

INTERNATIONAL ASSOCIATION FOR DENTAL RESEARCH

PROCEEDINGS OF THE TWENTY-FOURTH GENERAL MEETING¹

CONTINENTAL HOTEL, KANSAS CITY, MISSOURI

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I. DENTAL RESEARCH IN THE NEAR FUTURE. INAUGURAL ADDRESS

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My remarks this evening are on a subject to which we have all given considerable thought, the future of dental research in this post-war period. Within the history of this organization research in dentistry has grown from little more than a sapling to a sturdy tree bearing a quite respectable annual yield. If we wish to improve our tree we should obviously strive to improve the quality of the fruit it will bear in future seasons. If my suggestions for improvement seem to some of you to have a slightly disagreeable odor, please bear with it in the knowledge that fertilizer does have quite an odor, yet is an excellent aid in promoting the welfare of our tree.

We have just been through a group of years which have tried us sorely. All of us have suffered from the war whether we have been in the armed services or not.

¹ The sessions of the International Association for Dental Research preceded, by agreement, those of the American Association of Dental Schools in the same hotel, March 18, 19, and 20. The annual dinner was combined with that of Omicron Kappa Upsilon and the newly elected officers of both groups were installed at that meeting.

² The Editor wishes to express his appreciation to the General Secretary, E. H. Hatton, for his cooperation in the compiling of these proceedings.

A fortunate few have been able to give a reasonably adequate part of their time and energy to research, but by far the majority of us have been so overburdened by the added loads imposed by accelerated programs and depleted staffs that research programs have had to be curtailed or postponed.

Now, as we enter this also trying period of reconversion, let us look at the prospects for research in dentistry in the near future. By taking cognizance of the inadequacies of the past and present may we not, perhaps, lay plans for a more adequate and more efficient research program in the years ahead?

Good research requires ample time and a free mind. Only the rare individual can pursue investigations in disconnected moments snatched from a schedule heavily loaded with teaching, administrative duties, or the demands of practice. With our load practically doubled during the war years, but little time and energy were left for other affairs. When, during those years we were badgered and bedevilled also by the petty, annoying, and time consuming demands of regimentation and bureaucracy, we were rarely in the proper mood for constructive, productive work.

Now we have been freed from some of this extra demand on our time, but not from all of it. Concerning a heavy load of teaching or other duties, it is rumored that the administrative officers of certain of our institutions of learning, having discovered during the period of emergency how heavy a burden the human body and mind can bear, and having ever an eye for a bargain, are taking advantage of that discovery by continuing to make heavy demands on their faculties to the detriment of both teaching and research. Let us hope that this is no more than rumor. Or, if there is more than rumor in it, let us hope that such administrators learn early that not every bargain is cheap.

Concerning the demands of regimentation and bureaucracy, we have been freed from much of the annoyance and from many of the symbols of regimentation, but bureaucracy is still with us. It is going to be as difficult to get rid of as was Sinbad's Old Man of the Sea. Let us do all in our power to encourage and support the recent efforts of a few of our Congressmen to come to the aid of poor Sinbad. Their small spark of rebellion must be fanned to a hot flame of nation-wide revolt against our strangling, ever more burdensome Old Man Bureaucracy before we can lighten ourselves of his load.

It was mentioned above that the productive investigator must have a free mind. By this I mean a mind as free as possible from worry and discontent. Since a large share of the worry and discontent of most of us stems from financial inadequacy, may we not hope that means can be found to narrow the wide gap between the reward for mental activity and that for manual labor? "Pity the plight of the white-collar man" is a much voiced theme, but it is, alas, but a feeble voice in the wilderness. The cost of living has increased just as much for the white-collar man as for the wielder of a wrench, but the white-collar man has neither been willing nor able to descend to the level of those groups which are willing to jeopardize the welfare of our whole nation for a long time to come in their exploitation of the present precarious situation for the attainment of their greedy ends.

Many of us see hope of easement from this situation in the projected aids to scientific investigation now being so actively discussed by Congress. Some others are not so optimistic about the prospects for this National Science Foundation. For example, a recent article in *Science* by Professor Germann of the University of Colorado questions the benefit of such a program to the individuals most in need of benefit, and Doctor Jewett, President of the National Academy of Sciences, in a recent Sigma Xi National Lecture, made a gloomy prediction of our inability to keep such a program out of the hands of the politicians. If these men are right, governmental aid for a research project might well turn out to be a mixed blessing.

