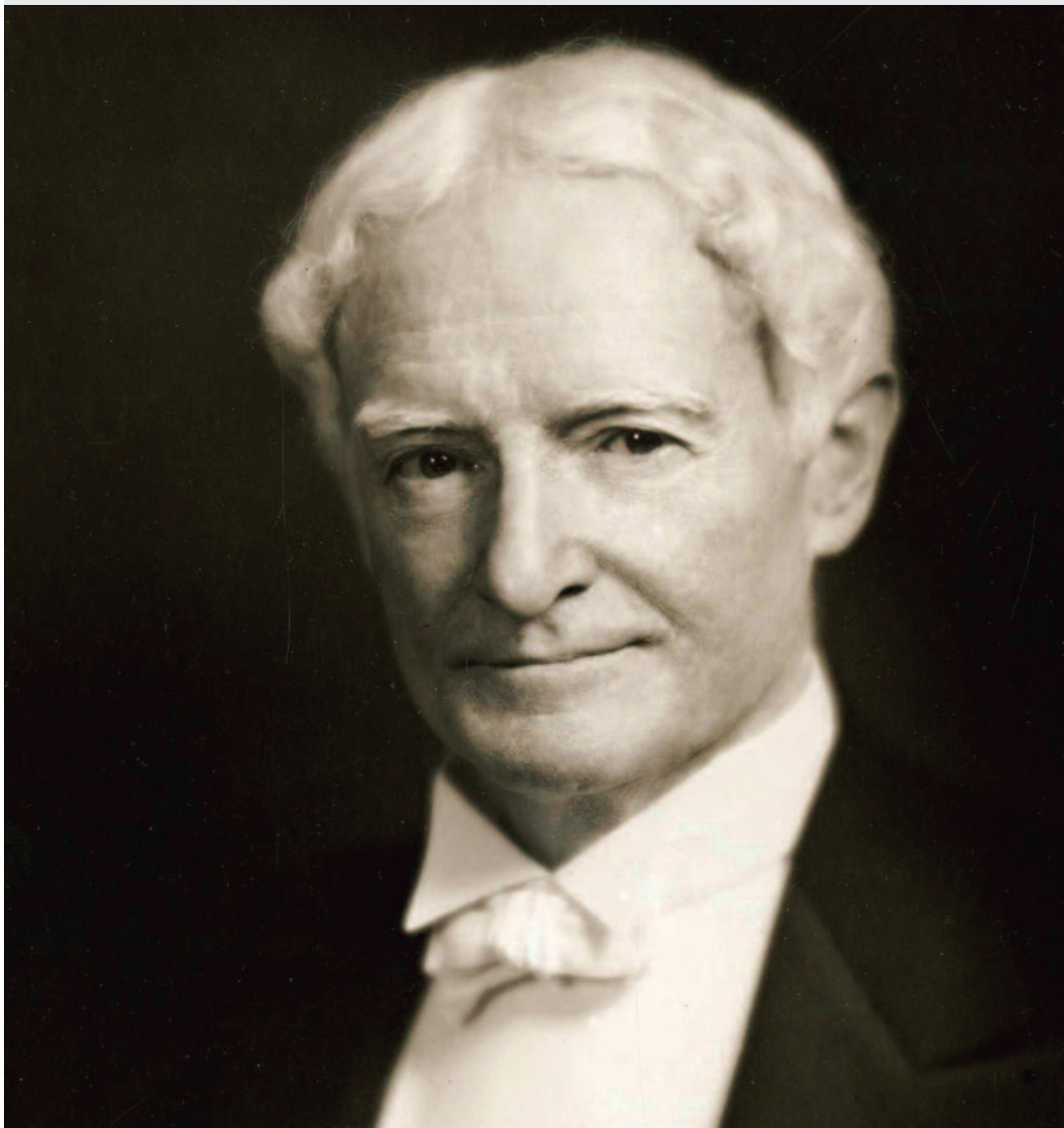
Journal *of the* American College *of* Dentists

William J. Gies



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C. To encourage graduate studies and continuing educational efforts by dentists and auxiliaries;

D. To encourage, stimulate, and promote research;

E. To improve the public understanding and appreciation of oral health service and its importance to the optimum health of the patient;

F. To encourage the free exchange of ideas and experiences in the interest of better service to the patient;

G. To cooperate with other groups for the advancement of interprofessional relationships in the interest of the public;

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William J. Gies

Departments

Cover photograph: William J. Gies.

From the Editor

William J. Gies: A Man of His Word

Gies was the leading voice for dentistry in the first half of the twentieth century. He often spoke directly about its failings, but always vigorously and enthusiastically about what the profession could become.

Arguably, the best known American name in the history of dentistry is William J. Gies. Since 1939, the highest award of the American College of Dentists is given to honor the leadersip shown by Gies. Research fellowships and prizes in several specialties bear his name. Education and journalism annually recognize individuals who exemplify what Gies stood for.

Here is a thumbnail sketch of his contributions to the profession: In 1909 he began research on oral bacteria as a cause of caries. During the years of the First World War he advocated for the creation of a dental school at Columbia University, and in 1919 helped Louise Ball establish the New York School of Dental Hygiene. In the same year he became founding editor of the *Journal of Dental Research* and then organized the International Association for Dental Research. In 1921, Gies was tapped by the Carnegie Foundation for the Advancement of Teaching to head a comprehensive study of dentistry and dental education similar to the Flexner Report that had revolutionized medicine 12 years earlier. He was instrumental in the merger of four organizations into the American Association of Dental Schools (now ADEA). In 1931, Gies and four other members of the American College of Dentists established what was to become the American Association of Dental Editors. He was a creator and the first editor of the *Journal of the American College of Dentists*. Gies represented dentistry at the American Association for the Advancement of Sciences and is the only non-dentist ever granted regular membership in the ACD in 1923, serving as assistant secretary of the College from 1934 to 1942.

Gies was the leading voice for dentistry in the first half of the twentieth century. He often spoke directly about its failings, but always vigorously and enthusiastically about what the profession could become. "I respect dentistry as one of the most useful, effective, and desirable agencies for the promotion of comfort, health, and welfare. I admire dentistry for its nobility of purpose; its efficiency of procedures; its value in achievement, and its progressive effort, through self-examination and self-criticism, continually to make itself better and more serviceable."

Throughout his career, Gies held an appointment in the School of Medicine at Columbia University. He was intimately familiar with the way physicians had freed themselves from the commercial and empirical practices of the nineteenth century. He wanted dentistry to do the same by grounding practice on scientific principles, sharing information in peer-reviewed publications, establishing formal education at a level comparable with the highest university standards, and through leadership by professional goals rather than those of financial success. He argued consistently that dentistry should be the professional equal of medicine, but not a branch or specialty of it.

Today we undervalue the courage it required to stand against the alternative conceptions of dentistry being considered at the time. Until the 1930s, the largest and by far the most influential journal was *Dental Cosmos*, owned by S.S. White. There were no uniform requirements for admission to dental school or for graduation from it—and many preferred that system of quick qualification. The proceedings of state and

component society meetings were published in journals owned by supply companies. The coin of the realm in practice was new technologies offered by industry rather than improvements in the health of the public. Licensing boards were often political and concerned with jurisdictional control. The ADA was a trade association. Repair of oral health damage was held in higher regard than prevention, and the attractive woman displaying a perfect smile began to appear in dental journals. During Gies's lifetime, legislation had been introduced in many states barring individuals with commercial interests from attendance at dental meetings and schools adopted policies prohibiting faculty members from having their names associated with commercial products—although many continued to defend those practices.

Gies was born in 1872 and grew up and later retired in the farm country west of Philadelphia. His family were German immigrants and from an early age, Gies was determined that his English would be excellent. His maternal grandfather operated the *Manheim Sentinel*, a paper remarkable by today's standards for containing almost no news but plenty of ads making outsized claims. From age 19 until 25 he attended Gettysburg College and Yale University, earning a PhD in biochemistry in 1897. He successfully fought colon cancer in the mid-1920s. Gies was advised by his physician to take a small quantity of beer daily for the diabetes he suffered in later life, which he measured with laboratory precision and drank reluctantly, being a teetotaler. He died at age 86.

For the first ten years of his academic career, Gies had no association with dentistry, building up a productive biochemistry laboratory, publishing, and participating in the founding of two professional research organizations in biochemistry. The turning point came with a visit in 1909 from Dr. J. Morgan Howe, chairman of the then existing New York Stomatological Institute. The New York dentists wanted to know what caused caries and how it might be prevented. They offered to support Gies's lab financially in these investigations and for almost ten years Gies gave regular reports on his discoveries to various groups of New York dentists. One constant over this period was the presence of Dr. L.P. Anthony who recorded Gies's remarks and passed them to the S.S. White Company for publication in their journal.

The lifetime of Gies's accomplishments were stamped with the pattern of this first experience. Leadership in the profession was calling for scientific knowledge in service to the public and in partnership with university-based education (a promising future) at the same time that others favored the commercial benefit of exploiting this knowledge and saw dentistry as a trade (an unpromising past).

He lived by his word, but not all of his contemporaries appreciated what Gies had to say. No one who believed as passionately as Gies did that the future of dentistry lay in the direction of science, education, and professionalism and who spoke out so persistently on that theme could escape annoying those who favored the trade orientation of one hundred years ago or were merely indifferent and satisfied with what they could get from practice.

Gies's Scholarly Record

It is a challenging task to select a representative sample of the contributions of an individual as prolific and diverse in interests and connections as William J. Gies. His collected writings extend to almost 3,000 pages. The pieces included here cover the period from the early 1910s through the 1940s. An effort has been made to sample both the variety of topics he addressed and the various ways he chose to express himself. The content includes the biochemistry of oral bacteria, professional journalism, creation of a dental school, the role of research in dentistry, the status of dentistry and dental education in America, professional ideals, commentary on the relationship between medical and dental education, and various professional correspondence.

