengthened, for example, by expanding and itemizing present costs and projected savings of each subsidiary. The student could thus be introduced to aspects of a dp budget as well as cost considerations for timesharing and service bureaus.

Most of the cases are built around mismanagement and organizational problems. The most disturbing thing about all the case studies however is that not enough facts are given to allow a decent evaluation of the problems. Nevertheless, the continual preview and review of 17 different organizational charts is one of the book's more attractive aspects.

This book could become an excellent instructional or supplemental book in a revised edition if (1) the bumpy writing style is smoothed out and the text reads less like a progress report; (2) more facts are given in case studies for completeness; and (3) acronyms and buzzwords are either explained or discarded.

-Douglas A. Colbert Mr. Colbert is the author of "Computers and Management for Business" and "Data Processing Concepts." With more than 15 years in the field, he now serves the City of San Francisco as a senior systems analyst.

gardless of which one is used or encountered, and Part II is devoted to specific analysis of seven languages: FORTRAN, ALGOL 60, COBOL, PL/1, LISP 1.5, SNOBOL 4 and APL.

### FORTRAN to PL/1 Dictionary, PL/1 to FORTRAN Dictionary by Gary DeWard Brown Wiley & Sons, 1975 204 pp. \$10.95

Numerous examples dot this concise book that explains FORTRAN and PL/1 in terms of each other, much the way a foreign language is taught, and is intended for use as a reference work and a refresher. Each programming language is summarized in the first half; the second part of the book describes features of the languages in detail, side by side down the page. Exercises are presented at the end of each chapter.

#### Systems Analysis and Design

by Leon Youssef Reston Publ. Co., Reston, Va., 1975 228 pp. \$10.95

This text presents basic concepts, with the emphasis on applications, for university and college business students in various specialties. Divided into three parts (the first two deal with fundamentals and descriptions of information flow and systems design), the book presupposes some previous dp knowledge. The last third of the book

(Continued on page 102)

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES Reig-5 202 Junipero Serra Blvd. • Stanford, California 94305 • (415) 321-2057 9/2/75 Robert Where did the Summer go? Enclosed are a couple of items you might find of interest. due recently seen writerps of and the second Several RAND reports which look interesting. Getting this place to buy them isn't easy - is it an imposition on you and/or RAND to ask you to have them sent to me ? of so, please holles a surplished and the second states din interested in : R-1582/1 by Anthony H. PASCAl) 15 THIS the R-1582/2 " DURAN BELL ET AL DURAN BELL A Same study which was funded? SEE Attached R-1012 by Dowald W. Kosy P- 5376 by Rudy BREtz P-5355 by Willis H. WARE The ICCP workshop date & attendance list are still not settle. Best personal regards 



8 April 1975

Mr. Paul Armer CASBS 202 Junipero Serra Boulevard Stanford CA 94305

Dear Paul:

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Sorry we missed getting together when you were in the neighborhood. Perhaps if there is a workshop in May we can have dinner.

The SCDP article is enclosed. I still can't understand how people can take it upon themselves to do something like that. Kenneth Lord must take his name seriously.

I checked, and the proposal we discussed did not receive approval; too bad, it seemed like a worthwhile effort to me.

Best regards,

1306

R. N. Reinstedt Information Sciences Department

RNR:sj

Enclosure as noted.

evel NSF FRO

The Effectiveness of the American Educational System in Facilitating Adaptation to Technical Change--a Review and Assessment of the Literature. Duran Bell, Jr., Rand Corporation, -10 months, \$79,400.



September 2, 1975

Mr. Ford Rowan NBC News 4001 Nebraska Avenue, N.W. Washington, D. C. 20016

Dear Mr. Rowan:

As you may know, the Senate Subcommittee on Constitutional Rights will hold hearings on September 9 and 10, relating to the use of computers in the White House and White House access to Federal computer networks.

Since we have not had the opportunity to meet this month as earlier planned, I felt this was an appropriate occasion to remind you of AFIPS' interest in this subject, and our offer to provide related technical information to your network.

Please call me should you desire to arrange a meeting before or after the hearings. Any advance indication you can give me will, of course, assist us in being responsive to your information needs.

Very truly yours,

Philip S. Nyborg

Philip 5. Nyborg

PSN/mt

cc: A. Ralston (AFIPS President)

bcc:10. Armer R. Rector Mashingtor Activities Committee College of Business Administration

### FORDHAM UNIVERSITY

Bronx, N. Y. 10458

August 26 1975

Dr. Paul Armer, Fellow Center for Advanced Study in Behavioral Sciences Stanford, Ca.

