

Letters to the Editor

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ELECTRONIC NEWS, MONDAY, MARCH 5, 1962

Dear Sir:

With regard to the proposed merger of the Institute of Radio Engineers and the American Institute of Electrical Engineers, you might be interested in some arguments which have been circulated in Los Angeles and San Francisco. They are as follows:

1. Membership. We (IRE) are large enough, possibly too large. Bigness has no intrinsic value beyond a membership of 100,000.

2. Finances. We are solvent and healthy. The AIEE appears to have much more limited sources of income than the IRE.

3. Meetings. We have plenty. Our problem is in subject matter differentiation and geographical distribution of our membership. Merger does not necessarily rectify or simplify this problem.

4. Founder Society. There is no value in being a member of a "founder" society.

5. Literature. We now publish more than the members have time to read. No doubt we could improve our publications. The IRE should not publish a lot of "popular" material which has no lasting value. There are many reasonably priced journals that cover this phase of our field. There is nothing now being published by the AIEE which either supplements or is in any way better than IRE publications. Merger does not necessarily improve publications.

6. The direction in which electronics is moving indicates we should establish a much closer working arrangement with such societies as the American Physical Society, the American Rocket Society, the Institute of Aerospace Sciences, the American Society of Metals, and similar groups.

7. We desperately need to improve our communications with physicists, or we will be relegated to "second class citizenship" in the community of scientists and engineers. The impact of physics on the future of the electronic industry is enormous.

8. The changes taking place in the field of electronics are beginning to indicate that, in educational programs, we would probably be better off if we establish and strengthen interdisciplinary courses with physics, rather than as we have done with electrical engineering. Here is an excellent example of what happens in education when a society (such as the IRE) is not articulate in these matters.

Electronics has grown up within the framework of electrical engineering by default. Through the years the IRE has left the problem pretty much up to the AIEE. Only recently has the IRE given serious and official thought in this area. There is a dualism in our field of education: (1) We have unwittingly said electronics is a part of electrical engineering and permitted the field to develop within this limited framework; (2) but many schools across the country have developed electronics within the framework of physics. The nature and scope of electronics now indicates that it would be better to permit it to develop separately from these fields, but draw upon both as needed.

As the Massachusetts Institute of Technology current catalog points out there are two distinct divisions: "The processing and transmission of information" (now generally agreed to be the field of electronic engineering), and the "processing, transmission and control of energy"

(the historic and major field of electrical engineering).

Electronic engineering should relate to physics in the same way that chemical engineering relates to chemistry. It is significant that chemical engineering has the highest per cent enrollment (nation-wide) in graduate study, and the largest per cent of Ph.D's in the industry. No doubt the tremendous advances made in such areas as synthetic materials are due, in no small part, to this educational approach. There are already more common disciplines in electronics with physics than with electrical engineering.

9. A quick glance at new journals — such as The Solid State Journal — indicates we must communicate with the physicist and bring more understandable physics into the IRE. In general, the members of IRE are more articulate in physics than members of AIEE. Our society should constructively improve the subject matter fields which are becoming daily more important to members. Bringing 60,000 AIEE's into the IRE or 100,000 IRE's into the AIEE will not educate the members of the IRE in the direction our field is moving.

10. Rather than impose a new massive structure from the top on our flourishing society, it is suggested we take a grass-roots approach to the merger—i.e., establish an effective working union at the rank-and-file membership level in the operation of the IRE Professional Groups and the (proposed) AIEE Technical Groups, where subject matter dissemination and exchange of ideas are the chief objectives.

If the two societies can work effectively at this level, we can give more considered thought to an over-all merger.

It is claimed that at the very bottom (i.e., at the student level), we appear to have a smooth AIEE-IRE joint venture. Let's take the next step and try an IRE-AIEE Joint Professional-Technical operation within the framework of our present institutes. The organizational problems for merger at this level are trivial compared to those at the national and sectional levels. Our able administrators, I am sure, can handle the details.