A conscience decision has been made to present Dr. Gies in his own words. He was a speaker more than a writer. He understood very well who he was talking with. In fact, there are no traditional journal articles included in this survey of Gies's work. Three of the "publications" (oral bacteria, trade-house journalism, and the testimonial dinner talk about dental ideals) are edited transcriptions of speeches. There is an editorial (JDR) and a letter to the editor (the Harvard plan for dental education). There are two reports where Gies is the primary contributor to a group effort advancing policy—first on the creation of a dental school at Columbia and then in the Carnegie Report on the status of dentistry and dental education. Finally, there is a sample of his letters—some formal, others more personal—all very direct and with abundant underlining for emphasis.

The story is told that, early in his life, Gies considered but abandoned the prospect of become a physician. He thought that physicians must be able to give speeches and to write books and that he was not capable of either. As it turned out, he was wrong on both counts. Gies was no doubt a competent academic and scientist by the standards of his day. But his numerous contributions to shaping the profession of dentistry lay in his passionate vision and his persistently reminding colleagues that they could do better. The papers collected here demonstrate that direct, passionate, oral style.

This issue was substantially improved by the contributions of Bill Gies II, Gies's grandson, who provided insight into Gies as a person; Dr. Allan Formicola, Dean Emeritus at the dental school at Columbia University and a keen observer of Gies's contributions; Dr. John Scarola, past president of the American College of Dentists and source of valuable information about the relationships between Gies and the New York Academy of Dentistry; Dr. Stephen Ralls, Executive Director of the College, who brought forward useful historical detail; and Stephen E. Novak, Head of Archives and Special Collections at Columbia University Medical Center, who made the papers and correspondence of Dr. Gies available. An excellent biography of Gies was written by Dr. Frank Orland, past president of the International Association for Dental Research. *William John Gies: His Contribution to the Advancement of Dentistry* was published by the William J. Gies Foundation for the Advancement of Dentistry in 1992.

Mouth Bacteria

An Essay Presented to the Canadian Oral Prophylactic Association

By W. J. Gies, M.D., New York

The Canadian Oral Prophylactic Association, Toronto, Canada, 1918

Based on his own laboratory research program, Gies demonstrated an early understanding of the interaction of naturally-occurring oral bacteria, substrate, and acid formation in producing caries and recognized the potential function of fluoride. He also correctly advocated for mechanical disruption of organized plaque and for a cleansing acid finish to meals.

This paper was prepared from a transcription of an oral presentation and was published as a small pamphlet. Gies's degree was a PhD in biochemistry; it is incorrectly stated here that he was an MD.

Mouth bacteria I mean to discuss in a very general way, especially from the standpoint of my own acquaintance with them, and especially from the standpoint of dental decay. Of all the disorders to which we are heir it seems that dental decay strikes us most frequently and universally. In the popular mind it is one of the most disturbing disorders, and, of course, in dental practice it is perhaps the most universally frequent. What causes decay of the teeth is a practical problem, and especially, if the answer to that can be found, how can we control the cause when we discover it. I believe you are familiar with the current conception regarding the factors that induce decay of the teeth. Let me repeat them simply to be sure we have a working basis to proceed upon. The current theory would, condensed, very briefly put it this way: The acid substance made on tooth surface repeatedly at a particular point causes solution of the enamel at that point, exposing the dentin, with solution of the dentin likewise, and exposure of the pulp likewise, if the process goes on long enough. The acid which is made at a given point repeatedly, which dissolves the enamel and penetrates, is made from carbohydrate by bacteria, the bacteria being invariably and always present everywhere in the mouth, the carbohydrate from which the destructive acid is made being localized at points where the solution occurs. I have condensed that, I believe, in the fewest possible terms. Acid as the destructive agent, bacteria the factors that make the acid, carbohydrate the substance that yields the acid, and what must always be kept in mind in running through this conception is localization and repeated production at the given point through a long period of time.

Now, if we know how to manage the bacteria, how to control the bacteria, how to identify them and destroy them, and so on; in other words, if we can focus our attention on the bacteria as the scrappers in a first line of trenches, if we can go over the top and clean up there, the rest of the advance is easy. What are the facts in this case? There is no cavity in the body exposed to the air repeatedly or intermittently that has so many bacteria in it constantly. There is no fluid that passes from the body ordinarily that contains so many bacteria as the saliva, and it is a fact that practically any kind of organism that may be found anywhere may be found in the mouth. It is a further fact that while that is true, some bacteria cannot grow in the mouth, and some bacteria grow there preferentially. There are two reasons why some bacteria cannot grow in the mouth, as far as we know. One reason is that the saliva fails to contain nourishing material of a certain kind or necessary kind for them. They may go into the mouth, mix with the saliva, stick to the teeth, but will die because they are starving. Another kind or group of kinds, will fail to grow because there is something in the saliva that is detrimental to them. Others will grow, as I say, because there is everything they need in the saliva, and the conditions are fine for their nourishment. So that we can think of oral bacteria as, first of all, almost unlimited in kind

and character, so far as appearance and occurrence is concerned, but some will grow right along under all conditions, and there are others that will not. Those that die off in the mouth, those that starve there or are killed, are more or less immaterial from our standpoint. They may be very bad if swallowed, or if they pass through broken surfaces they may introduce disorders of other types than those we are concerned about, but only those types that grow in the mouth can have anything to do with causation of decay. We have studied in this period of research for the Dental Society in New York as thoroughly as possible two general questions: What are the general kinds of organisms roaming around frequently, dangerously, and damagingly in the mouth, ignoring in our work those that were plainly of no importance by reason of death or general destruction, by impairment of vigor or what reason, according to what has happened to have been the case; and we have found at least three types of bacteria there that are conspicuous. First of all, the well-known types of streptococci. Streptococci viridin is one of the common types; and the streptococcus forms in general, including the type responsible for pneumonia, are very conspicuous in the mouth, in the ordinary deposits of all kinds, in the food debris mixtures, hard tartar, soft tartar, on the gums, on the teeth, between the teeth, on the tongue, and everywhere; and they grow all over the dental and oral surfaces by billions and trillions; they grow very luxuriantly, and no matter how often we disinfect the mouth, no matter how frequently we put disinfectants into the mouth, no matter how effective our mouth wash may be as a bacteriacide, the fact of the matter is no sooner is it removed, and the saliva itself dilutes it and further removes it, than reinfection occurs, and it only takes a few minutes for generations to develop and restore the original population in number. Remember always that bacteria may pass from one generation to another in a few minutes, and it does not take a few days to develop a good sized bacterial family; grandfathers arrive and disappear in a period of 15 to 20 minutes in many cases, and so it is a very rapid growth. The streptococcus form is one very prominent. Then we find various types of bacteria of the so-called bacillus or rod-shaped type, and one of them is very common, significant from its name, bacillus acidophilus, an acid lover, a form that is very active in producing bacteria, and very resistant to the action of acid; and then there is another type of a globular form; and then there is the thread former, which is new, and which has not been described, which we call cladothrix placoides. Let me refer to these, now [that] I have named them specifically, as spheres, rods, and threads. The fact of the matter is those physical features are very important, and let us ignore the names as of Latin interest, but not of any practical value to us. The spheres, the rods, and thread formers are very conspicuous.

Now, it is interesting to find when we study the properties of these organisms: first, that they grow readily in saliva; secondly, that they grow readily in tartar mixtures, and thirdly, that they grow readily in the presence of saliva and tartar and dissolve enamel, a sequence that you see is very important. They also grow very rapidly in these mixtures, and in growing excrete an acid substance; they throw out of their bodies, or at least they make, in utilizing their materials, large amounts of acid, and the one is called acidophilus, because of its very striking yield of acid. When these have a sufficient amount of carbohydrate to work upon they produce remarkably large quantities of acid, developing degrees of acid that are high in concentration; the acid mixtures they produce from ordinary grape sugar, malt sugar and cane sugar, and from starch are acid substances of the kind that dissolve enamel very rapidly. So that it is plain that these are among even the very types that produce the acid from the carbohydrate which made repeatedly at a given point will dissolve the enamel, and in dissolving and pitting enamel they go right into their place and seem to be actually better nourished by going there. These are among the striking facts pertaining to oral bacteria in general.

Our second problem was not only to make this general survey to become familiar with the forms, but also to try to determine the types of organisms at those points on the teeth where decay has just about begun, to endeavor to determine the types of organisms that may be found near the surface under which the very first indication of positive decay can be

found, where the dentin has not yet been involved. I am sure you, as dentists, would say that is undertaking a pretty large order in diagnosis to take from teeth any material over a point that shows the earliest possible signs of initial superficial decay without involvement of the dentin. In the dental clinic at Columbia we would examine individuals, dentists co-operating with us did this – and they would locate points of suspected superficial enamel decay. We would take the material immediately overlying those spots and proceed with our usual bacterial examination; then the dentist would proceed to examine and determine whether his diagnosis had been correct. Was the enamel involved? If it was, it was a simple matter for us to record that the sample taken was not what we wanted. First we took what we thought was desired, and spent all the time necessary in the diagnosis. Working in that careful manner we obtained the material in mucin plaques from 40 different human cases, and we have studied the types of organisms to be found in that type of material. Our working hypothesis was that bacteria in this kind of material are and must be the forms which initiate the decay. We are more concerned in knowing what starts the trouble than merely knowing in a general way a lot of things that keep the trouble going. If we can prevent the beginning of decay it is obvious we prevent all the rest that may be involved. It was interesting to find these three forms I have mentioned, and they were outstanding in the general survey, were practically the only ones found in the study of the material in all these subjects of initial decay, and they are the types found in the mouth which individually and collectively produce from a given amount of carbohydrate the largest possible proportion of acid.

I call your attention to this, because each type fits into the requirements of our research for the organism which will make acid from carbohydrate, which will grow on a mixture containing dissolved enamel, and which will produce an acid that will dissolve the enamel. We found these types occur in practically absolutely every case, for some of the types, perhaps not the three collectively were always present. It is very obvious, while we cannot say we have completed every possible variation on this enquiry, while it is possible naturally that others may be found not present that might be responsible, it does seem obvious after four years of continuous study of this one problem alone. We have concentrated likewise steadily for years in the study of, and in 40 odd cases we found the same thing – these types of bacteria as apparently the initiators of the decay. We have had some evidence that in some cases that one form is more responsible than the others. We are not sure that one form does not form the key through which the combination may work; we are not sure that one may not be the actual initiator, in time helped by the other two; we cannot say at present that the three do collectively work from the beginning; and that is the next phase of the problem to find out whether either of these three helps the other two to do anything; whether either one of them would accomplish decay by itself. We know they make acid individually that is destructive, they answer all the requirements, and they look to us as simply a combination which, working together, bores its way through the enamel with its instrument, the dissolving acid.

