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### I. ADDRESS OF RETIRING PRESIDENT<sup>3</sup>

*J. L. T. Appleton, Jr., B.S., D.D.S., Dental School, University of Pennsylvania, Philadelphia, Pa.*

Although I am standing, I am speaking *ex cathedra*. At least I hope you will be duly impressed by the few, poor reflections and suggestions which I make as retiring president. Will you graciously grant them a consideration which you might not otherwise be inclined to give?

At last the relation of this Association to the *Journal of Dental Research* is taking definitive form. The obligation to maintain, continue and extend it, we have assumed—not because we could afford a luxury but because the logic of the case allowed no other disposition. Frankly, we felt that if we accepted our manifest destiny, we could count upon the profession at large not to let us fail. Our sincere thanks are due to those societies and organizations which have contributed moral and money support to this journal. May their numbers increase!

The proposal has been made to have certain of the more technical, abstruse, or non-clinical papers, which in the past have appeared in the *Journal of the American Dental Association*, published in the *Journal of Dental Research*. The realization of such a proposal seems mutually advantageous. Emphatically there is a place in dentistry for the *Journal of the American Dental Association* and for the *Journal of Dental Research*. They are not in any sense in conflict. The gain to one is not at the expense of the other. The *Journal of the American Dental Association* should be keyed to the interests of the general practitioner; and although we hope he will become increasingly aware of the importance of research and of its ultimate utility, the simple fact is that his interest in research is largely academic.

I have attempted to classify the articles which appeared in the first

<sup>3</sup> Read at the dinner preceding the sixth session (p. 191).

thirteen volumes (1919–1933, inclusive) of the *Journal of Dental Research*. Papers which contained little or no original material, and papers which appeared in society proceedings, were not included. In all, there were 397 separate entries. Each paper might account for more than one entry. The percentage distribution of the entries, according to the classes having more than 1 percent of the total entries, follows: amalgam, 1.2; anesthesia, local, 1.2; bacteriology, 9; bone, 2.2; casting, 1.2; dental caries, 9.5; dental histology, 2.7; diet, 7.3; enamel, 9.5; endocrines, 1.5; focal infection, 6; operative dentistry, filling teeth, 2.5; oral hygiene, 3.7; parodontosis, 5; periapical infection, 5.5; phylogeny of teeth, 2; prosthesis, 2.5; pulp pathology, 2.2; saliva, 2; tooth development, 3; tooth pastes, etc., 3. From such a classification, in spite of its necessary bias, I had hoped to see emphasized the neglected and relatively untilled fields. I am not sure I can pick them out. It is surprising, however, that studies on saliva comprised only 2 percent of the entries. Pharmacology would seem to deserve more attention than it has received. Although an almost endless variety of fundamental and fascinating problems center about the growth of the face, few of them have received due or exhaustive consideration. The oral manifestations of systemic or extra-oral disease, and the oral neoplasms, have received too scant attention. This classification clearly reveals the well recognized preponderance of research in the “biological” field over research in the “mechanical” field. In the period under consideration this is perhaps as it should have been. But wouldn’t a balanced ration for the profession of today require an increase in investigations into what may be called the physics and chemistry of dental materials? These are personal impressions of current needs and shortcomings. I would be the last one in this room to wish for a lessening of interest in the “biological” field, but there are other phases of dentistry in no less need of careful cultivation.

An adequate indexing of its literature is an enormously useful tool in the advancement of any science or profession. In this connection I have a proposal to make, often voiced in private but never before presented publicly. The conception and execution of the *Index to Periodical Dental Literature* deserve high praise and gratitude. It is an accomplishment of which the dental profession may well feel proud.

But now that this task is practically completed as far as the literature of past years is concerned it is appropriate to pause, to ask what should be the future policy. In the first place I am in hearty agreement with the following quotation from a paper by Mr. Hackh (*Journal of Dental Research*, 1934, April; 14: 145): "The very principle upon which the *Index to Dental Periodical Literature* is based is in error, for it is a classified index. . . . An index, in order to be simple and efficient, should be alphabetical. The best index is the so-called 'dictionary index'. . . ." In the second place, in the *Index to Dental Periodical Literature* are indexed only articles appearing in English-language journals—and we all know that some of the best research reports are appearing in other modern languages. In the third place, in the *Index* only dental journals are indexed—although we all know that many articles of great value to students of dental problems are appearing in the literature of medicine, and of the other arts and sciences. In the fourth place, in the *Index* many journals are indexed which are not worth the paper they are written on. Some of them are of the so-called "throw-away" type; some are flagrant examples so rightly exposed in the Report of the Commission on Journalism of the American College of Dentists.

