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ADDRESSES AND CONTRIBUTED PAPERS

PRESIDENTIAL ADDRESS

“Quo Vadis or If Nobody Does Anything, Nothing Will Be Done”

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This year I have spent a great deal of time thinking about the nature and purposes of the Indiana Academy of Science. In 1986 the Academy entered its second 100 years. When you are 101 years old, you are entitled to a little introspection. Why are we here? Are we doing what we should be doing? Can we improve?

The Indiana Academy of Science is the primary membership society in the state of Indiana for all qualified individuals whose major professional concerns involve significant aspects of the sciences. The mission of the IAS is to provide leadership and support for the continuous evolution and applications of the sciences; for the professional growth and well-being of scientists; for the development of appropriate appreciation by the public of the contributions to human welfare by science and scientists; and to provide a wide variety of high quality communications and other services to members, the state legislature and other state entities, and to the public, for the benefit of all the citizens of Indiana.

These last two points find strong support in recent quotes. From “The Public Understanding of Science,” a report by the Royal Society, London, 1985, we learn:

“Science and technology pervade nearly all aspects of modern life, from the health of individuals to national prosperity to the quality of public decision-making. Improving public understanding of science is not a luxury, it is a vital investment in the future well-being of our society. Initial responsibility for achieving an improved public understanding lies with the scientific community. Learn to communicate with the public, be willing to do so and consider it your duty to do so.”

The president of M.I.T., Dr. Paul E. Gray, addressing the A.A.A.S. meeting in Philadelphia in May, 1986, said “Every individual who is involved in and cares about these issues has to be involved in making the case for higher education and the research enterprise. We, as scientists, cannot assume that good works will be supported simply because they are good works. And we cannot stand aside and expect others to make the case for us. We must become involved in the decision-making processes and in communicating the value of what we do.”

The expanding base of scientific knowledge must be made readily accessible to provide information that will support solutions to problems of society. Therefore, the Indiana Academy of Science should strive to enlarge its role in the transfer of knowledge. Information services, including further monographs and the *Proceedings*, and meetings and symposia, should be sustained and increased in scope and relevance to the needs of those they serve.

Some wise man said, “As we learn, questions, not answers, become the focus of our attention.”

Let me raise some questions about our role in the transfer of knowledge.

Should the *Proceedings* of the IAS be modified? The length of current volumes is a problem for the editor and the printer, and an added expense to the Academy. Quarterly research journals are published by science academies in neighboring states. Should we attempt a quarterly research journal?

This year for the first time, we have distributed abstracts at the meeting. Should we continue this practice? Publication of meeting abstracts separate from the *Proceedings* has several distinct advantages. It would:

a) Reduce the size of the *Proceedings* by about 10%.

b) Provide an early publication date. At present, the actual publication date is 12 to 15 months after a paper is presented. Publication of abstracts at the meeting would give the meeting date as publication date.

c) Provide an opportunity to review abstracts of papers before attending, making it easier to select important papers.

d) Provide information for discussion of papers you have missed with the author. There are some disadvantages also:

a) Abstracts are not edited, so authors have sole responsibility for appearance.

b) The published abstracts would have to be distributed to our membership and library exchange list as a regular publication of the Academy, at extra expense.

Should the *Newsletter* be published more often? The Academy needs more contact with its members. It seems to have a major impact just once a year, at the annual fall meeting. The *Newsletter*, published four times/year, has been greatly improved under the editorship of Al Schmidt. He has introduced a new two-column format and made it more readable, and has introduced some new features, "Letters to the Editor," "President's Corner" and "Know Your Committee," to name a few. It could be used by sections, which seem to lack communication with their members, except for the annual invitation to submit. It could be used by committee chairs seeking input on their missions. Is a monthly news magazine possible? Maybe we should ask the editor to try for six times/year, on an experimental basis. Please give him the benefit of your advice.

Can our meetings be improved? It is getting more and more difficult to squeeze in all of the events and papers into one day (but most attendees will not stay overnight). The Council meeting on Thursday is poorly attended, and seems only to be able to meet in the afternoon for two hours. How can we better conduct the business of the Academy? Shall we have papers at the spring meeting? Can we have some symposia at other times of the year? Can we get cooperation between sections to arrange such symposia? Perhaps the proceedings of such symposia could be published as monographs.

It is becoming more difficult to have meetings on college campuses. Institutions are not clamoring to host the Academy. How can we meet this problem?

a) Meet at a different time, when more space is available on campus. Christmas and Easter vacations are getting longer, and there is usually space available during summer vacations.

b) Meet in hotel facilities. This would be very expensive, since all facilities would cost. Our registration fee currently does not pay the cost of a meeting. In 1985, the meeting income was about \$4000, but the meeting, held at Indiana University in Bloomington, cost about \$7000. Thus even with a modest registration fee, the Academy is subsidizing about one-half the cost.