Now, I presume you have read often, and heard often, and have used often the expression "mucin plaque." I know that many dentists believe that decay is initiated in and under dental plaques when it is not initiated by some traumatic or some very special circumstance. I am not sure that dentists agree universally that that is true, but so far as my information extends a very great many dentists believe a mucin film, a mucin smear precedes, on a given surface, attack of the teeth.

One of the most interesting features of the thread form is the fact that it adheres tenaciously to smooth surfaces and forms a network of entangling threads. The spherical form does not happen to do that: the rod form does not do it, but the thread former, with its adhesive, smeary, sticky thread, will adhere to glass surfaces very readily, and we have found it on our test tubes, in which it is cultivated. So that even the most perfectly smooth surfaces will hold these threads and make an entanglement which I have assumed and suggested may be a mechanical sort of mucin plaque in many cases. These threads tending to stick, if they

are not rubbed away, form more and more of a network of underbrush growth, so to speak, in which this, that, and the other thrown back and forth in the saliva will be entangled and make a pretty tough, tenacious, smeary mass, so that the anatomical quality of this one form is conducive to the deposit of the mucin plaque and the production of the so-called mucin plaque or film. It is quite possible further research will show that the thread former puts down the foundation for the entanglement. An entanglement again of an offensive kind – in this case not by any means defensive – is an entanglement of threads with their forms being held there conveniently against ordinary mechanical movement; then that the interspaces filling up and carbohydrate and food in degree being washed in would serve as a very effective medium for retention at these places and initial focal decay. Once the decay is started such an entangling is more or less immaterial, for the decay would go on without any particular mechanical assistance of that kind.

[...Omission (six paragraphs with details about mechanics of studying bacteria)...]

How shall we manage to get rid of these films which overlay the teeth universally? When I bite into a sour apple I feel that my teeth have been put on edge. I am sure they have not been sharpened, but something has been taken away from them that previously lubricated them. When we get that effect, what actually happens is we remove the physiological film from the teeth, and for the moment the teeth lack the gliding, easy, non-frictional surface movement. It is evident that that kind of material would remove the mucin plaques. We know chemically that such material does. We also know that alkaline mixtures dissolve mucin. Among the alkaline substances that are commonly employed to accomplish this result, either knowingly or without comprehension of the matter, have been such substances as sodium carbonate, lime water, soap, and even the miserable alkalis, precipitated chalk and phosphate. We know that alkali by coming in contact with mucin saturates the compound, the basic matter, and makes it more and more solvent. It tends also to make it more viscid [sic]; it tends to make it softer. The bristles are not effective in brushing such a surface; the bristles may go through the smear as they might through molasses. They would furrow it, but the material would move up and close up by its viscosity, so that if the alkali is of the kind that makes the mucin soft, and mechanical effort is not effective, the mucin is not entirely removed. One of the improvements in the treatment of linen that has been soiled by mucous collections of all kinds, such as from the nose on an ordinary handkerchief, is to treat the linen first of all with some kind of acid which curdles the mucous matter – it pulls the base off and breaks its grip. Curdled mucin has no particular grip. Even cloth can be flushed up and down in water, and it all comes away, but when you try to wash such a collection with alkali you find you have got to use acid friction to wash it out after you have got it soft. You make it more adhesive, and you increase to some extent the mechanical difficulty of its removal; and in order to accomplish the mechanical removal the use of abrasives has long been employed. It is well known why one uses an abrasive; if possible an abrasive that will do no harm to the teeth. Such material as precipitated chalk and phosphate gives the bristles in the brush a certain amount of breadth and punch and push that by themselves they would not possess. An abrasive mixed with an alkaline mixture can be regarded as something highly efficient in the removal of the mucin plaque.

I am sure it is nothing new to suggest that there are at least three phases of the problem of keeping bacteria moving on the teeth. If we keep them moving and keep them from colonizing we may say we prevent any hurtful result. Those three phases seem to me to be: first, the use of a dentrifice [sic] or its equivalent that will not injure any part of the mouth or person; secondly, the application of the dentrifice by an instrument that will put the dentrifice where it ought to go; and third, the development of a disposition and purpose on the part of the individual person to use that dentrifice and put it where it ought to go with that instrument. And if you cannot get a combination of those three things in your subject the whole

system breaks down. What is the use of the dentrifice if the person won't use it? What is the use of the dentrifice if it is not even put where the dentrifice will remove something? What use may it be, for instance, on the upper incisors, which may be kept in certain individuals entirely clean day in and day out by means of the lips alone? It may be useful there in some view, but theoretically is that the only part of the mouth to receive any special attention? And yet how many of our people believe what they can see is the main part and only part to deserve any special attention? What are we doing as scientific men, as dentists, as citizens, to improve the situation in that respect? I am very glad to find your Research Committee and your Prophylactic Society have taken up this very series of questions. Of course, they will consider these problems, since they are the three first ones that logically must come to every mind that reflects on the subject. What is the best dentrifice? Maybe there are lots of them; maybe half a dozen are the best in the sense that if properly applied each, will do what it ought to do. What brush, what method, what instrument will carry the dentrifice or dentrifrices to the places foreign matter and bacteria should be taken away from? What are we going to do to have each individual person realize from childhood that proper, earnest, effective care of the teeth is an important feature in the maintenance of the health of the individual? Associations such as you have, unquestionably, by taking the attitude they are today, ought to serve the people at large in the provinces; and I say associations such as this suggest the key and provide the answer to the broad question. This will never be accomplished by the individual dentist, that is plain. It will not be accomplished by the individual dentist unless he works with a feeling that he has a composite of experience and belief and conviction and fact to warrant his recommendation. We all know that the manufacturer of products, the manufacturer of goods of any kind will sell those goods; let us say legitimately, without any comprehension professionally of their shortcomings in many cases. It is not necessary to say that the business man who wants to sell a dentrifice is necessarily wrong, or even crooked. We know many of them are; but it is also true that much of it is in plain ignorance.

[...Omission (part of a paragraph four pages long describing chemical properties of acids)...]

Food acid, like grape fruit juice, apple, orange, lemon, salads, and so on, ordinarily have a relatively high degree of weak acid, enough to curdle all the mucin and break up all the plaques present on the teeth at the time. If we terminate the meal that way we are not apt to leave any solid starchy, pappy, pasty mass in the mouth; or if we take the precaution further to select these natural things that happen not to have them, or if they do have them, they appear in large pieces in the mouth that are more or less easily moved along. In other words, instead of terminating a meal with a soft, pappy, messy, adhesive, slimy stuff called dessert, we might end up with something as common, even in war times, as an apple. Take an apple, for instance, and put a little cream on it and you have all the pleasant associations of a dessert without any disability. The fibre, all of it together, works effectively to help to clean the mouth. In fact the more you must chew the dessert, and the more nearly it agrees with the acid normal food conditions, the more thoroughly you cleanse the teeth without thinking about it. If we were to terminate each meal in such a way, instead of perhaps starting a breakfast that way and ending with something sugary – if we were to terminate the meal that way we would accomplish a great deal without even seeming to be doing it, and aiming to do it. Then we have another very interesting virtue in this relation. Of all the things which, put in the mouth, effect the most striking taste stimulus, the most striking chemical stimulus to the salivary flow, the food acids happen to be those things. Food acids will make the saliva flow with extreme abundance. There is normal physiological afterflow, so that if you terminate the meal with this kind of fibrous acid material you cleanse the teeth mechanically, and facilitate the afterflow of the saliva, which presumably has the virtue of alkali, more or less desirable to replace the film which is physiologically desired. These are factors, then, that cannot be presented as solving all of the problem, but they are easily adopted procedures to

help. They are recommendations that have also the element of sanity and the element of ordinary common-sense, and they fit in to what might be said to be good dietary habits. If you can, get each of your patients to eat three apples a day. I assume they are of ordinary size to suit the body of the individual. Have you ever heard of anybody suffering any material injury from a habit of that kind? What about a family that gets this good, solid, substantial kind of material? I understand apples are very abundant in New York State; but I am not here representing the apple growers' association. Perhaps you have them more abundantly in Toronto. Lemons from Florida will do just as well, or oranges from California; either fruits, whatever they happen to be, outstanding likewise. It points to this fact, that all fruits, with very few exceptions, are acid enough to break the mucin film. I remember looking into this a few years ago and finding to my astonishment that while watermelon and canteloupe [sic] and certain forms of very sweet cherries did not, that all the other fruits, in a selection of about thirty, did have the power of precipitating mucin from the solution. Squeezing the juice out and mixing with mucin solutions gave a prompt precipitate, and I remember of all the various types of apples we took, one part of the juice in sixteen of water would precipitate mucin from the mucin solution. It requires relatively little to do it. Therefore, when you bite through an apple, or through an orange, or through any food acid mixture, you accomplish, if nothing more, at least the prevention of an after deposit or composite of carbohydrate matter that is very desirable, and stimulate an afterflow of saliva; and if now in between we use suitable dentrifices and brush properly, then with ordinary superficial cleanliness we will prevent the disease we are talking about, and we will assume we would accomplish it.

[...Omission (about five pages discussing the use of sulpho-cyanide)...]