We all have to depend on the *Cumulative Index Medicus*. At the present time this publication indexes certain dental journals in English and in other modern languages. Unfortunately these dental journals are only partially indexed. My proposal is that the American Dental Association enter into negotiations with the American Medical Association looking toward the complete indexing in the *Cumulative Index Medicus* of the most important dental journals in all modern languages. This extension would probably entail added expense in the production of the *Cumulative Index Medicus*. The American Dental Association should meet this expense. My surmise is that the amount needed would be far less than it would cost the American Dental Association to continue the *Index to Periodical Dental Literature* according to the lines followed in the past. I am not urging this proposal, however, as a measure of economy—although the fact that there are no economic objections to its adoption is a point in its favor. Here is an excellent opportunity for the organized professions of medicine and dentistry to cooperate effectively.

There is a phase of research to which I would respectfully direct your favorable attention. It is a sort of police duty. Our first reaction to its claims is probably to regard it as a nuisance and an interruption in the prosecution of our own pet interests. However it is a matter of urgency. It concerns broadly the public welfare and the welfare of dentistry, and if we be socially minded cannot be ignored. Until the American Dental Association supports its Council on Dental Therapeutics as the American Medical Association supports its Council on Chemistry, we have a moral obligation to fulfill. I can bring out my point best by quoting from a letter from Doctor S. M. Gordon, Secretary of the Council on Dental Therapeutics: ". . . . the work of the Council, which is aimed to act as a check on the commercial exploitation of scientific advances to dentists, can go so far only as it has the assistance of the few qualified research workers in dentistry. Most of those are members of the International Association for Dental Research." Reports of studies of this type, especially on the claims of certain dentifrices and mouth washes, are contained in the earlier volumes of the *Journal of Dental Research*. The *Journal of the American Dental Association* seems the logical vehicle for such reports in the future, as the widest diffusion of the facts revealed among the rank and file of the profession is most desirable. May I beg of you—when the chance of doing police duty of this kind comes to you—not to say "no" too hastily?

With a rashness now regretted I circulated a questionnaire among the already over-burdened sectional secretaries. I want to thank these members for the pains they have taken. Some of you may be interested in a report on the patiently and carefully prepared replies. Special funds or grants, aside from regular university budgets or dental-school budgets, are reported from Ann Arbor, Northwestern, Columbia, N. Y. Institute of Clinical Oral Pathology, National Bureau of Standards, U. S. Public Health Service, Rochester (N. Y.), Halifax (N. S.), Harvard, and Yale. There is also, I believe, a large endowment for dental research at the University of Chicago, although I have no official information on this point. Among the grantors are the Rackham Fund, Commonwealth Fund, Carnegie Corporation, Rockefeller Foundation, Milton Fund, American Dental Association, Dominion Dental Council of Canada, American Society of Oral Sur-

geons and Exodontists, and the Federal Government. Some of the replies to the questionnaire gave the specific amounts of the grants. Although these may be no secret, I shall not reveal them. Comparisons are odious and, these days of the "pink slip," anyone who has any money seems anxious that no one else should learn about it. However, the number of grants and the amounts involved are pitifully small when compared with the gifts and grants to medicine. In the department of Medical News in the *Journal of the American Medical Association* for the year 1934 are announced gifts to medicine amounting to \$34,774,232. Of course all this did not go directly for medical research, and I have no way of accurately estimating the fraction available for that purpose. Possibly some of this money indirectly will facilitate dental research. The point I wish to make is that, even in a period of wide-spread and intense economic stringency, an almost fabulous sum was added to the resources designed for the care of the sick and for the prevention of illness. In view of what we already know, and *especially in view of what we do not yet know* concerning the relation of mouth disease to general health, it seems that possibly the public interest would be better served if a small fraction of these millions of dollars could annually trickle into dental research. Let us see if we can switch our metaphors without getting them mixed. If the blood supply to a part be cut down below the minimum needed to permit it to meet its functional responsibilities to the organism as a whole, then the organism as a whole will suffer. Dental education and dental research have always existed in a state of chronic undernourishment. They cannot adequately perform their function in the maintenance of public health until the social organism provides adequately for their nourishment.

