

A Debate on PREPRINT EXCHANGE

HOW BEST TO COMMUNICATE scientific research results and ideas is subject to strong differences of opinion among physicists. Particularly at issue is a proposal to systematically reproduce and circulate preliminary research reports and other similar documents.

The proposed system, called, in its original form, "Physics Information Exchange" (PIE), would replace a relatively haphazard method by which documents are circulated now. Proponents say that it would do rapidly and efficiently what is already being done and that it would provide a needed channel of communication. Opponents claim that it would flood physics institutions with unneeded unwanted literature of doubtful quality and that it would threaten orderly physics communication.

In the following pages, therefore, we have asked two physicists who feel most strongly to express their views in a three-part debate. In part 1, Michael Moravcsik states the PIE proposal and his arguments in favor. Next is a counterargument by Simon Pasternack, editor of *The Physical Review*. Third is a rebuttal by Moravcsik.

History of the proposal

Moravcsik has made two public proposals of his suggestions for preprint exchange. In an article titled "Private and Public Communications in Physics"

(PHYSICS TODAY, March 1965, page 23) he suggested that each large field of physics should have a central preprint registry and that each small group of physicists should establish its own preprint library. At last January's meeting of the American Physical Society he described a PIE system in which documents in high-energy theoretical physics were to be received by a central organization, duplicated and circulated to all those institutions that would be members.

Before that the Atomic Energy Commission, through its Division of Technical Information, had agreed to inaugurate an experimental PIE program. Using clerical persons already available and no additional funding, AEC would receive preprints deemed worthy of circulation by their authors, reproduce them photographically and then mail them to those individuals in the system whose previously prepared interest profiles showed that they would probably be interested. The original experiment was to include only high-energy theorists. Later AEC withdrew its support pending further consideration.

Subsequently, feeling that the entire physics community should be involved in the experiment, the American Institute of Physics proposed that AIP take part, and a committee appointed by AIP Director Van Zandt Williams met on 15 April to consider the matter.

PRO: Physics Information Exchange—

A Communication Experiment

Michael J. Moravcsik

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CON: Criticism of the Proposed Physics Information Exchange

Simon Pasternack

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REBUTTAL: Some Comments on Pasternack's Criticism

Michael J. Moravcsik

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Present as committee members were Gerald Feinberg (Columbia), François N. Frenkiel (David Taylor Model Basin), Thomas Fulton (Johns Hopkins), Marvin L. Goldberger (Princeton), Samuel A. Goudsmit (Brookhaven), Donald B. Lichtenberg (Indiana University), Moravcsik (Livermore), Pasternack (*Physical Review*), Ronald Peierls (Brookhaven), Williams and Hugh C. Wolfe (AIP). Invited as an interested observer was Charles M. Gottschalk (AEC).

The committee agenda included discussion of Information Exchange Groups (IEG) that are now providing communication among biologists, the original Moravcsik-AEC proposal and an outline plan that had been prepared by AIP. During the meeting the participants discussed several questions that will be important in any experiment if one is conducted:

Material to be circulated. Should it be (or include) titles, abstracts, drafts, memoranda, informal notes, comments, preliminary reports, a newsletter, preprints submitted or accepted for publication?

Status of circulated material. How is it to be cited elsewhere? Would access to it be restricted?

Effect on journal publication. Would readers and authors regard PIE distribution as a substitute for journal publication? Would journal referees review con-

scientiously articles that had already had PIE distribution? Would editors feel free to reject material already circulated?

Membership. Would it be open to institutions or to individuals? How many members would there be?

Distribution and storage. Would the distribution center circulate printed papers, microfilms or microfiche? Would preprints be circulated only to preprint libraries, and would these libraries provide further distribution? Would distribution be selective, or would all materials go to all members? Would storage be by individuals or by institution libraries? What would it cost?

Time of distribution. (IEG takes about six weeks.)

Influence on developing countries.

Evaluation. How would one control an experiment, evaluate it and determine its eventual effects?

Presently AIP is planning a two-phase experiment and requesting funds from AEC and the National Science Foundation to carry it out. It is hoped that phase I, a planning and study project, can be completed in time for evaluation at the Berkeley high-energy meeting in September.

Meanwhile PHYSICS TODAY solicits comments for transmission to the debaters and to AIP on the usefulness of the proposed system and its probable effect on physics, physicists and physics journals.