Another matter of interest comes to mind, and that is the chemistry of the enamel. Enamel is nominally a homogeneous film that may be regarded as entirely uniform throughout its mass, and made in a way that would render imperfection difficult. It is just the opposite. It is made of a very compact, dense, prismatic structure, these prisms being held together by material of similar composition though not in form. In effect, it is much like saying the enamel is made of cells of hexagonal prisms in a certain direction and then track these prisms very slightly with a similar substance chemically. Think of the possibilities of variation in that structure alone. Enamel does not shoot out into crystalline forms right away, one after another. It is like building a tall chimney, and the slightest deviation in the courses involved would mechanically change it and change its angle of approach, would tend to make it convergent or divergent according to circumstances, and would tend to make the deposit resistant or not, and might mean that the outer surface of the enamel through a certain distance here, there, and elsewhere, would be resistant and would not be any other place. It seems to me it is a perfectly sound hypothesis that enamel is just like every other part of the body, and when it is being made it is subject to variations in quality that will not show by ordinary inspection. Now, the composition of enamel is, so far as its pure chemistry is concerned, ordinary calcium phosphate is molecular combination which gives this product an unusual resistance to attack and dissolution. We know calcium phosphate dissolves very readily in acid, but we know that the combination in the mouth does not dissolve readily in acid. It will dissolve with repeated focal attack and repeated molecular production, like water dropping on granite, there may be a wear and tear there. But in the case of enamel we know that calcium phosphate is combined molecularly with calcium muriate or calcium chloride, or both, and we get the equivalent of calcium phosphate in the mineralogical apatite, present all over the earth in enormous masses, and interestingly enough whenever we find it it will be found to have hexagonal crystals. It stands weathering influences. That product as we find it in nature is calcium phosphate, calcified fluorid or sometimes a calcium phosphate and calcium fluorid combination, an alliance between the two that makes this a very resist-

ant combination. In enamel we find that there is more carbonate than ever appears in apatite, and the results we are now getting in the laboratory show the carbonate part that becomes part of fluorin and chlorin is variable to a surprising degree in teeth.

Now I feel that we are going to find in this relation, as we have in some others, as we did years ago in the iodine proposition – we now know that iodine in small quantities is absolutely essential to the life of each of us, that our thyroid gland cannot perform its labor unless it receives from time to time small amounts of iodine; we get that in water and in food and in various ordinary ways; when we do not we develop goitre. One reason why the painting of goitre with iodine has so long been effective is because that iodine goes in and replaces the iodine that is missing, and in Switzerland, where water is the chief source, and in some portions snow water without iodine, goitre is endemic.

Fluorin is talked about more or less frequently as a normal physiological constituent, but nobody has laid any stress on its function. It has always been found in teeth. Now, we never pay any attention to fluorin as a constituent of the diet. We usually, in such things, pay no attention until we must. We simply let it go until it is unavoidable. So it is in this case. We have learned also another interesting thing, that the thymus gland which is so interestingly connected with extension, has more fluorin in it physiologically than any other part of the body. Note the possibilities. I made a suggestion two years ago from that finding, and we are getting data that seems to show conclusively that thymus mobilizes fluorin, a sort of central station from which it is distributed in the quantity and in the condition in which it ought to arrive where it will be used. Just as thyroid mobilizes iodine, it looks as if thymus does that with fluorin, and now it may happen that diet deficient in fluorin might account for the poor enamel formation when enamel is being produced. It would not account for poor enamel structure after the enamel has been made.

Now, gentlemen, I have exhausted your patience, and I have gone away beyond what I am sure is reasonable, but as I am a convert to dental research from another field, I have not lost my love for my first love either. In going into this new field I had gotten into it long before I fully realized its vast, wide-open possibilities for the most active, earnest, and effective usefulness, and the whole field in its opportunities and possibilities has appealed to me so much that my enthusiastic interest in the matter usually gets the better of my judgment. I am very apt, when I get the opportunity, to speak in this rambling way all over the lot, anxious to bring out suggestive things, to cut out the technical detail and to try to make it something that can be remembered in its main points, which it is the function of the lecturer to present. I might have given you photographs of bacteria, showing them with their many Latin names, but I have tried to show you I don't know anything about dentistry, but I am trying hard to learn as much as possible. (Applause.)

[...Omission (polite exchanges)...]

A Dental School on University Lines

By W. J. Gies
Columbia University in the City of New York, May, 1916

This is a formal proposal for the creation of a dental school at Columbia. Notice the assumptions regarding medical-dental connections. Gies was an early advocate for a dental school, as attested by the prominence of this name in this prospectus, but was unsuccessful in enlisting the cooperation of his medical colleagues. The exact relationship between medical and dental education was a source of tension until about 1950, and was especially dramatic at Columbia.

Dentistry and Dental Education are on the threshold of extraordinary development but are unable to take advantage of their opportunities because of the traditional separation of dentistry and medicine.

Dentistry has been shown by recent investigations and research to be logically a branch of general medicine, and to be an increasingly important factor in the understanding, diagnosis, and treatment of numerous diseases which hitherto have been obscure in origin but which are now known to arise from conditions of the mouth and teeth and can accordingly be controlled and prevented. Chronic rheumatism, anaemia, hardening of the arteries, digestive disorders, diseases of the heart and kidneys, nervous affections, neuralgia, etc., are found to be influenced and often caused by neglected mouths. It is the expressed belief of prominent physicians that the next great step in preventive medicine must come through dentistry, and that no single division in the whole range of hygiene is more important to the public than the hygiene of the mouth.

In the face of these facts, dental education finds itself in an embarrassing position because of its separation from medical education. A large majority of the dental schools of this country are proprietary institutions without medical school or university affiliations. It is obvious that a professional school, managed so as to pay a profit to its owners, cannot give to its students the advantages afforded by a professional school conducted as a part of a university at the expense of endowment funds provided by philanthropy in the interests of public service. The tuition paid by medical students is considerably less than half the cost of their instruction, and the same would be true of dental students, were their education conducted along university lines in connection with advanced instruction, investigation, and research. These and similar considerations have prompted the leading dentists and physicians of New York to undertake to establish a school of dentistry in affiliation and co-ordination with an existing school of medicine. It has seemed best to propose to connect the new school of dentistry with the proposed new medical centre, to be established by Columbia University and the Presbyterian Hospital as soon as sufficient funds to finance the project are obtained.

The Trustees and the Faculty of Medicine of Columbia University have, by formal vote, approved the establishment of a school of dentistry as soon as the funds for its maintenance can be obtained. It is proposed to make the dental course at Columbia one of four years, the first two years of which are to be identical with, and part of, the medical course. The preliminary educational requirements are to be the same as those for admission to the medical school. A dental dispensary, providing free treatment to the poor, opportunities for clinical experience for the students as a basis for scientific research will be one of the large features of the new school. Another important feature will be special research in dental science. Many of the problems in dental pathology can be solved only by the most careful and painstaking investigation, and upon their solution will depend, in no small measure, the health and well-being of humanity. With the first two years of a medical course as a founda-

tion, the increased clinical material, bedside instruction in hospital wards, and the greatly enlarged laboratory facilities which the new school will provide will all make for better and more scientifically trained dentists.

The proposed school has the approval of the New York Academy of Medicine, the County Medical Society, the First District Dental Society, and has the endorsement of the Health Commissioner and well known physicians and dentists, as shown by the subjoined letters and names. A fund of $1,000,000, yielding an annual income of about $50,000 will be required to found and to maintain the proposed dental school. The undersigned express the hope that the plan to create a new and superior factor in dental education and research will merit widespread public approval and that contributions in sufficient amount may speedily become available for the effective establishment of the Columbia University Dental School.

Contributions to this fund should be made payable to the Treasurer of Columbia University and may be forwarded to him direct at 63 Wall Street, New York, or to any member of the Dental Committee named on page 7.

FINANCIAL NEEDS

Proposed Equipment

Operative department	$15,000.00
Prosthetic department	5,000.00
Oral surgery department	1,500.00
X-ray department	1,500.00
Orthodontia department	1,000.00

Proposed Operative Expenses

Rental of building unless $25,000 for brick construction on present Medical School is provided	$4,000.00
Dean and Professors of operative dentistry, prosthetic dentistry, oral surgery and orthodontia	17,000.00
Assistant Professors of operative dentistry, prosthetic dentistry, oral surgery and orthodontia	6,000.00
Instructors and chiefs of clinic	4,500.00
Infirmary staff, materials, light and heat	10,000.00
Making a total of	$41,500.00

COMMITTEE FOR COLUMBIA UNIVERSITY DENTAL SCHOOL

MEDICAL COMMITTEE

From Medical School, College of Physicals and Surgeons

Dean Samuel W. Lambert
Dr. George E. Brewer
Dr. William J. Gies
Dr. Herman Von W. Schulte

DENTAL COMMITTEE

Dr. Henry S. Dunning, *Chairman*
Dr. Arthur Merritt, *Secretary*
Dr. Bissell B. Palmer, Jr., *Treasurer*

Dr. Leuman M. Waugh
Dr. Newell S. Jenkins
Dr. Henry W. Gillett
Dr. Harold S. Vaughan
Dr. Frederick K. Kemple
Dr. Oscar J. Chase, Jr.
Dr. Charles F. Ash
Dr. James W. Taylor
Dr. William P. Tracy
Dr. William B. Dunning
Dr. James F. Hasbrouck
Dr. William Jarvie
Dr. Rodney Ottolengui

[...Various letters of endorsement omitted...]

Independent Journalism *Versus* Trade Journalism in Dentistry

AN IRREPRESSIBLE CONFLICT*

The Journal of the Allied Dental Societies

December, 1916, Vol. XI, No. 4 [pages 577-622]

By William J. Gies

Gies spoke to a meeting of editors concerned with journalism free from commercial influences in Boston in 1916. He later worked his remarks into a paper, published in the *Journal of the Allied Dental Societies*, a publication sponsored by several state dental associations and other groups in the northeast that sought a voice not influenced by trade interests and supported by science. Five years later, this journal was incorporated into the *Journal of Dental Research*. Gies provides a bullet-point summary of this lengthy presentation in section XVI at the end of the paper.