Dentists attached to hospitals have unusual opportunities for delving into the unknown. As a rule this group is exceptionally alert mentally. But haven't they on the whole been a little too surgically minded? There is more for a dentist to do in a hospital than to interpret x-rays, extract teeth, or splint or wire fractured jaws, important as these activities are. He has, as no other group has, the chance to develop the whole field of medico-dental relationships systematically and scientifically. I would like to see more clinical research undertaken. Too many clinicians unfortunately labor under

the illusion that scientific research is a thing of test-tubes, balances, incubators, microscopes and microtomes. This belief deters too many clinicians from really developing their talents and from taking advantage of their opportunities. It is erroneous and harmful. In order to emphasize the fallacy, I am asking your indulgence while I briefly sketch what science is. Science is what we learn by means of the scientific method. It is this method that is essential. This method can be applied to a wide variety of subject-matters and materials. It certainly can be applied to the problems of clinical dentistry and medicine. In its complete form this method comprises five steps: (1) the making of accurate, comprehensive, unbiased, controlled observations; (2) the assertion of rational, testable relations among these observations (hypotheses); (3) from these hypotheses, inferences or deductions are drawn; (4) these inferences or deductions are in turn subjected to direct observation; (5) according to the outcome of these observations it may be necessary to abandon or to modify the hypothesis. And so the game goes on endlessly. Now I would apply (and limit) the word "scientist" to anyone who engages systematically in any one or more of these five activities. Scientific research is the honest, intelligent performance of any one or more of these five activities. This scientific method is not a patentable method. According to this view the clinician may engage in research. The subject-matter of his research being, of course, his patient.

In a monograph, as yet unpublished, on "the oral surgical service as an integral part of modern hospital organization; a systematic plan of management," Dr. Malcolm W. Carr does justice to the opportunities for, and the desirability of, research by the dentist on the staff of a hospital. If the oral-surgery staff be large enough, he advises that there be a standing committee on clinical research. "A basic plan of research should be formulated with respect to the problems to be investigated, and a systematic method of recording identical data on every case selected for study should be devised. . . . Effort should be made to correlate the features of physical examination with bacteriological, pathological, and histological findings. Systematic detailed records of history and findings are essential. Publication of medico-dental case reports of patients . . . by staff members should be encouraged. Medico-dental case reports of focal-infection studies

make valuable contributions to both medical and dental literature and monographs on the various diseases of the mouth, and the oral manifestations of systemic disease are also particularly desirable subjects for publication."

Most dentists on hospital staffs are, as the saying goes, "rushed to death." Their opinion is asked on a great variety of cases and their experience tends to be too diffuse. If a dentist were willing to concentrate such time as he could afford to give, upon *one* of the medical services over a period of 5, 10 or more years, we might eventually reach a reliable conclusion regarding the interrelation of oral disease and the group of diseases treated on that service. Thus, I would have a dentist limiting such time as he could give, to the hospital, to the study of patients suffering from diseases of the chest; another dentist for the neurological clinic; another to urology; another to dermatology, etc. The dangers of specialization could be combated by staff meetings at which cases from the several clinics or services would be presented and discussed. I have great faith that the scientific method can be successfully applied directly to clinical problems. What the atom is to the chemist, or the cell to the biologist, so is the individual patient or "case" to the medical or dental clinician.

Most dental schools seem to have standing faculty committees on research. While I agree heartily in principle that committees are nuisances, will not the representatives from dental schools not having research committees ask themselves whether, under the conditions obtaining, such a committee might be useful in sponsoring and in coordinating research? May I offer a suggestion based on my own experience? For several years at Pennsylvania the dental faculty has had a committee on research. Annually the following questions are asked of the heads of the several departments: (1) What research is in progress in your department? (2) What research is projected? (3) What students give promise of developing research qualifications? (4) Do you keep careful clinical records of cases, full enough and accurate enough to serve as dependable data for research workers? (5) Will you kindly record a bibliographical list of books or contributions to periodical literature written by you or by members of your staff since (. . . the past year)? (6) Remarks. The answers to these questions are summarized with such comments as seem appropriate,

mimeographed, and distributed to the faculty as the report of the committee. Heads of departments in which research is not being done are now beginning to feel that apologies are called for.

Question 3, above, "What *students* give promise of developing research qualifications?" has important implications. Let me quote from the comment on this question in a recent report: "That interesting the undergraduate in original investigation is an important part of teaching, is self-evident. It is awakening in him the desire to seek and find out for himself, instead of allowing him to be the passive recipient of information obtained by others, which starts him on the road toward knowledge and toward scholarship. Also, from this encouragement in original investigation, students are discovered (and discover themselves) who are especially qualified as research workers." Dental research needs money, physical facilities, time, organization, and vehicles for the exchange of ideas—all these it needs—but most of all it needs men and women who will work and who will think. If we are to find them, let us first look for them among the undergraduates of our schools.