Dear Dr. Armer:

Thank you for yours of 18 August.

I have reminded the publisher they owe you a copy of PEOPLE-ORIENTED COMPUTER SYSTEMS.

We did use and refer to your excellent material on pp. 144-146, and hope the complimentary reference we made to your publication was satifactory. You have done some real pioneering work in computers and human systems.

Of course, should there be any suggestions you have for changes, please communicate them -- as we hope we may have a 2nd edition.

With all best wishes to you,

Sincerely,

Dr. Edward A. Tomeski

\*In setting up type, one of the chart's captions was used incorrectly -- and we will make sure that is corrected.

If you don't receive the book in pay 4-6 who. let me know. hublishers, as you know, tend to be slow.

933-2233 Ext. 372 HEWLETT-PACKARD COMPANY ISOI PAGE MILL ROAD PALO ALTO, CALIFORNIA 94304

WILLIAM R. HEWLETT

August 25, 1975

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, Ca. 94305

Dear Mr. Armer:

I very much appreciate your recent letter with enclosures, which I found most interesting. I have passed this on to Mr. Ray King, General Manager of our Advanced Products Division.

Again, thank you for taking the time to write to me.

Sincerely,

Will Myuto

WRH/rl



Fred Gruenberger 3 8-24-75 Dear Paul: would you critique g this article (arine at a DATAMATION) ? It's essentially what I gave at American Can last June. We are working on finding a spot for Arwin Greenwald, wher falls under the Xerox axe, as you know. You have a stake in this project, in order to preserve the DCA. Nancy Foy was a delight. We had dinner at her house thanks for getting us in touch with her. F.

Prof. Eric von Hippel Principal Investigator NSF Innovation Study Room E52-537



Massachusetts Institute of Technology Alfred P. Sloan School of Management 50 Memorial Drive Cambridge, Massachusetts, 02139

August 22, 1975

Mr. Paul Armer Behavioral Sciences Corp. 202 Junipero Serra Boulevard Stanford, CA 94305

Dear Mr. Armer:

Thank you again for your willingness to share your knowledge of innovations in electronic computers.

We have merged certain of the items of information which you gave us with information from others and have come up with the composite innovation history which we enclose for your inspection. Would you be willing to check what we have written and see if it accurately corresponds with your knowledge of events?

If you feel that we have misunderstood what you told us, we would be very grateful if you would point it out. Please note any comments you may have on the sheet and return the sheets in the enclosed envelope. If the innovation key is essentially correct, please so note on the enclosed card and return it to us.

Sincerely yours,

Chule

Charles Musselman Marc Sievers Research Assistants

CM:1k

Enclosures

Dear Paul-

. Thanks so much for the material you sent ! Your "oral history" + vanscript and Pan McCorduck's chapter we're especially rich and interesting. Please let us know if there's any way we can repay you. Yours, C. Ware and his helpful comments contrained no suprises.

18 August 1975

Dr. Edward A. Tomeski 501 Chicago Boulevard Sea Girt, New Jersey 08750

Dear Dr. Tomeski,

On 11 July 1973 I gave you permission to quote material of mine on condition that you send me a copy of the book when it was published. Would you send me a copy of <u>People-Oriented Computer Systems</u>?

Sincerely yours,

Paul Armer Fellow

PA:mt

cc: Dr. Edward A. Tomeski Fordham University Bronx, New York, New York 10458

ABRAHAM RIBK JOHN L. MC CLELLAN, ARK. HENRY M. JACKSON, WASH. EDMUND S. MUSKIE, MAINE EDMUND S. MUSKIE, MAINE LEE METCALF, MONT. JAMES B. ALLEN, ALA. LAWTON CHILES, FLA. SAM NUNN, GA. JOHN GLENN, OHIO

ABRAHAM RIBICOFF, CONN., CHAIRMAN CHARLES H. PERCY, ILL. CHARLES H. PERCY, ILL. JACOB K. JAVITS, N.Y. WILLJAM V. ROTH, JR., DEL. BILL BROCK, TENN. LOWELL P. WEICKER, JR., CONN.