I

As an invited guest, at the dinner following the Fifth Annual Conference on Independent Journalism in Dentistry (Hotel Vendome, Boston, Feb. 26, 1916), I had the very great pleasure of responding to the toast: "*Professional freedom, self-respect and efficiency are incompatible with subserviency to trade journalism.*" I spoke extemporaneously, from a fund of earnest convictions on this subject, and, after the dinner, was requested by many, orally and by letter, to "publish the address." I concluded, in response to these expressed desires, to dictate promptly to a stenographer, in a form as nearly like that of the original comment as possible, the remarks I made in response to the toast. Urgent duties continuously interfered with the execution of this purpose, however; and now (Nov. 7), confronting a serious editorial demand for the production of the promised manuscript without further delay, I present for publication, not a reproduction of the Boston speech, but, instead, a statement of a few convictions in this relation, as they occur to me, as an independent contribution to a subject of special professional interest to dentists.[1]

II

Trade[2] is conducted primarily to secure individual advantage or profit in sale, purchase, or barter. *This* is exchanged for *that*. The one who offers the commodity aims frankly to obtain equal or greater worth in return; the one who accepts the commodity has avowedly the same purpose – to get "*his* money's worth," and more, if possible. In the mutual desire of seller and buyer fairly[3] to obtain from each other *as much as possible* (the inherently personal and selfish feature of trade), prices usually

* "Irrepressible conflict": a political phrase much used in the U. S. during the agitation about slavery, to designate the antagonism between freedom and slavery.

1 This explanation is introduced so that there can be no mistake in this relation on the part of readers who attended the Boston dinner, or who were informed about details of my after-dinner remarks.

2 "A trade is specifically the craft or business which a person has learned and which he carries on as a means of livelihood or for profit; occupation, particularly mechanical or mercantile employment a handicraft as distinguished from one of the liberal arts or of the learned professions and from agriculture. Thus we speak of the trade of a smith, of a carpenter, or of a mason; but not of the trade of a farmer, or of a lawyer or physician...Trade is the exchange of commodities for other commodities or for money; the business of buying and selling; dealing by way of sale or exchange; commerce: having a trade or handicraft...a trader is one who is engaged in trade or commerce" Century Dictionary.

"For the buyer a hundred eyes are too few, for the seller one is enough." "If you would not be cheated, ask the price at three shops." "It is the very life of merchandise to buy cheap and sell dear." "Pity and compassion spoil business." "Profit is better than fame." "The man of your trade is your enemy." "Trade is the mother of money." "Trade knows neither friends nor kindred." "No one will get a bargain he does not ask for." Proverbs, maxims, and phrases (Christy)

3 If the other fellow fails to keep his wits about him, however, it's his own funeral. Business is business."

register the equilibrium between opposing purposes to *obtain the maximum value for self* – the balance between the give-and-take of "supply and demand."

The one who offers merchandise for sale usually knows more about any existing deficiency in the goods than does the buyer (before the sale), and the seller does not invariably tell all he knows in this regard while the prospective buyer reflects upon the possible advantages, to himself, of purchase. When the trader's business is advantageous to the community, such service as he renders is usually, so far as he himself is concerned, *incidental* to his primary purpose to sell goods and to "make money." The tradesman is seldom in "business for his health" or generously for the benefit of the community. Too often his motto is: "The public be damned." Trade is essentially and frankly selfish, though it need not be objectionably so. When it is conducted openly, fairly, and squarely, trade affords, by common consent, a livelihood that is creditable to, and honorable for, the one who achieves it. Such trade is a convenience or a necessity in every community. High degree of productiveness of the farms; intensive conduct of, and contentment in, the industries; and wide extension of voluminous trade in useful products, afford the substantial basis for a nation's prosperity, and foster the public service that the professions accomplish.

Every *profession* is conducted primarily for the avowedly generous performance of highly trained *service*.[4] The professional man performs *this* service for *that* remuneration – and he aims to get, in each instance, *greater* worth than the value he receives in return. The professional man, unlike the tinker, plumber, or other tradesman, understands that nearly all his professional knowledge was originally established by altruistic research, by public spirited discovery, by unselfish invention, by free and privileged professional communication, and through the expenditure of large funds from public or philanthropic sources. The professional man realizes that much of his professional training and skill was initially derived from instruction by underpaid teachers who, as professional educators, gave him that instruction as a part of *their* public service. The professional man is aware that his professional efficiency and opportunity depend upon these and other types of *generous gifts to him* and, through him, to society; he sees clearly that the money paid by him for his professional training was not, and could not have been, a payment in full for value received.[5] The professional man comprehends, therefore, that he is "a *debtor* to his profession" and, through his profession, a *debtor* for life, also, to society – to *society*, which is the abiding trustee of the special knowledge the professional man is encouraged and *assisted* to acquire and to use, *under the state's regulation and jurisdiction*, primarily for the promotion of the public welfare. Consequently the professional man does not, like the tradesman, expect to obtain, or exact, in money, full equivalent of what his service is worth to the one who benefits from that service. The professional man does not seek to obtain, and *never permits to accept*, in return, a value that is *greater* than his service is worth to the one who received that service.

A professional man never knowingly profits from misjudgments or mistakes by those he serves – in his professional relations he never takes the tradesman's view that he is "not his brother's keeper" and that "business is business." The professional man aims, on the contrary,

4 "A profession is the calling or occupation which one professes to understand and to follow: vocation; specifically, a vocation in which a professed knowledge of some department of science or learning is used by its practical application to affairs of others, either in advising, guiding, or teaching them, or in serving their interests or welfare in the practice of an art founded on it. Formerly theology, law, and medicine were specifically known as the professions; but, as the applicators of science and learning are extended to other departments of affairs, other vocations also receive the name. The word implies professed attainments in special knowledge, as distinguished from mere skill; ...and an application of such knowledge to uses for others, as a vocation, as distinguished from its pursuit for one's own purposes. In professions strictly so called, a preliminary examination as to qualifications is usually demanded by law or usage, and a license or other official authority founded thereon required." *Century Dictionary*.

5 This comment applies to proprietary schools as well as to the best, for even in proprietary schools, in spite of the mercenary policy of administration, the student invariably obtains, or should obtain, much "More than his money's worth," whatever the size of the fees he pays.

to *give* faithfully and generously of his professional service, as liberally as he himself has received from his profession's store of inherited knowledge – he aims to give much *greater* value to those who seek his service than that received by him, in return, in money or any value. The professional man is well satisfied and fully content, as a public servant, so to serve his day and generation as to merit and gradually to acquire a competence, i.e., an income sufficient reasonably to provide permanently (for himself and family) the necessaries and conveniences of life without superfluity, a just and honorable recompense for a career devoted primarily to public service; he does not, and will not, degrade his professional purpose, activity, and efficiency, to the low, selfish level of "money grubbing."[6]

Charges for professional service, by the true professional man, do not "register the equilibrium between opposing *purposes to obtain the maximum value for self*," as prices do in trade. Professional charges are not merely fair charges – they are *generously fair* charges – because in fixing his charges, the professional man retains a modest and intimate comprehension of the inherent deficiency of his best service; he puts into his judgment of values the gentlemanly sympathy, for those he has the opportunity to serve, that is a part of his professional attitude; and he yields to his high purpose to give to, and serve, *consciously* and *conscientiously*, the public, through generous helpfulness to every individual it may be his duty or privilege to aid. If the professional man "makes money," his financial success is *incidental* to his primary purpose to serve the public.

The professional man rarely spares himself in the performance of his acknowledged and accepted duty to society. The professions are characterized by unselfishness – and the more altruistic its service, the higher a profession's standing in public estimation and respect. When it is conducted in accord with its greatest opportunities and responsibilities in public service, a profession affords, by common consent, a livelihood that represents one of the highest and noblest forms of public usefulness.[7] The practice of the professions is a necessity in every civilized community. High degree of proficiency, and wide extension of effective service, in the professions improve the health and happiness of a nation; and, supported by material prosperity, afford a spiritual basis for a people's growth in intelligence and civilization.

Trade is occupation that may be successfully conducted with little or no training and is often a temporary pursuit. A profession cannot be successfully conducted without extensive preliminary preparation and is usually life-work. Tradesmen of a particular kind, in a given community, are rivals and usually are in each other's way as *competitors*. The members of a profession, in a given community, are colleagues and unite to *cooperate* in serving the community.[8]

The dominant note in trade is: *obtain!* The essence of a profession is: *give!* Trade is based on *fairness* in exchange. The professions express liberality in service. In trade, "*honesty* is the best policy." In a profession, *generosity* is the best purpose. Trade, at its best, is exchange of commodities representing *equally* desired values: equity. A profession, at its best, is performance of greatly needed service for a monetary value that is avowedly *less* desirable: generosity.

6 "We have grown literally afraid to be poor. We despise any one who elects to be poor in order to simplify and save his inner life. We have lost the power of even imagining what the ancient idealization of poverty could have meant – the liberation from material attachments; the unbraided soul; the manlier indifference; the paying our way by what we are to do, and not by what we have; the right to fling away our life at any moment irresponsibly; the more athletic trim – in short, the moral fighting shape. It is certain that the present fear of poverty among the educated class is the worst moral disease from which our civilization suffers." James. [The quotation is from the famous passage in the Gifford Lectures of 1901-1902, by American Pragmatist William James where he argues the need for a "moral equivalent of war" to tone up the will of a country. Published as *The Varieties of Religious Experience*, p. 259 in the Modern Library Edition.

7 "When we try to serve the world (or to understand it), we touch what is divine. We get our dignity, our courage, our joy in work because of the greatness of the far-off end always is sight, always attainable, never at any moment attained. Service is one of the ways by which a tiny insect like one of us can get a purchase on the whole universe. If we find the job where we can be of use, we are hitched to the star of the world, and move with it." Cabot.

8 "Trade knows only the ethics of success: profession is bound by lasting ties of sacred honor." – Faunce.

Some tradesmen honor themselves by conducting their business on the higher plane of a profession. Very many professional men degrade themselves and their professions by rendering service on the lower plane of common, even dishonest, trade.[9]

I have been regarding dentistry as a *profession* – a profession that is coequal, in usefulness, opportunity, and dignity, with the profession of any other branch of medicine, the great art of preventing and curing disease. I protest against any attitude, inside or outside of dental circles, that delays or prevents the development, acceptance, and operation, of the highest professional ideals in dentistry. I am unwilling to admit that a tradesman engaged in the practice of dentistry (and there appear to be a number of clever tradesmen in such practice) is properly or suitably called a dentist, for dentistry is more than skillful practice of a mechanical art.