How can we increase our membership? There are more than 2000 practicing professional scientists in the state, but we have only about 1000 members. We have only 5 or 6 corporate members, but there are many times that number of corporations with vested interest in science in this state. Increasing our membership in all categories will enable the Academy to provide better services.

How can the corporate member take an active part in Academy affairs?

a) They can promote understanding and appreciation of the contributions of industrial scientists to society and the economy of the state.

b) Corporate members can provide seed money and support for selected Academy programs.

c) They can function as a communication link between corporations, the Academy and the state.

Why can't the various sections of the Academy become more involved in Academy projects? For example, why doesn't Science Education get more involved with Youth Activities' problems, the review of high school texts, the Indiana State Museum, and so on. It seems to me that our sections are completely divorced from Academy commitments, where the action is.

Can we get more cooperation between sections on arranging symposia? Some obvious ideas come to mind. Chemistry and Environmental Quality could sponsor a joint symposium on methods of measuring trace materials in air, water and soil. Soil and Atmospheric Science would surely cooperate, or perhaps prefer to arrange a symposium with Ecology. Certainly Botany, the Biologies and Zoology must have mutual interests. It seems to me that joint symposia of this kind would attract much broader general interest.

Can we do more in the field of science education? Recently, Norman Hackerman, on receiving the Parsons Award of the American Chemical Society, said, "The country is losing its potential scientific talent to law, medicine and finance these days. I don't think we scientists are getting a good look at the intellectually high class kids." (Chemical and Engineering News, June 23, 1986, p. 27). Our Youth Activities Committee is one of the most important committees of the Academy. They are doing a good job under difficult circumstances. They are responsible for the Junior Academy, the Indiana Science Talent Search, Science Fairs, the Science Olympiad, and, in cooperation with the Research Grants Committee, high school student research grants. And they do all this with minimal financial backing by the Academy. If they are to keep up the good work, they need more help and more money. Can the Academy do more? We need to promote a membership drive among the high school science teachers, and offer them more services of the Academy. We need to explore greater cooperation between IAS and HASTI, and improve our work with the Indiana Science Education Fund. Furthermore, we need to call to the attention of the corporate members the work of the Youth Activities Committee. I see here a natural affinity. Can the Academy nurture it?

Recently the Delaware General Assembly established a "Scientist in Residence" program in the Delaware elementary schools, to strengthen the teaching of mathematics and science in the public schools. Scientists in Residence will cooperate with elementary school teachers in developing science lessons emphasizing observation and experimentation. This idea was developed by a group of retired chemists in Delaware. Could the Academy develop such a program for the state of Indiana, utilizing the talents of retired Academy members? A description of this program can be found in Chemical and Engineering News, May 12, 1986, p. 27.

The Academy needs a headquarters office, centrally located, preferably in Indianapolis, near state government offices. Such an office can provide continuity to various ongoing operations and provide office help which is sorely needed. An increasing load is falling on fewer volunteer shoulders, and it becomes more difficult to meet deadlines. Our Academy is ninth largest in the country, but not among the 26 which list a central office, nor among the 21 which list an Executive Secretary. Such an office can handle routine mailing and billing, maintain a computerized up-to-date membership list, assist various committees in contacting the membership of the state, negotiate for meeting sites, prepare programs and abstracts, negotiate contracts for printing and publication, provide a permanent address and phone for Academy business, and more.

To sum up, the Indiana Academy of Science should expand its efforts to communicate with the public, maintain and expand an aggressive program to provide accurate, relevant scientific information on public issues involving science to all appropriate agencies of state government; assert leadership in encouraging public and private institutions to act responsibly using available scientific and technological information in matters of public concern; and improve its interactions with the communications media. In all these efforts, it is vital that the Academy maintain its credibility as a voice for science and the scientists.

The fullest realization of the objectives of the Academy depends on astute management of its assets and of the financial aspects of the endeavors undertaken in accord with these objectives. The IAS should manage its activities to meet their service objectives and to generate sufficient funds to meet its future capital needs. IAS should seek private and public support to achieve specific well-defined Academy goals with carefully developed strategies. Dues-supported programs should be managed so that member dues remain at a reasonable level.

In conclusion, I would like to take this opportunity to thank the chairs and members of the many committees who have worked hard this year to improve their service to the Academy. I am especially grateful to Virginia Rhodes, Mark Whitman and Janet Woerner, who stepped in to assist Susan Johnson in the operation of the Youth Activities programs. I want to thank also the Executive Committee, Stan Burden, Duvall Jones, Dick Conklin, Al Schmidt, Ben Moulton, and last but not least, Don Winslow, my good right arm, who knows where all the bodies are buried, and without whose counsel and support I would have been unable to preside. I wish your incoming president, Stanley Burden, the best of luck. Thank you.