

SAN JOSE RESEARCH LABORATORY

MEMO TO: Mr. N. R. Sly

September 12, 1958

SUBJECT: Proposed Paper for Western Joint Computer
Conference on "The Nature of the Social
Responsibility of Engineers"

A preliminary draft of the above paper is contained in the attached memorandum Socio-Engineering Problems, No. 1, August, 1958. I expect considerable editing will be required to put the material in final shape.

This material was prepared as a hobby separate from my work for IBM Corporation and the principal concepts and diagrams were developed prior to my working for IBM. These factors raise a question as to whether I should submit the paper to WJCC as an individual engineer or with identification with IBM. I feel that it would be preferable to process the paper through IBM channels for the usual clearance even though the subject matter may be interpreted as lying outside of the technical engineering fields for which such clearance is required by Company policy.

The historical development of this material would be clearer, if part No. 2 (No. B) were completed. Unfortunately further editing and verification is required before the second part will be available. Therefore I am giving you an abridged listing of the sources of this material.

The cover diagram was developed in 1940 for use with a college student church group at the University of California (unpublished).

Figures 1, 2A, 3, was developed while at M.I.T. Radiation Laboratory in 1945 (unpublished).

The general considerations of this material were discussed in a seminar paper at the University of California: "The History of Electromagnetic Theory," January, 1947. (Unpublished, reference copy in University of California Library, Berkeley.)

Figure 4 (without Steinmetz data) was first prepared for a Y.M.C.A. discussion group, Spring, 1947.

Figure 4 (with a different set of blanks filled in): was used as part of a seminar paper at the University of California, Berkeley: "Preliminary

Estimates on Location of Atomic Energy Piles for Generation of Electricity and Plutonium, " May 21, 1947, (unpublished, reference copy in City Planning Library, Princeton University, Princeton, N.J.). Paper referenced by Walter Isard, Quarterly Journal of Economics, Vol. 62 (1948) p. 223.

My recent reorganization of this material was inspired by the inclusion of the panel on "Social Problems of Automation" at the last WJCC in May, 1958. I have made a trial oral presentation of the material at the August 12, 1958, meeting of the Santa Clara Valley Chapter, California Society of Professional Engineers.

The WJCC deadline for preliminary drafts of papers is October 1, 1958, so it may be necessary to make arrangements with the Technical Paper Committee for late submission.

F. B. Wood

FBW:mjm

cc: Mr. R. L. Haug
Mr. R. E. Johnson
Mr. M. L. Lesser
Mr. J. A. McLaughlin

SAN JOSE RESEARCH LABORATORY

MEMO TO: Mr. A. J. Critchlow

October 2, 1958

SUBJECT: Discussion of Social Responsibility of Engineers

I enclose a revised outline of my proposed W. J. C. C. paper on "The Nature of the Social Responsibility of Engineers." I have deleted the cover figure and figures 2B and 3. The introduction now ties more closely to the panel of the 1958 W. J. C. C. This present draft is a better balanced paper, but still requires condensation.

The extensive bibliography appears to be important on account of the absence of any published bibliographies in this subject with the possible exception of Dr. Edwin Layton's Ph.D. thesis.

Following your suggestion of checking for the basic ideas contained in the paper, I find the following inherent assumptions and basic points in my paper:

- I. There is a danger to the existence of our civilization on account of existing social institutions having too long a time lag in making the social adjustments to utilize the latest technological advances.
- II. There are ways in which engineers and scientists can, with a small effort, contribute significantly to the protection and orderly growth of our civilization.
 - A. By insuring that our country supports research in the fields of art and science that are needed to solve the social problems accompanying the rapid technological advances.
 1. By developing an understanding of the limitation of their own areas of specialization.
 2. By establishing contacts with other specialists.
 3. By using the above two items to determine the adequacy of the coverage of the social problems related to one's special work.

4. By taking educational and organizational steps to obtain coverage of parts of problems that are not being adequately studied.
- B. By developing the mathematical and engineering tools needed by social scientists.
- III. A "checking chart" is proposed for the implimentation of item IIA1, IIA2, and IIA3.
- IV. Cooperation with artists is proposed to impliment the educational steps of IIA4, and to maintain adequate two-way communication between scientists, engineers, and the people.
- V. Engineering societies have an obligation to our country to protect our democratic form of government by supporting the scientific organization in the behavioral sciences in obtaining the support needed for the social sciences research which can help us understand the social problems of automation and rapid scientific advances made possible by the development of computers.

I have not attempted to make any further reorganization of the paper on the basis of the above points. However, the above points may simplify any revision such as splitting the paper into two papers: (1) for W.J.C.C. and, (2) for Computers and Automation.

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