And now—one last word. To the Chicago Section are due our thanks for the many courtesies they have shown and for the facilities they have made available. To Doctor Gies—I know I am voicing the sentiment of all of you—goes our heartfelt gratitude for his unremitting and unselfish labors.

## II. INTRODUCTION OF PRESIDENT-ELECT<sup>3</sup>

*Paul C. Kitchin, M.S., D.D.S., Vice-president-elect; Dental School,  
Ohio State University, Columbus, Ohio*

It has been my pleasant assignment to act as the instrument through which our newly elected President should be introduced, as such, to this gathering. Personally I dislike introducers as a class. They appeal to me as "strange interludes" in an otherwise enjoyable affair; barriers to be surmounted before the really worthwhile things assume the stage. An avowed enemy makes the best introducer since the one introduced knows what to expect, at least he expects the worst. Mark Twain, in a very sane moment, said that a man's enemy can work his partial ruin but it takes his well-intentioned friend to do a

consummate piece of ruining. Introducing may be a mere formality or possibly it might be made to serve some useful purpose. Supposing that we endeavor to collect into a short narration some information, not too personal, concerning our honored member in his association with dentistry and with his interests outside of the profession? Let us begin at the beginning.

The new President is a Hoosier by birth; place of nativity, New Albany, Indiana, where he remained to complete his high-school training. We next find him a student at the Louisville College of Dentistry and the Hospital College of Medicine, Louisville, Kentucky, where respectively he received the degrees of D.D.S. and M.D. These institutions later became affiliated with the University of Louisville as its Colleges of Dentistry and Medicine. In 1892 he returned to New Albany and entered the practice of dentistry, which he continued for the succeeding four years. While making an European tour he became interested in dental conditions in Dresden, Germany, and established himself in practice there in 1897. Actively interested in the "how and why" of his work, he founded, in 1904, a private research laboratory. His first reports in science subjects were published in 1905. Previous to this date, however, several articles had already appeared, dealing with dental operative procedures, the first in 1900. The work in Dresden continued for ten years, during which period fifteen biological publications and three on operative procedures were produced. During the second year of the World War political conditions became such that aliens, especially citizens of the United States, were no longer welcome in Germany and our President and his family succeeded, not without considerable difficulty, in returning to this country. It was necessary to abandon to the fortunes of war the valued possessions accumulated during eighteen years and face the hard necessity of starting anew; a difficult battle, valiantly and successfully waged. In 1917 he became associated with his Alma Mater, first as Professor of Bacteriology and Biology; later as Professor of Dental Histology, Comparative Dental Anatomy and Research, the position he now occupies.

For only a brief period, during the troublesome times of the War, has a single year passed in which he has not made a contribution to dental literature. Since 1918 there have appeared thirty-nine articles

and a textbook on dental histology and embryology. The entire list of his publications, over fifty in all, can be generally classified as follows: (1) *Morphology of oral organisms*.—Of fundamental importance in this field is "Contribution to the morphology of the microorganisms of the mouth," *Dental Cosmos*, 1908. (2) *Immunity to dental caries*.—Two of the most important in this division are "A contribution to the study of immunity to caries," *Dental Cosmos*, 1912; and "Resistance to caries," *J. Dent. Res.*, 1931. (3) *The establishment of the anatomical arrangement of the enamel tufts*.—Important contributions here are "Physiological changes in the enamel after tooth eruption," *J. Amer. Den. Assoc.*, 1924; and "The capillaries of the enamel and their relation to mottled teeth," *Ibid.*, 1926. (4) *The concept of tooth "maturation" and the general occurrence, significance and demonstration of dentin "sclerosis"*.—Illustrative of this phase of activity is "Reaction of the dentinal fibril to external irritation," *Ibid.*, 1931. (Space limitations forbid detailed listing of contributions, but the above is suggestive of our incoming President's interests down through the years.)

Since 1922 he has been a grantee of the Research Commission of the American Dental Association, and much of his recent work has been done in that connection. His Alma Mater has recognized him by making him the first recipient of the Award of Merit of the University of Louisville, given to the faculty member contributing the most to the advancement of science and research. He is a Fellow of the American College of Dentists, and a member of the New York Academy of Dentistry and of Omicron Kappa Upsilon.