C. RADIUS
Senior Member IRE

Dear Sir:

Having studied IRE President Berkner's three open letters (Proceedings of the IRE; December, 1961, January and February, 1962) concerning the possible merger of the IRE and AIEE, and having reflected on this, I think:

1. That merging is probably a pseudo-solution and that other alternatives would be better.

2. That there is no good reason for hurry; the present crash program is unsound—the analysis of the memberships' needs has been superficial, the design is ill-conceived and has been done, albeit frantically, with an under-manned and probably inadequate work force.

3. That we don't know much with surety of the present and near-future needs of the IRE and AIEE membership and, perhaps of equal importance in this context, of the needs of members of other organizations which overlap and compete with portions of both institutes (e.g., the Association for Computing Machinery).

4. That most of the IRE and the AIEE members are uninterested in the structure of their organiza-

tions. But this does not absolve the leadership from having the memberships' needs ascertained and having the best possible structure devised to meet these needs.

Should not the IRE and AIEE separately and jointly, find out what is needed before presenting organizational issues for all but irrevocable decisions to their members? I suggest they stop preparing a constitution, by-laws, and other agreements for a merged IRE-AIEE, and start (with the aid of professional help) an objective study and evaluation of present and near-future purposes, objectives and interests of their members, and ascertain how well or poorly the present organizational structure, policies, and practices are serving these purposes and interests, and attaining these objectives. Only after this is done, should each organization separately and jointly (with professional help) select alternative organizational structures and put them to a referendum. I would suggest that the presentation of each such issue to the members be accompanied by a statement of how the alternatives were arrived at, and the reasoning used to show how they might serve the already identified purposes, objectives, and interests of the members.

Although I am not a specialist in establishing, merging, or reorganizing professional societies, I know that reputable management consultants called in to study an existing organization, or to establish an organization from scratch, undertake to make certain fundamental determinations before diagnosing and recommending treatment. They ascertain whose interests and purposes the organization is to represent primarily and whose secondarily; what these interests and purposes are, how they are to be ranked, and how much of the organization's resources should be devoted to each interest. They ask what the primary objectives are of the members represented, and how well the present organization, policies, and practices implement these objectives. The members of the IRE and the AIEE should be polled by means of a professionally-designed questionnaire to find out such things as (a) whether they want a society that serves primarily the purposes of the electronic and electrical industry, or the purposes of practicing electronic and electrical engineers or scientists in any specialty, or in a particular specialty, or the purposes of such ex-engineers as salesmen, marketers, purchasing agents, managers, or business men (which may be the goal of many engineers), or the purposes of anyone with an engineering degree; (b) whether they want primarily to have a learned society, scientific-technical institute, professional society, educational society, labor union, trade association, lobby, fraternal organization, or social club;

(c) to what extent the society should participate in (i) setting terminological standards, (ii) setting up a code of ethics, (iii) setting up liaisons with other institutions such as universities, Government, and industry, (iv) organizing trade shows, and (v) providing recruiting opportunities.

Determinations such as these will reveal what is right and what is wrong with the IRE and AIEE now, and what should be done in the future. It may turn out that to merge or not to merge is truly the key issue. If that be so, the investigation might seem to have engendered an unwarranted delay. This delay will have been all to the good; however, for it will have shown how the merged organization should function — and why.

Many other variants may emerge from the study. I here mention only one—the consolidation of the IRE Professional Group on Audio, the Professional Group on Ultrasonic Engineering and the Acoustical Society of America. However, I feel that recombinations of this sort rather than the merger now contemplated would be the strongest candidate. In any event, I trust that IRE and AIEE members agree that we should insist as strongly on an orderly, objective and exhaustive procedure for determining the organizational structure and policies of our societies as we do in designing circuits.

I suggest, therefore, that the IRE and AIEE, first separately and then together, plan and carry out a program, preferably with as much outside professional help as is needed, to determine the purposes, interests, and objectives of their members; to evaluate the present organizational structure, policies, and practices in the light of these purposes, interests, and objectives; and then to present to both memberships the issues and the alternatives together with their rationale.

LOUIS FEIN,
Senior Member IRE