III

Journals published by tradesmen, in the name of a trade *or of a profession*, with or without the co-operation of professional men, are commonly and conveniently called "trade-journals," because such journals are conducted (often frankly) in the financial interest of the traders or tradesmen who own them and, *ultimately*, to the detriment of the professions such journals are permitted to represent. I believe it is quite as generally comprehended that the employment, by tradesmen, of professional men as editors in such trade journalistic projects, results, as a rule, in the degradation of the professional status of such employees, and, in time, in the prostitution of the professions such men represent, without elevating the employing tradesmen's journalistic motives or procedure to the plane of professional *principle*.

In view of the prevalence of such convictions as these among professional men generally, regarding the dishonor involved in the subservience of a profession to trade journalism, it is astonishing to find that dentists, as a body, appear to see nothing professionally reprehensible or discreditable in the present dominance of dental journalism in this country by periodicals issued from, or by, supply-houses.

I have spoken frankly, on several public occasions, in criticism of this professionally degrading situation in dentistry. The readers of this journal know that I have an earnest respect for dentistry as a profession. They have learned, from various statements in papers published in this JOURNAL, of my ardent hopes for the continuously rapid progress of dentistry in effectiveness, usefulness, dignity, and public esteem, as a branch of the great profession of healing and preventing disease. With cordial good-will for dentistry as a profession, and for the hundreds of dentists I have the honor and pleasure to know individually, I now address to the dental profession the following remarks on this unpleasant and dangerous subject, *against a system, not against individuals*. I do so in the conviction that the sincerity of my purpose, and the earnestness of my plea, will protect both purpose and plea from misunderstanding and against *successful* misrepresentation. I do so in the belief, also, that such protests as this, even if they should have the misfortune to err in details, will stimulate the discussion and hasten the action, by dentists, that may terminate very soon the dominance of trade journalism over professional journalism in dentistry in this country – and wherever else dental trade journalism may flourish or take root.

IV

Civilization has evolved from barbarism. Democracy has evolved from despotism. Professions have evolved from trade. "Times change and customs with them."

9 The reader is reminded that the above remarks about the professional man, his service, and his charges therefor, do not apply to the tradesman disguised as a professional man. Dentists who sell themselves to dental supply-houses, or become trade-marks in dubious dental business, or help in any way to 'skin the public' and exploit the dental profession, are professional hypocrites and tradesmen at heart, and deserve neither the honor nor the respect that the straightforward tradesman merits and always receives.

Medical journalism and medical education have evolved from trade journals and proprietary schools. Dental journalism and dental education have entered the path of similar evolution.

Medical men realized, long ago, that trade interests and professional ethics in medicine are usually incompatible. Accordingly, in the interest of professional ethics (a dignified way of saying in the interest of sufferers from disease), m*edical men have driven trade medicine back to trade, where it belongs*. As a result, the business of producing and selling medical supplies – *and important and worthy business* – is eminently successful and honorable in the hands of honest business men; and medical practice, by doctors of medicine (not tradesmen disguised as such), is on a very high plane of professional proficiency and self-respect – ever rising! As another result, medical schools are no longer educational makeshifts – not the transparent money-making schemes they used to be – but represent earnest and untiring professional efforts, with the aid of permanent funds from public and philanthropic sources, to the maximum of medical training and medical inspiration to those who seek the best foundations for careers in the art of preventing and healing disease. As a further result, the influential medical journals are not the miserable trade prospectuses, or the supply-house catalogues, they once were, but are strictly professional periodicals, that reflect earnest medical opinion, that present real medical knowledge, that elucidate the best in medical practice, and that preach medical doctrine – and do it all learnedly, effectively, critically, honestly, frankly, and faithfully, without reference to help for, or harm to, the business of medical supply-houses, or the "rake-off" for the owners of surviving proprietary medical schools, or the interests of the owners of the few journalistic outcasts that continue to sell-out medicine.

[...Omission (four paragraphs on nineteenth-century commercialism in medicine)...]

V

One of my remarks in the Boston speech, that I recall almost verbatim, was this:

"*Trade journalism in a profession is a form of vulgar autocracy. When it is benevolent, it pauperizes; when it is benignant, it patronizes; when it dominates, it demoralizes. Like autocracy, it exploits those who maintain it; it misrepresents those who trust it; it seeks to destroy those who challenge it.*"

I cordially invite editors of trade-journals in dentistry to show, *in the interest of orientation and progress in dentistry*, that the foregoing assertion, by me, is untrue in any degree or unfair any sense, to anything or anybody. If this invitation is accepted, I hope any or all who reply will respond, also, to the following questions that I address, respectfully, not only to the dental profession at large, but particularly to the editors of all the existing trade-journals in dentistry.

1. Why is it that the trade-journal in medicine (almost an extinct species) is without influence, standing, or repute among medical men? Is it because doctors of medicine have more professional self-respect than doctors of dentistry; or because medical men regard medicine as a profession and not a trade; or because physicians have learned that, as a rule, medical men cannot serve the financial interests of proprietors of patent medicines, or of traders in medical apparatus and instruments, etc., without betraying the medical profession, and defrauding the public, in behalf of the selfishness such medical renegades would thus represent on a trade basis?

2. Why is it that trade-journals have no standing or influence among scientific investigators – men who, *as a rule*, are particularly representative of the ideal of unselfishness in public service? Why is it that the journals representing the sciences have been, and continue to be, completely independent, and professional in character and conduct?

3. It is frequently said that trade-journals in dentistry can be, and usually are, conducted with *large* financial profit to the owners. Why is it that trade-journals in dentistry are usually

very successful, financially, whereas independent dental journals are often conducted at a financial loss to those who establish and manage them?

4. Can anyone name a dental journal now under trade control and, today, under competent and laudable editorial conduct, that would not become permanently more efficient and professionally more acceptable, if the salaries of its editors and managers were paid from, say, an endowment fund provided, directly or indirectly, by the dental profession; and if its editors and managers were *expected* to serve, and were wholly *free* to express, their highest individual and collective conceptions of professional function, opportunity, and duty, in all departments of the journal, *including that devoted to advertisements*, if any were admitted?

5. To what degree are editors of trade-journals in dentistry paid by the owners for their editorial work, and *to what degree for their professional standing and as trade assets*? Is it probable that the greater the influence of the editor among his colleagues, the *smaller* his editorial salary? Do supply-houses do business on such a basis?

6. If it is conceded that trade interests and professional purposes often conflict, how can dentists believe that, in accepting employment or fees in behalf of trade projects in dentistry, their status as professional men is unimpaired?

7. If I were to permit John Smith to exploit a dentifrice of variable composition, and of doubtful prophylactic value, bearing my name as professional sponsor and factotum in his business, would I (presumed to "know a thing or two") be giving the use of my name and professional position primarily in support of the statements on the label and for the "advancement of the profession," or primarily in behalf of his trade and my pocket? What is the difference between dentifrices and trade-journals in this respect?

8. Why should a journal that is conducted *in the name a profession*, and presumably in behalf of that profession, be managed for *private* profit? Can it be done without exploitation of the profession that journal is assumed to represent? Would it not be quite as appropriate to conduct the churches on that basis – "they would be so much better managed, you know, and less expensive besides?" Would it not be to the interest of a profession if profits from its journalism were put into its journals instead of into trade pockets? If trade-journals in dentistry are "conducted in the interest of the profession," why do the owners of such journals, and the high minded dentists in their editorial employ, *keep the profits for themselves and resist the progress of independent journalism*?

9. Why is it that dental editors of trade-journals insist privately to their self-respecting colleagues, often publicly, that they (the accredited representatives of dentistry) do not accept personal or professional responsibility *for the policies and practices of the advertising departments of their journals*? Is it because these dental editors mistrust, and are not permitted to control, the advertising policies and practices which they are obliged to ignore in order to draw the editorial salaries they receive?

10. Could the owners of a supply-house reasonably ask more from any dentist than that, in editing their journal and helping to give it high editorial worth and great *circulation* he would *leave all the advertising business "to the house"* – and mind his own business besides?

11. To what extent may a dentist serve a powerful interest not in accord with the aims of his profession, *e.g.*, a supply-house journal, without losing his professional standing among dentists? Are not some men, of presumably most general professional acceptance in dentistry, showing periodically, through their actual or pretended editorship of trade-journals, that the dental profession appears to accept anything that may be imposed on it in this connection?

12. What would be your opinion of the President of the United States, if, while President, he were to accept appointment to the position of attorney-in-chief for the "Association of American Railways?" *The railways are essential public utilities. We want their owners to derive substantial profits their operation; we expect these public utilities to afford excellent general railway service at fair rates*. But why do we require public officials, from the

President down, to refrain from accepting "retainers" from the railways? Is it because we know that the special financial interests of the railways and the general public welfare may, and often do, conflict, and that an *honest* man could not simultaneously serve both the railways and the public, *manfully*, under such conditions, *however honorably he might serve either*? Is it because we know that the function of public service cannot be subordinated to financial exploitation of that function, without detriment to the public? Can the profession of dentistry be subordinated, by dental editors, to the tradesman's journalistic exploitation of dentistry, without serious detriment to dentistry?

13. Do you expect the owner of a trade-journal to conduct his journal primarily "for the benefit of the profession" or primarily "for the benefit of his business?" What do you presume the owner of the trade-journal *expects and requires*?

14. Free speech is as essential to progress in dentistry as it is to liberty in a democracy. Can the editor of a trade-journal in dentistry reasonably expect any one to believe that *he* believes he is always *free* to speak professionally on trade relationships and commercial interests in *dentistry – while he holds his editorial job*? Is it reasonable to believe that the editors of trade-journals are entirely free to ignore the specific demands and particular interests of individual trade ownership? Can the editor of a trade-journal expect to be above the very strong and justifiable suspicion that he "hears his master's voice" and harkens to its behests?

