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letters

The support of Soviet "excluded scientists" by their Western colleagues does not imply involvement in politics. A scientist should not be concerned with any politics, including the Soviet policy of political discrimination against scientists. A Western scientist who has discussions with, and lectures to, Soviet-authorized scientists, while ignoring their Communist or KGB activities, should be equally circumspect in dealing with other Soviet scientists who have been fired or become refuseniks. Also, participation in official scientific delegations to the USSR does not imply, I think, the acceptance of totalitarian ethics. Is one supposed to eat human meat and become a pagan if one is invited to visit cannibals? The same reasoning applies to scientific meetings. They should be rejected if—and maybe only if—they become political demonstrations of discrimination against certain scientists. This policy will only benefit scientific exchanges for it will encourage more exchanges and more involvement of scientists in them. For any country, including the USSR, will choose to stop discriminating against scientists rather than sacrifice its scientific international contacts.

We need to give special concern to those scientists who are in the immediate danger of imprisonment for their scientific activity, as are Brailovsky and Kislik. Almost everybody becomes concerned when a scientist is imprisoned, as were Shchazansky, Orlov, Ginzburg and Begun, but to save anybody from a Soviet jail is extremely difficult, even for the President of the United States. Meanwhile, a Soviet decision to imprison a scientist indicates the regime's utmost desire to get rid of him. If the imprisonment becomes troublesome, the exit visa is the only alternative. Moreover, I suggest that it is most humane, ethical and democratic to focus concern on the most endangered, rather than the most famous, scientists. The concern gives any Soviet scientist a feeling of international scientific solidarity and a certain protection from persecution, thus influencing the whole situation in Soviet science. Science is unique and knows no borders.

To summarize: "When an axe was invented, all trees shuddered from fright. But the axe answered them: do not give wood for handles, and none of you will suffer." (Haggada)

M. YA. AZBEL
Tel-Aviv University

2/2/78

Developing a tape depository

The American Institute of Physics should set up an additional depository beyond the Physics Auxiliary Publication Service. It is our belief, being contributors to it,

that PAPS is of very little use to human beings. The material in it is mainly of value to other computers. To keypunch the numbers from PAPS to cards could be a tremendous amount of work, and the final result would contain many errors.

Thus it should be possible to submit to the AIP a tape containing the material also submitted to PAPS. If someone wished these numbers, the tape could be copied and the copy sold (or rented) for direct use by the purchaser's computer.

What is important in developing a tape depository is a set of procedures and rules. There are also various questions to be answered about such a depository.

Suppose that we wanted a copy of a tape deposited with PAPS. How would we obtain it? What would the cost be? Could it be rented? Would there be any charge for depositing a tape as there is for printed material?

When a table of numbers is presented to a reader, it has a caption giving detailed instructions for its use. Likewise, when a tape is placed on a computer, the computer must be given detailed instructions. If information is lacking, the tape is worthless. The programmer must also be given information about these numbers so he can tell the computer how to handle them.

Obvious data that must be supplied include tape density (will PAPS supply a tape with a different density from that deposited), logical record length, batch size, information about labels and card-punching code (EBCDIC or ASCII). Also the language of the program that wrote the tape must be given, as well as the format of the numbers (which tells their data type). Information equivalent to that in the caption of a table, about the organization and meaning of the numbers, must be supplied. Perhaps it would help to have, on the tape, the program that wrote it (but presumably not the one which generated the numbers, but only some subsidiary program). Of course all variables would have to be very carefully defined, including specifications of indices.

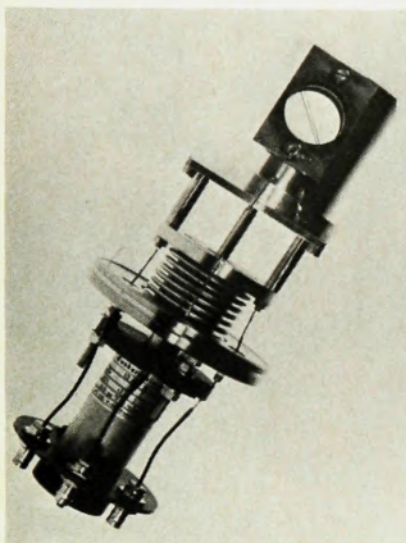
One step in particular would be an important part of the procedure for depositing tapes. When a tape is received it should be run by the AIP and part of the data printed out, to be compared with a sample that should be submitted at the same time as the tape. It would be unfortunate if it were found, ten years later, that the wrong tape was deposited, or even that the instructions were incomplete.

