Letters

Information Exchange Groups To Be Discontinued

Various opinions have been expressed recently in the columns of *Science, Nature*, and elsewhere, on the merits of NIH's experiment with Information Exchange Groups. The following letter, which is being sent to all IEG members, is intended to inform the scientific community of an action being taken by NIH, and the principal reasons therefor.

More than five years ago an experiment in rapid scientist-to-scientist communication was launched within this division, and the first Information Exchange Group came into being. Since then, we have seen six more Groups form and operate. Those of us who have observed Dr. Albritton's experiment in communication have been gratified by the quick acceptance of the concept by scientists with common research interest in an IEG area. By characterizing the role of such communication devices and demonstrating their utility, we have highlighted an accelerating need for improvement in the speed of communication between scientists working in the same self-identified area.

From its beginning this operation has been an experiment and, like all experiments, must eventually end. After reviewing the IEG program with the NIH officials concerned, it has been decided to conclude the study on March 1, 1967. In order to accomplish this, no new members will be accepted after November 15, and no communiques will be received for distribution after February 1, 1967.

There are two primary reasons for taking this action. First, the original purpose of the experiment has been achieved. The IEG concept *is* workable, if the chosen research area is focused to an easily described and identifiable research phenomenon or problem around which the group can be built.

Second, the rapid growth of IEG in the last two years has now reached the threshold limit for the NIH facilities to accommodate. Further, once the original concept has been tested, it does not appear equitable to all research areas to continue IEG services to a few groups on a service basis alone. If IEG cannot continue the present course, it must either expand to a larger number of areas or be suspended. We have decided to conclude and assess the experiment.

As with other innovations, the rapid rise in IEG operations has also raised criticism. As with most experiments, we would have designed it otherwise, had we known some of the effects in advance. The major points of the responsible criticisms could be incorporated into modifications of the present IEG systems, if continued, or could be accommodated into future IEG systems under other auspices.

To evaluate this experiment, we shall soon give each of the scientist members in IEG an opportunity to provide a personal evaluation of the IEG program. We would certainly appreciate your cooperation in this endeavor. A final report of results will be made available to each IEG member.

While the NIH has chosen not to continue to operate IEG's directly, its interest in the concept continues. Scientific societies, federations, and groups of scientists sponsoring standard publications, periodicals and journals are invited to examine the potentials of the IEG mechanism.

Under suitable control, an IEG could serve as an adjunct system to complement existing journals and periodicals in critical areas determined by responsible officials of a society, or an organized group of the scientific community. From what we have learned, such IEG's should have a short life-guarantee that is renewable annually and based upon need as determined by review. The group should be kept as small as possible by the choice of scope of the phenomenon or problem encompassed. The area chosen should also be characterized by a high energy of scientific inquiry. Two of our IEG groups are probably too diffuse in subject area to work as well as they could on a more narrowly defined basis. One of our IEG's is well focused in its area and has a small group number, but may be premature in terms of the energy level of the field. Five of the IEG's, though diverse in scope, appear to be well-suited to IEG operations and are successfully accomplishing rapid informal selective communications.

No matter what direction rapid scientific communication may take in the future, we may take pride in the bench mark established with the Information Exchange Groups' experiment.

On behalf of the National Institutes of Health, thanks are extended to each member for his part in participating in the experiment. A special note of appreciation is made to the IEG Chairmen and Co-Chairmen for their dedicated efforts in pioneering in scientific communication.

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Qualifying Orals for the Ph.D.: A Test of the Examiners

Requirements for the Ph.D. degree commonly include a qualifying examination conducted orally by a board of professors who represent the fields of the candidate's preparation. These comments are evoked by my experiences on about 25 such examining boards for candidates in biology.

The orals are usually regarded by candidates as the big hurdle. Required courses come one by one, and if the thesis is not acceptable, it can be rewritten, but the orals are all-or-nothing. Failure means humiliation and probably a change of career. Preparation has been long; apprehension is great; adrenalin runs deep.

The examination of a good candidate can be a stimulating and rewarding experience. At its best, candidate and examiners engage in a rigorous and fast moving game of the wits, serious yet not solemn, which all can best "win" by the same outcome. If this is not always so, it may not be the candidate's fault.