Another aspect of the future of dental research is of present interest. In recent months we have heard much about the loss of a large part of a generation of young scientists. Several leaders in the scientific world have sounded pessimistic notes on this theme. It is true that our Selective Service largely ignored the need for replacement of personnel in scientific fields, particularly in the physical sciences; it is true that many promising young scientists have been casualties in the war; and it is true that many others have been sidetracked by interruption of their training and by diversion into fields other than those of scientific research.

On the other hand, it is also true, particularly in the fields of medicine and dentistry, that many men who would not otherwise have been able to finance their training have been able to receive that training through the lavish provisions of the A. S. T. P. and V-12. Many more have had their thoughts turned to the preservation of life and health as a direct result of their observations and experiences during the war. Many of these are receiving or will receive training with the aid of the "G. I. Bill" and the Veterans' Administration.

Out of this large pool of men it seems reasonable to expect that a normal complement will have in them that peculiar combination of overdeveloped bump of curiosity, keen analytical sense, and capacity for persistence in the face of repeated failure which makes the true investigator.

For these reasons I am not at all pessimistic about the future as concerns the number and quality of a new supply of research men.

Perhaps a more disturbing situation is the dilution of our staffs of investigators in our universities due to the rapid exodus of trained men into industrial and commercial organizations. The number of fine teachers and able investigators who are deserting inadequately recompensed university positions for the vastly better financial rewards of industrial research has reached alarming proportions. In most cases replacements for these losses have been made from the bottom. A recent article on this subject contained the homely analogy of skimming off the cream of outstanding men and leaving only the skimmed milk of those who lack capacity for leadership. If we pursue this analogy further, it raises the thought that, though soured skimmed milk is undoubtedly nutritious and of some value in preparing pigs for market, a steady diet of lumpy curds and thin, watery whey is scarcely one which whets the appetite or stimulates the mental processes of the human animal.

As another problem in connection with dental research I would like to mention the subject of forced research and particularly that evil which is a direct corollary of it, forced publication. While a few of us, including myself, are by nature so indolent and so prone to procrastination that we require a goad to keep us in productive motion, it is still true that research should not be forced. Rather it should spring from a compelling interest and an urge that cannot be denied. To require results in the form of the publication of a certain number of papers or a certain number of pages a year in order to hold a position or to ensure the continuation of a grant is to encourage the publication of too much about too little. Such practices have been only too prevalent in late years. Multiple publication, that is the publication of essentially the same data in several journals, or in thinly disguised alteration of form and title in the same journal is one method known to all of us. Padded papers, so common in Continental Europe, are another method. In these an article which could have been adequately and more forcefully treated in ten or twelve pages is expanded to close to a hundred pages, or even in some cases to the dimensions of a book. Still a third method is much employed by collaborative groups. You all know the technique. John Doe and Richard Roe publish a paper on "The Effect of Tids on Tods". Within a short time there appears a paper by Richard Roe and John Doe on "Tods as Affected by Tids". Next there is a paper by John Doe and Richard Roe entitled "The Alteration of Tods under the Influence of Tids" and, finally, a paper by Richard Roe and John Doe on "The Influence of Tids on the Alteration of Tods". By introducing another factor or two and adding co-authors one can figure mathematically the prodigious number of combinations and permutations possible. The net result is to extend the list of papers published by each co-author, to overload certain journals in which editorial control is not too hard-boiled, to made the paths of the abstractor and librarian more stony, and to add just one item to the store of human knowledge.

Knowing what we do about the desire of those who finance some of our research programs to expect rapid and fruitful returns on their investment, one cannot be too censorious of those who resort to these techniques. Really the cure for this condition lies in the education of those in control of funds granted for research. These individuals, many of them hard-headed business men used to the methods of industry, must be convinced that good research cannot be turned out on a production schedule nor delivered on demand as is merchandise from a vending machine when the proper coins are dropped in the slot.

In closing I would like to summarize by saying that, if intelligent, adequately trained, intellectually honest men with an avid interest in the problems of denistry are chosen; if these men are paid salaries sufficient to free their minds from financial worries; if they are given ample time and facilities for efficient research on subjects of their own selection; if they are freed from the necessity of working on a production schedule; and if they publish only when they have findings which are worth publishing; then the future of dental research will take care of itself. If these rules are followed, there is but little further need for a planned program for dental research.