RICHARD A. WEGMAN CHIEF COUNSEL AND STAFF DIRECTOR

Minited States Senate

COMMITTEE ON GOVERNMENT OPERATIONS WASHINGTON, D.C. 20510

August 18, 1975

Mr. Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, California 94305

Dear Mr. Armer:

Thank you for your recent letter regarding S. 495, the Watergate Reorganization and Reform Act of 1975 which I co-sponsor, and the enclosed articles.

As you know, the Committee on Government Operations held three days of hearings in July on this issue and will continue the hearings this fall.

Thank you once again for sharing your ideas with me.

Sincerely,

harles 14, Very

Charles H. Percy United States Senator

CHP:11

18 August 1975

Mr. Douglass Lea U.S. Senate Constitutional Rights Subcommittee 102B Russell Office Building Washington, D.C. 20510

Dear Douglass,

Enclosed are copies of correspondence with Senator Percy. Since he referenced Senator Tunney Several times, I thought I'd send copies along. You can decide whether or not Tunney would be interested in actually seeing them. Also enclosed is a copy of the edited version of my testimony of June 23.

Details of the Companion Conference, about which I spoke to you on the phone, are enclosed. The session in which I thought you might be especially interested is number 25. Re speech understanding, I suggest you get a copy of "Speech Understanding Systems" by A. Newell et al of Carnegie-Mellon University, May 1971. ARPA's Information Processing Technology Branch (202-694-4001) should be able to supply you with a copy.

Also enclosed are copies of two pages from the July 1975 issue of <u>Computer</u>, the monthly magazine of the IEEE Computer Society. The first discusses Compcon Spring 76, which will be held at the Jack Tar Hotel in San Francisco, February 24-26, 1976. The second is concerned with Compcon Fall 75 and the fact that Congressman Barry Goldwater, Jr., will be keynote speaker. More about next spring's conference when the people concerned return from vacations.

Best regards,

Paul Armer

PA:mt

18 August 1975

Dr. William A. Blanpied Harvard University Program on Public Conceptions of Science 358 Jefferson Physical Laboratory Cambridge, Massachusetts 02138

Dear Dr. Blanpied,

At the suggestion of Professor Robert K. Merton, I am sending you a copy of the Second General Report of the Center's Program on Science, Technology and Society. Directed toward understanding a technology-dependent civilization, the program aims to illuminate the interrelation of science, technology and society by means of more effective communication between specialists in the natural, and the behavioral and policy sciences. The report contains brief descriptions of the various research projects undertaken in the program.

Sincerely yours,

Paul Armer Program Coordinator

PA:mt

202 Junipero Serra Boulevard + Stanford, California 94305

Telephone (415) 321-2052

August 15, 1975

Mr. William R. Weber, Counsel Committee on Banking, Housing & Urban Affairs U. S. Senate Washington, D. C. 20510

Dear Bill:

Thank you for your thoughtfulness in sending me the material which arrived with your letter of 1 August. Senator McIntyre's speech struck many responsive chords in my thinking.

Now that the Robinson decision appears to open the way for the savings and loan institutions to steal a march on the banks, maybe the big bankers will decide they like S. 1899 after all.

Enclosed is a copy of my edited testimony before Sensoor Tunney's Committee on June 23.

Best regards,

Paul Armer

PA/act

33% 0121

Audrey Gruenberger

## AUG 1 3 1975

Popular Computin

Dear Paul:

Why not take a little peek into a Popular Computing issue. Try page 2 of every issue. That's where we tell our readers the price. Now we know you never read page 2. Ha! Hope we see you both (plus wee ones)

editor in chief !

(over)

Thanks,

andrug

nancy was wonderful to us in London. We had a terrific time. Have to get back to coach & it's not easy ! Thanks for giving us her name. She's quating Fud in an article shis anting. Love ,

When there has to be a price change, one doesn't wish to have to reprint every form around the place, you see. Bit then, maybe we should mehrde a complete price schedule on page 2 of each rime, since it gets complicated for three overseas. The well, we keep learning. Thanks for the chick - sure you wouldn't rather go back on the bug ? F.

202 Junipero Serra Boulevard • Stanford, California 94305

Telephone (415) 321-2052

August 12, 1975

Senator Charles H. Percy U. S. Senate Committee on Government Operations Washington, D. C. 20510

Dear Senator Percy:

This is a follow up to my letter to you of 21 July 1975, which was written in response to your letter of 26 June 1975. The main purpose of this note is to pass along copies of several brief articles, which pertain to bugging and wiretapping, from the <u>New Scientist</u>. Since the <u>New Scientist</u> is an English journal, you may not have seen these articles.

