# 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.