I have known examiners to fall asleep. Others did paper work or read journals, or even read books taken at random from the shelves of the library in which the examination was held. One came dressed for tennis in case the exam ended early. Some come late. The forgetful chairman of one board was summoned by telephone from his lab. Worst of all, some are overtly bored. Let us extend to the candidate the courtesy that is due him on his big day.

The degree sought is Doctor of Philosophy, not Doctor of Osmoregulation or Neurosecretion. Some questioning is too desultory, too narrow, or too much confined to data retrieval to be a credit to the degree. If two of the candidate's fields are cytogenetics and population genetics, then the examiner for biochemistry should not limit his questions to RNA synthesis; the examiner for evolution should not restrict his questions to the nature of mutations; and the examiner for general biology should not ask about factors influencing numbers in laboratory colonies of flour beetles. Although we must not expect too much of our young candidates, let us include questions that demonstrate the examiner's regard for the importance of identifying, evaluating, and integrating ideas and concepts from relevant fields.

If the examiner asks only questions jotted down in advance and allows the candidate to talk himself out in reply, then the exam might better have been written. Should the candidate either flounder or quickly demonstrate mastery, it may be best to probe elsewhere by politely interrupting with a different question. If one long struggle uses up most of the time allotted to a field, then, to compensate, short answers can be requested to a series of short questions. It is important, particularly with a marginal performance, that enough questions be asked to provide adequate sampling. If one examiner explores methods, or history, or relevant literature, another can turn to a different approach. Let us take advantage of the adaptability of the oral examination for making the most of time, achieving balance, finding strength and weakness, and assuring validity of the final judgment.

Some examiners allow candidates to pad answers against the chill of fresh questions. Some permit near answers to count as hits. Some feed answers or ask questions that can hardly be missed. ("What have you read lately? Tell us about it.") Some can be counted on to ask certain questions well known to the underground. Others require only an acquaintance with notes of their own courses. A difficult candidate for all examiners is the one who thinks and speaks slowly; he may require a second sitting to cover the material adequately. Let us maintain reasonable control of the pace, precision, and uniqueness of each examination, refusing to let gamesmanship substitute for scholarship.

Most examiners pass the test, many with distinction, yet low marks are too frequent to ignore. Let us make the effort to do our best.

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Shrouds Around LSD

After my summer of one-way correspondence and long-distance calls, Dahlberg's letter (30 Sept.) regarding continued research with LSD was encouraging. Unfortunately, I have not been so lucky (for luck it must be, the logic eludes me), in obtaining LSD for research purposes. Last spring I designed an experiment to measure objective behavioral and performance changes under the influence of LSD-25. With LSD fantasies running rampant, it seemed that a few facts would be useful. I hired a research assistant (on nonfederal funds) and we were about to start the project. Then came the send-it(LSD)-all-back-to-Sandoz letter. I objected, they commiserated, I sent it back. With the LSD went my approval to use the drug since this had been filed previously by Sandoz. They indicated that I should write to NIMH. Delayed but not discouraged, since I had formerly received an NIMH grant for LSD research from which resulted a book and several papers, I sent the proposal to them. I asked for approval and a small supply of the drug but *not* for funds. (Was this my error?) No reply for 1 month so I phoned—of course a committee had to meet, a stupid oversight on my part. It met and approved the proposal if I would change one step. Gladly, for it was a wise recommendation. Another month went by, no letter, no drug, so I phoned again. The committee had to meet again. (Will I never learn?) Eventually, upon phoning again, I learned that I did have the NIMH Committee's approval but I had to have someone in the Food and Drug Administration approve the distribution of the drug. I had spoken to only four different individuals at NIMH, but after speaking to five at the Food and Drug Administration, I despaired and hoped that my correspondence would eventually filter through to the appropriate person. The summer passed, the research assistant worked on his thesis, and I ran up a phone bill.

Contrary to Dahlberg's experience, the small amount of LSD research that we have undertaken in this research center has not gained me the reputation of being a "kook" but I have never been too sensitive to the criticisms of others whose pursuit of a quiet life is an excuse for being ineffectual. I have had the encouragement of the director of this institute and the chairman of the department of psychiatry, notwithstanding the obvious jeopardy of research with such a controversial agent as this.

I wish I could end this letter with the same phrase that Dahlberg used—that the work on LSD is proceeding as planned. Here it is not.

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