The article from the issue of 10 July 1975 points out some of the difficulties you face with Amendment No. 495 to S. 495. I have in mind the very small size of some of the equipment and the problem of definition; e.g., must a "baby minder" (which my wife refers to as our "spy machine") be licensed? It also raises the question of what should be done about kits and plans.

The article from the issue of 31 July 1975 concerning flourescent fingerprints for explosives is sent as a long-shot possibility for labeling very small devices.

Sincerely yours,

Paul Armer Fellow

PA/act

Telephone (415) 321-2052

202 Junipero Serra Boulevard · Stanford, California 94305

August 11, 1975

Dr. William Hewlet Hewlett-Packard 1501 Page Mill Road Palo Alto, California 94304

Dear Dr. Hewlett:

Because of our joint service on the Visiting Committee to the Stanford University Libraries, I immediately thought of you when I read the enclosed prepublication copy of an article on electronic calculators. I thought I would send it to you since I did not know the individuals in Hewlett-Parkard most concerned with the design of future calculators, a topic to which it is pertinent.

Also enclosed is a brief item from the New Scientist (an English publication) which I thought you might find of interest.

Sincerely yours,

Paul Armer

PA :act Enclosure

202 Junipero Serra Boulevard • Stanford, California 94305

NON DXI

Telephone (415) 321-2052

August 11, 1975

Professor Edward R. Tufte Princeton University Woodrow Wilson School of Public & International Affairs Princeton, New Jersey 08540

Dear Ed:

Thank you for sending me your article on Electronic Calculators and Data Analysis. I indeed found it most interesting. And very well done. It deserves a wider audience than it will get in the <u>American</u> <u>Journal of Political Science</u>. I have dispatched copies to several editors suggesting that they call attention to it in their pages. And I am also sending a copy fo Bill Hewlett in the hopes that your comments may impact future designs.

I'll send you a batch of reprints in a separate package. It was good to hear from you.

Best personal regards,

Paul Armer

PA:act

1133 AVENUE OF THE AMERICAS NEW YORK, N.Y. 10036 (212) 265-6300

# acm Association for Computing Machinery

JOSEPH F. CUNNINGHAM, Executive Director

August 8, 1975

Dr Paul Armer Center for Advanced Study in the Behavioral Sciences 202 Juniper Sierra Stanford California, 94305

Dear Paul:

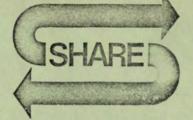
Thanks very much for your kind and thoughtful note concerning my resignation. I am sure that our paths will cross again in the future. I have no intention of taking another full time job but I may try to keep my hand in with what is going on in computing either by doing a little consulting or attending meetings and so forth. In that sense I am sure our paths will cross again.

It's been a long time since that meeting at the Henry Hudson Hotel back at the formation of SHARE when I believe we first met. I have and will continue to treasure our association as I have always found you one of the stalwarts in the computing profession.

When you get to the east coast of Florida area you will find me in the Boca Raton telephone book. Please call and we'll visit.

Sincerely,

Joseph F Cunningham



SHARE Inc. 25 Broadway, Suite 750 New York, New York 10004 (212) 943-2130 The Equitable Life Assurance Society of the United States 1285 Avenue of the Americas New York, New York 10019 (212) 554-3678 August 8, 1975

THOMAS B. STEEL, JR. Director

Dear colleague:

In classical SHARE tradition, as refined over the past twenty years, this letter is being sent very late. Nevertheless it is my hope that you will be able to participate in the twentieth anniversary of SHARE. The SHARE XLV Meeting will be held 1975 August 18-22 at the New York Hilton. If you can participate for the entire week, SHARE would be honored to have you register. If, however, you could only spend a brief time, Wednesday afternoon, August 20 is the time we plan to conduct a session, "An Information Processing Retrospective", at which we plan to review why SHARE started and how it has evolved, as well as consider what it might become. If it is at all possible we would like your participation at that session.

This letter is being sent to every participant at SHARE I that can be found, as well as all of the past Presidents of SHARE and a very few others. Many of you are already aware of these plans from earlier discussion and I hope you have already made your plans to participate.

Any of you who cannot be there but have some observations about SHARE and its two decades can communicate them to me and I will see that they are exposed at the meeting.

I am looking forward to seeing many of you at SHARE XLV.