Indicative of his modest attitude I quote his reaction to these references to his accomplishments and honors. He said: "I heartily dislike to stand before an audience for the purpose of having my virtues extolled . . . if any achievements are obvious, then well and good." The achievements are very obvious and I can only hope that he will speedily pardon me for having publicly "extolled his virtues."

No list of published work, however formidable, can express that side of a man's character which is evident in his associations with his fellows. If I failed to comment upon the uniform kindness and courtesy, and the sincere interest, which this man always shows, especially toward the younger members of this group, I should indeed

be remiss. It is also well that we should know something of his wide interest outside of dental matters, in biology in general, in historical geology, and in music. He is a disciple of Isaac Walton, too; and although he might lead you to believe that his catch interests him primarily from the standpoint of comparative dental anatomy, I think he really enjoys fishing.

And now as an investigator, as an educator, and as a cultured gentleman in the best sense of the word, I have the appreciated privilege of presenting the newly elected President of the International Association for Dental Research, Dr. Theodore Bernhard Beust.

### III. INAUGURAL ADDRESS<sup>8</sup>

*Theodore B. Beust, D.D.S., M.D., F.A.C.D., Dental School,  
University of Louisville, Louisville, Ky.*

A conventional inaugural address should appropriately arouse enthusiasm and instill optimism. It commonly contains a liberal seasoning of more or less feasible predictions, as well as numerous promises in which fidelity and subordination are pledged to the members. The industrialist envisions to his allies a boundless turnover; the labor leader portrays Utopian conditions with short hours and high wages; while the politician suggests the existence of a great tree beset with luscious plums. It is obvious that the incumbent of a research society, composed of men peculiarly disposed to originality in attitude and by training accustomed to form independent conclusions, cannot lightly feed his constituency on clichés. Nor can other ordinary methods of approach be expected to reach any considerable number. The heterogeneous nature of such a body precludes the presence of a mass psychology; it even conduces to an absence of association-mindedness. Under the latter term may be conceived a proper feeling of fellowship.

About fifteen years ago, after our esteemed General Secretary, William J. Gies, had nurtured the seed of our organization through a gestation period of several years, a stage of maturation was reached in which it could burst into bloom. At that time three sections, numbering collectively only forty members, composed its roster. Today nearly four hundred independent workers, each engrossed in a specific line of research, demand adjustment in a mold best adapted to achieve-

ment of the functions of a research society. A high degree of associableness—a universal intra-associational feeling of fellowship, as distinguished from the fraternization now existing within smaller groups—would facilitate harmonious endeavor. This would militate against any tendency toward the formation of factions, eliminate the spirit of rivalry, and banish an insidious malignancy which may be called “politics.” The wide geographical distribution of our members is an obstacle to intimate association. Yet a potent bond of mutual attraction will be found in the work itself. An awakened spirit of coöperation would evoke a feeling of fellowship. The ties between our members could be greatly strengthened by the exercise of extreme care in the framing of research reports. Let us suppose, for example, that certain new concepts which have appeared in our literature have assumed vital importance in current reasoning. These are frequently seized upon, often subconsciously, without regard for the rules of authorship. Evasion of the precepts of courtesy creates ill feeling, paralyzes ardor, and retards progress. A voluminous bibliographic list does not necessarily imply a full measure of courtesy. Not infrequently a contribution is garnered with concepts that are alien to its producer. Such digressions are not necessarily malicious. They may be symptomatic of a laxity that many of us share.

A comparison of our writings on stomatologic subjects with the German literature of the same type often discloses a more profound regard for courtesy by the latter. In Europe digressors from the rules are commonly summarily exposed; in America we are expected to “forget it,” which sometimes is rather difficult. The European contribution, if the nature of the subject permits, commonly begins with a summation of the known facts together with a mention of their authors. To the picture thus provided the writer adds his original work, which in the majority of instances can be done in relatively few words. Such a course makes for solidarity, promotes amicable relations with men working in allied fields, and contributes to universal happiness within the research family.