15. Are the owners of trade-journals in dentistry conspicuous in any dental relationship that does not involve financial benefit primarily for themselves? How much of the claim that their journals are "conducted in the interest of the profession" is justified and how much is transparent humbug?

I have addressed the foregoing questions, as I stated at the outset, "*to the editors of all the existing trade-journals in dentistry.*" I request them, if they pay any attention to this paper, to be unsparing in their criticism of any misstatement, or of any injustice, in my remarks or implications. Any unfair comment by me is wholly inadvertent. I am shooting at a system. I am aiming at men only as r*epresentatives of that system*.

VI – VII

[...Omission (18 paragraphs praising the S.S. White Company for producing excellent products but criticizing it for publishing *Dental Cosmos*—the most popular dental journal of the day—supposedly "in the interest of the profession")...]

VIII

In order that I may not be misunderstood, in this relation, I wish to add that I recognize, as I must, that *trade ownership* of any journal obviously involves legitimate *trade use* of that journal. The owners are justified, from the purely *trade* point of view, in aiming to obtain for themselves, so far as they can, every legitimate *trade* advantage that may be derived through the agency of their property. By "*legitimate* trade advantages" I mean *trade* advantages *obtainable within the law*.

When I say that "by legitimate *trade* advantages I mean trade advantages *obtainable within the law,*" I refer to what, from the professional standpoint, is a source of some of the most insidious dangers from, and fundamental objections to, supply-house journalism in dentistry. I have already suggested that "some tradesmen honor themselves by conducting their business on the higher plane of a profession." Such tradesmen would decline to accept any trade advantages that would lack generous fairness to their competitors. Would that all business were conducted on a plane so high – there would then be no objection to supply-house journalism in dentistry! Other tradesmen, however, engage in business operations which, although productive to them of legitimate, *i.e.*, lawful, trade advantages, are practices that are "sharp" enough to suggest the ruthless selfishness of brutes. Certain clever lawyers are reputed to be uncommonly efficient in guiding their clients' trade projects very close to the limit of

the law's allowance and the public's forbearance, without carrying those projects beyond "the letter of the law" and without landing their clients in jail. What guarantee does any profession have that supply-house journals conducted in its name would not be dominated, or influenced, by trade practices which, while "within the law," would demoralize and degrade the profession such trade-journals are allowed to represent? Does the dental profession have any assurance on this point that the medical profession did not have when the latter profession evolved away from confidence in trade journalism in medicine?

The owners of supply-house journals, and their editorial employees from the professions such journals assume to represent, have all due legal freedom to derive, for themselves, every attainable lawful *trade* advantage, however selfish, unsocial, and unprofessional, each such advantage might be. There is no possibility of denial of this fact. It must also be admitted, in view of this fact, that the owners and dental editorial employees of supply-house journals, in dentistry, are free to obtain such legitimate *trade* advantages as would accrue to the owners from the execution of any, or all, of the following *policies (among others)* within the lawful "business option," of the owners of such journals, to apply to the conduct of their journals in their own trade behalf, if, or whenever, they see fit to do so.

1. Refusal to publish communications from contributors whose hostility, direct or indirect, "the house" may experience, or anticipate, from one direction or another.

2. Publication of innocuous communications of no particular professional value from and about many whose friendship for, and influence in behalf of, "the house" it is important to retain and to increase. Excessive quantity and superficial attractiveness of the "literature" presented not only give the advertisements a pleasing dress, but also (quite profitably for "the house") blunt the reader's sense of literary discrimination.

3. Publication of selected editorial comment, correspondence, special papers, etc., that tend to maintain respect among dentists for trade influence in dentistry, and for the owning supply-house and its supplies in particular.

4. Publication of selected editorial comment, correspondence, special papers, etc., that tend to reduce or remove the *influence* of houses and products that compete effectively with the owning supply-house and its wares, respectively.

5. Publication of items of propaganda, direct or indirect (including "blurbs," "puffs," "taffy," and "soft-soap") to strengthen men, measures, and institutions, in support of *trade* influences in dental societies, in dental education, in dental journalism, and in dental thought and practice.

6. Further manipulation of men and their activities through the influence of "the house," its journal, and its editorial employees, in such ways and at such times as to influence dental thought and conduct to the advantage of "the house," as a continuing and aggressive influence in professional affairs.

7. Maintenance of the trade-journal, in effect, as *"the house's" advertising periodical*; and, by using the funds that would otherwise be expended on similar advertising in other journals (together with collateral advertising profit), also some of the proceeds of resultant increases of trade, to support "the house's" journal at an attractively low subscription rate (almost nothing), with consequent assurance of wide circulation of the journal; of extensive distribution of "the house's" advertising, sales, and trade influence; and of complete discouragement of free and independent professional journalistic projects not supported financially to the same degree. By such pauperization of the dental profession, journalistic initiative would tend to be paralyzed and journalistic independence destroyed.

8. Maintenance of a staff of experts to report and "capture," for "the house's" journal, the proceedings of leading dental societies, publication of such dental transactions putting the societies and their members under direct obligation to "the house," and giving, *very profitably*, to "the house's" advertising periodical, an official air and an authoritative position that it could not otherwise embody.

9. Publication of "the house's" journal in close accord with the most temporary and superficial intellectual and professional requirements of its readers – "It giving our readers what they want" – to keep *down* publication expenses, to keep *up* trade profits, and to keep *off* the cranks who stimulate dental criticism, who incite dental introspection, and who struggle for more idealism in dentistry. Cold water thrown on certain types of efforts to exalt professional aspirations in dentistry, and the blockade of an important journalistic channel for the *free* expression of professional convictions, result easily in "letting well enough alone" and in delaying the overthrow of trade dominance in dental affairs.

10. Acceptance of *trade* advantages for keeping "the house's" journal *silent* on various important debatable matters of professional import, especially if the house has no *trade* interest, near or remote, in the outcome.

11. Acceptance of special rates for advertisements on goods that do not compete with "the house's" products and about which "the house" is indifferent, but which goods receive the benefit of extensive advertising, are well supported financially, and, even if *doubtful* in utility, are subject to trade acceptance until the profession overwhelmingly speaks against them, "the house's" journal having no *professional* responsibility for the *quality* of the goods advertised, its concern relating solely to *trade* charges for the "ads" and "getting the money" therefor.

12. Conduct of the journal's affairs in such a way that the editor may be free, not only to help "the house" to augment its trade, but also, by suitable manipulations, to create and maintain political combinations to increase his personal power (and through him "the house's" influence) in the counsels of the profession.

I have not alluded, above, to "advantages" that would be unlawful. I have referred only *to illustrations* of the "advantages" that, accruing from trade ownership of dental journals are, collectively, as I said before, *legitimate*, i.e., *lawful, trade* advantages. I have not suggested, it will be observed, that such "*legitimate* trade advantages," based on such "policies" of editorial management as I have mentioned, are *desirable* for, or *creditable* to, those who would accept them, or that the execution of such journalistic "policies" is good for dentistry. On the contrary, the fact that such "policies" are regarded, by general consent, as common *business* "policies" that may characterize the supply-house management of a trade-journal without disgrace, from the *business* standpoint, to those involved, is a sharp indication of the nature of some of the dangers to dentistry from *trade* dominance of its professional journalism.

Who can say that such *trade* "advantages" are anything but selfish advantages? Who would deny that the procurement or acceptance of such "advantages" by *professional* men is unprofessional, unsportsmanlike, and destructive of professional self-respect? Does not the difference between trade propriety and professional impropriety, in the acceptance of such "advantages," illustrate an *essential difference between dental trade and the profession of dentistry*?

[...Omission (21 paragraphs quoting and refuting S.S. White claims to present only material in the interest of the profession)...]

X

In order that readers of this paper who are not in sympathy with the general views here expressed, may be assured of the fact that this discussion is not entirely superficial in its import, I shall refer, by way of *illustration*, to two incidents which show that the views expressed in this paper accord with current medical and scientific thought on the relation between trade and the professions – thought that I feel should, and hope will, characterize, as well, the mind of dentistry.

The Society for Experimental Biology and Medicine, which is national in scope, so far as geographical extent of membership is concerned, and which numbers among its members the leading investigators in this country in the medical and biological sciences, expressed

itself by formal vote, in May, 1905, on the question of adoption of the following proposed amendment to its constitution:

"Any member of this Society who may *consent to the use of his name in any way that would aid in increasing the sale of any patent medicine, proprietary food preparation, or any similar product*, known to be of doubtful value, "shall forfeit his membership."

[...Omission (27 paragraphs describing a forfeited membership under this policy)...]

XIII

From the beginning of my association, in research, with the Committee on Research of the Dental Society of the State of New York, I have made it clear to the chairman, as pleasantly as possible, that I could not accept, with professional propriety or with personal satisfaction, the necessity of publishing, in *Dental Cosmos*, the official reports of our research. I stated that the other papers and reports from our laboratory were not published in trade-journals, because we object to the impertinences of, and demoralizations by, trade influences in professional affairs, and because we do not intend to lend support to such influences, directly or indirectly, purposely or indifferently. I also said it was personally and professionally humiliating, in the distribution of reprints from such journals, to seem to be hucksters for the supply-houses involved. My objection is to the *system and its abuses, not to a particular journal representative of it*.

In presenting this objection to the publication, in *Dental Cosmos*, of our first scientific report, I learned of the apparent helplessness of the Research Committee in the matter of responding to my desire to publish our report, originally, in an independent dental journal; and then, confronted by the necessity of deciding either to go ahead under that embarrassment or to abandon the higher purpose to endeavor to be professionally useful to the Society, I chose the latter alternative, in the conviction, and with the mental reservation involved in that belief, that it could not be long before the Dental Society of the Empire State would *feel* the professional impropriety of accepting financial favors from supply-house journals and would not *oblige* or *expect* its investigators to submit their reports to exploitation in trade-journals. Five years have passed and the situation seems to be unchanged.