Sincerely yours,

T. B. Steel, Jr. SHARE Historian

You wouldn't be twisting my own, would you ?! The for the kind wards. DANIEL D. MCCRACKEN

4 INNINGWOOD RD. OSSINING. NEW YORK 10562

> 914-941-2100 914-941-8899

August 8, 1975

Professor Anthony Ralston SUNY Department of Computer Science 4226 Ridge Lea Road Amherst, New York 14226

Dear Tony:

Paul Armer's most generous letter to you might be read as indicating that I am anxious to be nominated for the ACM presidency. I think I ought to indicate to you that although Paul andI have discussed the subject a couple of times, I am somewhat more reluctant than one or two of his phrases may indicate. To be fair to all concerned, it might be best if I clarify where I stand. In so doing, I do not presume anything at all about how you receive the idea of nominating me, beyond a minimum assumption that you have not rejected it out of hand.

As a matter of fact, I would like to take a crack at the job sometime. I think I am qualified, at least marginally, and I think that if nominated I could make a contest of the election.

The problem is that, although as Paul correctly says I am not improverished, it is not clear at this point that I could afford it without undue sacrifice in connection with family obligations. What it boils down to is that two years from now would be a much better time.

Therefore, if you are of a mind to consider me for a top job at all, it might be better to think in terms of one of the vice-presidencies. Again, however, let me make clear that I am not assuming anything about your feelings on the notion of nominating me for any position.

Best regards, a second second

Daniel D. McCracken

DM/e

cc: Paul Armer Bill Atchison George Glaser

August 7, 1975

Dr. Charles Musselman MIT E-52-537 Cambridge, Ma. 02139

Dear Charlie:

Enclosed are the following:

1. A copy of RAND Paper P-509 dated April 8, 1954, entitled, "Applications of a Cathode Ray Tube Readout Device for the IBM 701 Electronic Data Processing Machine." I presented this paper at an IBM Conference in Endicott, N.Y. in mid 1954. IBM usually published proceedings of such did so for this meeting since they tried something new for them at this particular conference; i.e., they duplicated each individual's paper if they didn't publish a bound volume of the papers. If you can't track and see what I can find. If IBM didn't publish the conference proceedings, you can cite the RAND paper.

2. A copy of a draft "chapter four" of a history of artificial intelligence being written by Ms. Pamela McCorduck, plus a copy of my comments on the draft. Please realize that it is a "draft" and may have errors in it. As you will recall from our telephone conversation of August 6, the reason for sending it to you is because of its discussion of list processing and "stacks," which some believe to be one of the key innovations in the computer field.

3. A copy of the transcript of an oral history interview of me made April 16, 1973. I've never sat down and gone over the transcript line by line, so it may still contain some errors. So if you use any of it, it would be a good idea to check back with me. The CRT for the 701/704 is discussed on pages 22-25 and again on pages 36-38. However, as discussed during your phone call, the real reason for sending this transcript is that it may provide you with other candidates for your innovation study.

4. A copy of a letter to Col. William F. Luebbert which not only contains his address but addresses for Pamela McCorduck should you wish to contact her. Col. Luebbert is in charge of the AFIPS History Project, has historical material at his disposal and should be in a position to tell you whom to

You should also be aware of the collection of the Smithsonian Institution's Museum of History and Technology. The people to contact there would be Dr. Charles Musselman

Dr. Uta Merzbach, Curator, Section of Mathematics, National Museum of History and Technology, Smithsonian Institution, Washington, D.C. 20560. The Director of the Museum is Dr. Brooke Hindle.

2.

If I can help you in any way, please holler.

Sincerely yours,

Paul Armer

PA:g

Encs.

cc: W. Luebbert

Prof. James L. McKenney Harvard University Graduate School of Business Admin. Soldiers Field Boston, Ma. 02163

Dear Jim:

You don't seem to be spending much time in Massachusetts this summer! The purpose of this note is threefold. First of all, I want to remind you that you promised to send me copies of a Bell Labs write-up on the Amdahl computer and a piece on "Soviet computers and the political environment" by someone I can't recall.

Secondly, as you are already aware, I suggested that Willis H. Ware write to you about his "letter to editor" of the Harvard Business Review. The idea being that you are a member of their Editorial Board and might be interested. I personally think the article, as published, was pretty had. Enclosed is a copy of a note I sent to John Kirkley, editor of Datamation, about it, wearing my editorial advisor hat. In that note you will see some of my specific comments.