It is said that the culture of a nation may be learned from the quality of its literature. This statement may be applied, with equal justification, to the publications of an organization. A research society which lacks printed records of the activities of its members is

an incongruity. The final disposition of a successful piece of research is the adoption of means for insuring its accessibility to posterity. Industrious investigators when solving specific problems frequently find themselves in territory in which all ties with contemporary science are lost. Few pieces of research are adaptable for immediate consumption. Months or years may elapse before they are integrated into the fabric of the time. Without means for permanently recording the findings, the futility of expenditures of energy are evident. Solicitous regard for a medium of dissemination for research reports is therefore more than important, it is a necessity! Many of the older men must have experienced severe disappointment when, after months or years of labor, their productions, in the absence of a proper medium, were reluctantly consigned to graves in journals edited for the immediate needs of dental practitioners. Research papers having an obvious relation to questions of daily practice, such as caries, physical properties of filling materials and tooth structure, were eagerly evaluated by dentists. Work of indirect application, however, found little favor. The editors of these journals deserve enduring gratitude and commendation for giving space to matter of a kind that at best was read by an insignificant number of their subscribers. Again thanks to the editors who made such publications possible. Thanks also to the promoters of indices that have catalogued the world's dental literature; who increased the possibilities of resurrecting the works of merit that still lie unused in the journals. The American Dental Association, which, through its Research Commission, emphasized the desirability of research, has wrought great changes in attitude. Modern dental educators, too, have so hastened the evolution of the dental student that a science article in a journal of practical dentistry no longer assumes the proportions of the proverbial log that was "too tough to chop and too soggy to burn." Unfortunately the journals of practical dentistry can no longer find space for the wealth of papers on science subjects that today is flooding the editorial offices. Few authors of research papers have escaped the vexation of waiting six, twelve, eighteen months, or longer, for the appearance of reports that have been read at meetings and subsequently accepted for publication. Not uncommonly the vital parts of the papers, when they do appear, have been appropriated by others.

From what has been said it is singularly practical that research societies should edit their own journals. It has been our good fortune to have inherited a journal that stands on the highest pinnacle of American research publications. Here again the prescience and indefatigableness of William J. Gies have erected a structure that in origin and development parallels that of the International Association for Dental Research. The *Journal of Dental Research*, together with the International Association for Dental Research, stand for the highest ideals in dental science. The one is indispensable to the other. In the short fifteen years of their respective lives both have evolved a patina that in refinement will bear the most critical scrutiny. It has now become our duty to uphold their traditions by maintaining, in unbroken tenor, the principles that created them. We now have the *Journal*, thanks to the individuals and dental organizations that have heretofore supported it. The courage and enterprise that have made the *Journal* possible will not be allowed to wane. We have our contributors, we have our appreciative circle of readers, and we have a Board of Editors which will leave nothing undone to uphold all standards. With the proper degree of association-mindedness, the day will not be far distant when, instead of issuing a yearly volume of predetermined size, we may think of releasing volumes as quickly as material for their completion has been accepted for publication. This would give us more than one volume yearly. This method has already been practised with success. In order to insure variety, contributions should preferably be limited to a very few pages; or, as an alternative, more lengthy papers should be distributed over a number of volumes. Such a practice would promote progress in our work and, in addition, would obviate the enervating, often distressing, delays that discourage enthusiastic workers.

Help your journal! Make it a medium of intimate communication with your fellow-members. Discuss their work. Problems are clarified by constructive comment. Spontaneous criticism advanced at a congress is enriched in import if recorded in a journal. Such interest should not annoy, it should be greeted. Be magnanimous, yet not ashamed to uphold claims for priority. Those who countenance leniency possess the least claims on originality. The fruits of your labor are rightly yours. Your community and your alma

mater expect you to achieve. Do not adhere to codes founded on distorted principles. Shoot straight; and above all, cultivate that friendliness that should exist within a family united in the quest of knowledge.

#### IV. INDEX OF NAMES OF PARTICIPANTS, AND SEQUENCE NUMERALS OF CORRESPONDING ABSTRACTS

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#### V. FIRST SESSION: MORNING, MARCH 16; ABSTRACTS 1-8

1. HEREDITARY ANOMALY IN STRUCTURE OF DENTIN. *Frederick B. Noyes, B.A., D.D.S., Sc.D., F.A.C.D., College of Dentistry, University of Illinois, Chicago, Ill.* The cases studied seem to present an hereditary anomaly in structure of the dentin. All of the patient's teeth, both temporary and permanent, had a peculiar bluish-brown color. The temporary teeth crumbled until only nubs remained. The difficulty was supposed to be in the enamel, but microscopic examination of the temporary teeth and macroscopic examination of the permanent teeth showed that the enamel is normal in structure. X-ray examination of all teeth show apparently complete obliteration of pulp chambers and canals. Microscopic examination shows (a) only minute remains of dental pulp; (b) typical tubular arrangement of