SUSAN SCHINDLER
Baruch College of the City University of
New York
New York, New York
R. MIRMAN
New York, New York

12/7/77

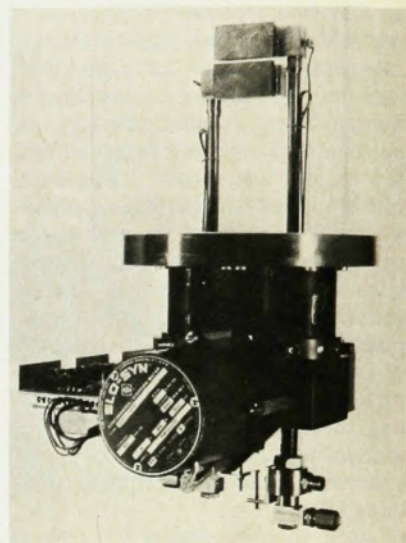
REPLY FROM AIP: The proposal of Schindler and Mirman is a very inter-

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letters

esting one with potentially profound implications in the future. The question is, how far in the future—is there really a need for a tape depository now? AIP would be very interested to hear from other physicists who see a need for this type of depository, particularly those who might use deposits as opposed to making deposits.

The present PAPS depository is accumulating at the rate of about four or five deposits per month. The majority are indeed computer-generated tabular data. But whether such data would or could be used as part of the input to other physicists' computer programs, or directly to "look up" particular values, is perhaps not obvious. Besides, a substantial number of the deposits are in categories such as extensive details of mathematical proofs, detailed descriptions of experimental apparatus and procedures, and so on. The rate at which copies of deposits are presently being ordered by users is about 10 to 20% of the deposit rate.

Mirman and Schindler mention some of the technical questions that would have to be settled in creating a tape depository. There are also problems with the long-term security and integrity of tape archives. And, of course, there is the cost factor. In principle PAPS could be used as a depository for any reproducible materials, and the question of a computer-tape depository will be brought before AIP's Publications Board (the editors of all the journals published by AIP).

ELLIOT PLOTKIN
A. W. KENNETH METZNER
Publications Division
American Institute of Physics
12/22/77 New York, New York

Request for help

We have recently formed a small department specializing in solid-state physics. We badly need journals, books and equipment. Donations, as well as low-priced offers, would be most welcome. Please write to: Coordinador, Depto. de Fisica, Instituto de Ciencias de la Universidad Autonoma de Puebla, Apdo. Postal J-48, Puebla, Pue. Mexico.

R. BAQUERO
Instituto de Ciencias
Universidad Autonoma de Puebla
12/15/77 Puebla, Pue. Mex.

More recognition of teachers

It is about time that the problem of recognition for teaching is faced squarely, and I am happy to see the letter by M. A. Ijaz in these columns on this very important subject (August, page 11). Lack of interest on the part of university administrators to evolve any kind of guidelines

to recognize teaching is a universal disease which is crippling the field of education not only in the US but in the entire world. Having a long tail by way of publications, however mediocre they may be, has become a *sine qua non* condition for getting promotions for faculty in all disciplines, not just in physics. A clever person gets this tail to be very long by publishing the same material as a letter, a paper at a conference, an internal report and finally as a review or a chapter in a book, if luck favors him. Of course, a dedicated researcher will never stoop to doing such things, just as a dedicated teacher will never stop updating his lecture notes. But, then, both species are fast becoming rarer commodities these days, but for entirely different reasons. A dedicated research scientist is forced to abandon his chosen path of intellectual pursuit because the system under which he functions requires that he beat his drum as loud and as fast as he can to catch the eyes of the powers that be. On the other hand a dedicated teacher abandons his chosen path because it has become a pathological obsession with university administrators to ignore teaching and to recognize mediocre research output as something desirable.

When such is the situation in the developed nations, what can one say about developing nations that unwittingly or deliberately choose to ape the methodologies of the developed nations? While the developing nations are in step now with the so-called developed nations in so far as ignoring teachers is concerned, they have gone one step further (like adding insult to injury) by discriminating amongst researchers. For example in some countries university authorities ask their faculty to indicate the number of papers published in foreign journals in contrast to the local journals, and the weight is always in favor of publications in foreign journals. Of course they are perpetrating this slavish attitude under the guise that "science is international."

Swami Vivekananda, a pragmatic-saint of Old India, has summed up the value of the student-teacher interaction as follows: "One should live from his very boyhood with one whose character is like a blazing fire and should have before him a living example of the highest teaching." The basic tenet of the old Indian educational system was the recognition of teacher as equal to God. It is a pity that India, which has established laudable traditions in recognizing the value of its teachers to the development of its society, is fast slipping in its mad rush to catch up with the so-called developed nations. I should say we really have caught up, because in India also, these days, a mediocre research scientist is considered superior to even the best teacher.

And now we are hearing voices from the developed nations such as the US protesting the injustice done to its teachers.

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