What do I think you should do as a member of HBR's editorial board? Tell them (if you agree) to get better editors or reviewers for this kind of article -- they should not have published this one. Tell them, as a service to their readers, that they must let their readers know that the Goldstein-Nolan article had its faults. I think their excuse to Willis that too much time had elepsed was just an excuse to avoid admitting that they'd made a mistake. Surely they are not so insecure that they are unable to admit that they might have erred. Whether they do so by printing Willis' letter or a similar letter or in some other fashion doesn't really matter, but they shouldn't continue to give the "HBR Seal of Approval" to the article by remaining silent. As a frustrated editor, I'd want to alter Willis'

Lestly, I wanted to tell you how great it was to see you. Here's hoping it happens again soon. And please give our love to Mary.

Best personal regards,

PA:g

Paul Armer

cc: Willis H. Ware



מוסד ון ליר בירושלים THE VAN LEER JERUSALEM FOUNDATION

August 6, 1975

Mr. Paul Armer
Center for Advanced Study in the Behavioral Sciences
202 Junipero Serra Blvd.
Stanford, California 94305
U. S. A.

Dear Paul,

Thank you for your letter of July 22nd. It so happens that I shall be travelling by an American carrier, but I shall be abroad for less than 22 days.

I am leaving in a few days for Europe and then to Palo Alto. This trip has already been booked and I cannot use a tichet. In a few days time I shall be sending you the Pro-Forma invoice amounting to \$ 2,055.90.

Since I am a member of the Science Indicators Subcommittee, perhaps my expenses could be shared by the Center and by the Subcommittee.

With warm regards and looking forward to seeing you.

Your

Ychula

Diel you receive heart year a any y my Eversy book ?

202 Junipero Serra Boulevard • Stanford, California 94305

Telephone (415) 321-2052 August 6, 1975

Ms. Pamela McCorduck 24 Tolan Way Lafayette, Ca. 94549

Dear Pam:

Ed sent me a copy of chapter four of your book, saying he felt that it didn't give enough credit to Cliff and asking me to read it and comment on that point. He felt that Cliff came across as Newell's and Simon's programmer rather than a full member of the team.

First of all, I guess a key issue is how much impact Cliff had on IPL-1. I don't know. Cliff's own words on page 38 (lines 9 and 10) seem to imply that he had no impact on IPL-1. But you might check with Al. Cliff is a most modest guy. But clearly, Cliff was a key contributor to the language effort from IPL-2 on.

I guess the word which does the most disservice to Cliff is "sweat" on page 43 (line 5), despite Cliff's use of the word on page 40 (line 20). It implies only hard work and omits Cliff's creative inputs.

And I guess I'm somewhat uncomfortable about the discussion of list processing on pages 38-39. I don't believe that it adequately explains the concept, particularly the "stack" idea. Stacks now appear in most computers (but not IBM ones), even in the more sophisticated hand-held calculators. I don't believe that IBM ever snapped up the idea much less "at once" (page 39, line 11), although maybe I'm wrong. Ed thinks you have Gelernter in mind, but he isn't "IBM."

And despite Herb's words at the bottom of page 39, which imply that the knowledge of psychologists of associative memory in human beings was a source for the list processing idea, I believe that the idea was solely Cliff's. Again, maybe I'm wrong. As I recall, Cliff modestly claims that he discovered the idea in an obscure Australian paper. If so, then I think it would be useful to cite that paper for historical purposes.

In summary, I guess I agree with Ed that the chapter as it stands doesn't do Cliff justice.

I am disturbed by the first paragraph on page 41 about the Logic Theorist and the fact that complex computer systems might do what you tell them, but you still can't predict what that behavior will be. I think what you are trying to say is rather complex and that the short paragraph doesn't Ms. Pamela McCorduck

communicate it. Actually, I'm not sure just what you are trying to communicate. Are you trying to counter the "obdient slave" argument? (See enclosed copy of pages 395 and 396 of <u>Computers and Thought</u>). Are you trying to say that we can never know if a program is really checked out? I'm not sure I've communicated my concern about this paragraph. Let me suggest that since Al and Herb are convenient to you in Pittsburgh, that you have a conversation with one of them about it.

Enclosed is a copy of your manuscript with my comments thereon. I've noted on the first page the page numbers on which I've made comments.

Have I promised to send you anything that I've yet to deliver on?

Best regards,

Paul Armer

PA:g

P.S. It was good to talk with you. I hope I get to see you before you return to Pittsburgh.

cc: E. Feigenbaum

- A. Newell
- J. C. Shaw

H. Simon

202 Junipero Serra Boulevard • Stanford, California 94305

Telephone (415) 321-2052

August 6, 1975

Col. William F. Luebbert AFIPS Computer History Project 20 Wilson Road West Point, N. Y. 10996

Dear Bill:

Are you aware that Ms. Pamela McCorduck is doing a history of Artificial Intelligence? She has been interviewing a number of the key people and recording the interviews. I don't know what she plans to do with her tapes once the history is written, but it seems to me that they (or copies) should go to AFIPS and/or the Smithsonian collections of oral histories of the computer field.

Until Labor Day, Pam can be reached at: 24 Tolan Way

Lafayette, Ca. 94549 415-284-9716

After that, her address is:

University of Pittsburgh Dept. of English Pittsburgh, Pa. 15260

The oral history interview of me by Bobbie Mapstone was used as a basis of a "profile" kind of article to appear in the first issue of a new magazine, <u>Software Forum</u>, being published by Larry Welke of International Computer Programs, Inc. I'll send you a copy when I get one.

Sincerely yours,

PA:g

cc: Pamela McCorduck

P.S. Also enclosed is a copy of a letter to Charles Musselman of MIT who is involved with a study of innovation in the computer industry. I've told him of you and want you to be aware of him and his project.

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES 202 Junipero Serra Blvd. • Stanford, California 94305 • (415) 321-2052 August 5, 1975 Dr. George E. Brosseau, Jr.

Dear George,

Enclosed are:

1.) A preprint of a paper by Lederbergwhich I think is interesting and important. We will not submit the NTIS documentation until it is actually published.

2.) A review of <u>Race Differences in Intelli-</u> gence by Loehlin, Lindzey and Spuhler written by I. Richard Savage. I thought you might want to incorporate it into your decision making process concerning distribution of the book.

Sincerely yours, Baul Paul Armer Encl: DNA Research: Uncertain Peril and Certain Promise

Tr'

the production

" Alina

Review by Savage

and the P

WILLIAM PROXMIRE, WIS., CHAIRMAN JOHN SPARKMAN, ALA. JOHN TOWER, TEX. JOHN TOWER, TEX. JOHN TOWER, TEX. EDWARD W, BROOKE, MASS. DOB PACKWOOD, OREG. JESSE HELMS, N.C. JOSEPH R, BIDEN, JR., DEL. ROBERT MORGAN, N.C. WILLIAM PROXMIRE, WIS., CHAIRMAN

KENNETH A. MC LEAN, STAFF DIRECTOR ANTHONY T. CLUFF, MINORITY STAFF DIRECTOR OTHELLA C. POMPIER, CHIEF CLERK

United States Denate

COMMITTEE ON BANKING, HOUSING AND URBAN AFFAIRS WASHINGTON, D.C. 20510

August 1, 1975

Mr. Paul Armer, Fellow Center for Advanced Study in the Behavioral Sciences 202 Junipero Serra Boulevard Stanford, California 94305

Dear Paul:

Thank you for forwarding the EFTS materials. I am enclosing Senator McIntyre's speech on EFTS which is the "philosophy" paper I mentioned. I am also enclosing a copy of S. 1899, as amended, which was the final version of our attempt to bite the bullet on an interim basis on EFTS development. As you probably know, we went down in flames 9 to 4.

Frankly, there is no mood on the part of Congress to do anything at this point, particularly since there is no big money behind any cautionary yellow light. Let's not say that the bill is dead but dormant. I understand that the appointments to the Commission could

come as early as next week. I sincerely hope that you are among Please keep in touch.

Sincerely,

Bril

William R. Weber Counsel

Enclosures

land -I'm also acclasing a copy of the US. District Court to opinion on CSCT6 houled down yesterday. Frankle for the Congtraller. also, see the conservitory from the latted

August 1, 1975

Mr. Roy Amara Institute for the Future 2740 Sand Hill Road Menlo Park, Ca. 94025 the first

Dear Roy:

Thank you for your letter of July 29 and its enclosures which I have read with considerable interest and admiration.

ALS MULT

Could you send me "Emerging Societal Issues: Some Suggestions for Research" as mentioned on the first page of your <u>Newsletter</u> for Summer 1975?

Best personal regards,

MA STREW COL

Paul Armer

PA:g