I have recently informed the Research Committee of the Dental Society of the State of New York, of my desire to retire from my present relation with that Committee, and from my service in behalf of dental research under the Society's auspices, because I am unwilling any longer to submit reports of our work for original publication in *Dental Cosmos* or in any other supply-house journal. I have taken this action confident that the work of research now in progress under the Society's auspices will be carried forward by others who are quite as eager as we are to proceed, but who may have less objection, for the present at least, to publication of their reports in advertising periodicals issued by dental supply-houses.

I make this early public statement of my desire, in this relation, in order to give the S.S. White Company ample opportunity to show openly the strength of its permanent influence with the Dental Society of the State of New York. This company will realize that *Dental Cosmos* would be all the more powerful after the elimination of another troublesome "crank" who can't be flattered into submission, but who *can* be completely flattened. This early announcement will also give this and other supply-houses an exceptional opportunity to mobilize dental politicians in their service for a "fine killing," in the matter of publication of the Society's transactions.

[...Omission (two paragraphs thanking the individual representing the S.S. White Company who attended the meetings of the Research Committee of the Dental Society of the State of New York and recorded Gies's regular oral reports for publication)...]

XIV

I do not think, and have not suggested, that independent professional journalism is *necessarily* meritorious. It will not take care of itself. It may be indifferent, incompetent, and ineffectual. Compared with the enterprising, alert, and effective conduct of a journal in the success of which some person or persons have something particular, substantial, and selfish to gain, independent journalism, with the indifferent, dull, and incompetent management that often results when the work promises no one any pecuniary profit, is often utterly disappointing, to say the least. Independent journalism needs the business and material foundation and security of trade journalism, with the vision, devotion, integrity, generosity, and spirituality, of the true professional man.

Independent journalism in dentistry is a form of professional democracy. It has been said that a cure for the ills of democracy is more democracy. I believe a cure for the ills of independent professional journalism in dentistry is *more and better* independent professional journalism in dentistry.

XV

There are three additional questions that I desire to address to the dental profession:

1. Would not independent journalism do, for the advancement of dental science and practice, what it has for the promotion of medicine, if dentists had the sense, the vision, and the unselfishness, adequately to support the highest type of dental journalism?

2. Has dentistry been hypnotized by trade journalism – by its *cheapness*, its convenience, its plausibility, and the clever sophistry of its exponents?

3. Is dentistry so cheap a profession and are dentist so trivial personally, that the individual dentist will not cheerfully pay $5 a year for an up-to-date and strictly professional journal in dentistry? (Practically all college professors, on notoriously small salaries, make payments of that or much larger amounts for their professional journals, *as a matter of course*).

One of the striking features about dental journals is the exceptionally low price of subscription per volume. Trade-journals in dentistry are distributed almost gratuitously. It has always been to the advantage of supply-house journalism to appear to give very much journal (especially paper) for very little money. Proprietarization and pauperization of the dental profession, in its journalism, has been a keen trade purpose and a supply-house advantage.

The *cheaper* the trade-journal, the less is expected of it by the most exacting and the less its deficiencies count against it. The *cheaper* the trade-journal, the more it is desired by the least exacting. The *cheaper* the trade journal, within *trade* capacity to "pay the freight," the wider its circulation, the larger its advertising value and revenue, and the greater the net financial profit in conducting it. As a corollary of the latter fact, the more the owners of the trade-journal pay for *quality*, or for the *semblance* of quality, of editorial effort and service, and the more acceptable, as a consequence, the dental trade-journal can be made to appear to the largest number of dentists (whatever their expectations may be), the better satisfied the main body of dentists will *remain* with the *paternalistic* journalism thus afforded, the more effectively dental journalistic *independence* will be discounted and discouraged, the greater the influence of the dental *trade-journal* will become and the firmer will grow its grip on the dental profession – and the faster the further net profits from its publication will pile up.

Supply-houses have dominated dental journalism so completely, by trade initiative and trade competition, and have so effectively frozen the dental mind in the idea that "a good big journal should cost only one dollar a year," that the fiscal policy of such independent dental journals as aspire to worthy careers is inevitably thrown toward the low level of that of the trade-journal.

The management of the independent dental journal, having no selfish purpose to advertise either itself or products sold by itself, unlike the supply-house owners of the dental

trade-journal, cannot regard a portion of the publication expense of its journal as the cost of clever advertising of itself at great financial profit for itself. Therefore, in order to meet the competition of the dominant trade-journal, in the matter of low subscription price, and to help the management to pay its journal's way, the independent dental journal is practically forced to accept a minimal amount of advertising matter. Thus, independent dental journalism faces, at its very inception, and while it is getting on its feet, a serious financial obstacle that it cannot expect to surmount, to the highest advantage of the dental profession, unless it receives unselfish and ungrudging financial help from dentists as a body – unless it is supported by the spirit that leads men to do earnestly and spend money generously for the profession of their faith and devotion.

[...Omission (one paragraph and two tables comparing the cost of dental journals to those in other professional fields)...]

So far as its pauper journalism is concerned, dentistry is far below the journalism of many trade organizations. Thus, the *Journal of the American Leather Chemists' Association* – the leading American "leather" journal – costs the members of the Association $5.00 per volume (annual), and "non-members, $6.00 per volume." The *Journal of Industrial and Engineering Chemistry* costs $6.00 per volume (annual). It seems to me that the hypothetical "Archives of the American Hobo" would circulate freely, among the "knights of the road," on a higher subscription price than $1.00 per volume per year.

Can dentists expect to establish and maintain real professional dental journalism, on a basis of professional self-respect and efficiency, so long as dentists as a body refuse to pay, for professional journals, what such journals, when devoted *wholly* to the interests of the profession, cost to conduct and should be worth? Can dentists be proud of the fact that the *journalistic exploitation of the dental profession by supply-houses*, with the well-paid assistance of clever editorial employees from the ranks of dentists, is financially so profitable that the supply-house owners of trade-journals can beguile dentistry into accepting, without effective protest, "a lot of paper for a little money" – practically pauperizing the dental profession into *journalistic servility, with quasi-professional periodicals supported with money derived largely from profits from trade relationships with the dental profession*?

Again I ask the question, and I hope the well-informed editors of dental trade-journals will supply the answer: Why is it that *trade-journals* in the professions, which are always provided at relatively low subscription prices, are *financially profitable to their editors and owners*, whereas independent professional journals find it difficult to meet expenses at subscription prices that are comparatively high?

XVI

If any interested reader, having rambled with me through the preceding sections of this paper and believing that he could not see the woods because the trees obstructed the view, will step out into the open a little farther and look back, he will see the forest in these outstanding features among the trees.

Trade is a matter of fairness and *equity* in the sale, purchase or barter, of commodities. Profession is a matter of fairness and *generosity* in service for remuneration (II).

Dentistry is dishonored and demoralized, as a profession, by its subservience to supply-house ownership and control of the leading journals published in the name of dentistry (III).

Medicine has broken the grip of proprietarism on its journals; why not dentistry (IV)?

Trade-journals in dentistry have no virtues, and exhibit many defects, that the same journals would not possess under strictly professional control. These trade-journals lower professional thought and purpose to the selfish level of trade (V).

The S.S. White Dental Manufacturing Company has had an *honorable and useful commercial career*, as a producer and seller of excellent dental supplies (VI).

Instead of "sticking to its last" – the honorable and useful business of producing and selling excellent dental supplies – the S. S. White Company continues to exercise its *trade* "voice and influence" in dental journalism, through the company's advertising periodical, *Dental Cosmos*, which it publishes as a quasi-professional journal (VII).

A supply house may derive "legitimate *trade* advantages" from the ownership and control of its organ of publication that are inimical to the best *professional* interests of dentistry (VIII).

[...Omission (criticism of S.S. White as hypocritical)...] (IX)

Current views against trade influence in the affairs of the professions is *illustrated* by the attitude of the Society for Experimental Biology and Medicine in opposition to the coinage of individual professional standing, among biological and medical men, into personal gain against the interests of the community (X).

The author's suggestion that he *may* be competent, in *some* degree, to discuss the subject of this paper, is supported by his relation to the attitude of the Society for Experimental Biology and Medicine, above referred to (X)

And also by his part in public discussions of the demoralization of professional purposes by certain types of trade influences (Xl)

And by his editorship of the *Biochemical Bulletin*, an independent and strictly professional journal that ignores all trade influences (XII).

The author stated his purpose to decline to conduct research in dental science, under the auspices of the Dental Society of the State of New York, after the end of the current research year, if he is obliged by the Society to publish, in *Dental Cosmos* or in any other trade-journal, his official reports to the Society (XIII).

Independent journalism in dentistry *is not automatically meritorious*. *It will not take care of itself.* It may be as useless as any other kind of journalism, if it is conducted ineffectively (XIV).

The intrinsic cheapness and meanness of the financial attitude of dentists, as a body, toward professional dental journalism is shown, strikingly, by a comparison of the low subscription prices of the leading journals in dentistry ($1-$2 per annum) with those of important journals representing medicine and the medical sciences (XV).

Expression of the spirit of this paper, and its convictions, may be condensed in a paraphrase of Lincoln's immortal summary of the case of the "Union against slavery":

"*A house divided against itself cannot stand.*" Dentistry cannot attain the status of a real profession, *permanently half trade and half profession*. I do not expect dentistry to fail to attain full professional stature – I do not expect the house to fall – but I do expect dentistry will cease to be half trade and half profession. It will become, in effect, all one thing or all the other. Either the opponents of trade dominance in dentistry will arrest the further spread of it, and place trade control where the public mind will rest in the belief that trade influence in dentistry is *in the course of ultimate extinction* and that dentistry will become a true profession; or the advocates and supporters of trade dominance in dentistry will steadily increase their hold on dental thought and dental purpose, and will make of dentistry a trade and nothing more.

[...Omission (a three-paragraph addendum promising additional articles on this topic)...]

The Journal of Dental Research

By William J. Gies
[First editorial] 1919, 1 (1), 1-7

The *Journal of Dental Research* appeared in 1919. Gies maintained tight editorial and financial control of the publication, even assuming personal debt to ensure its independence. The causes are unclear, but there were no issues in 1924 and 1925. The American College of Dentists initiated a subscription fund to support the journal in the mid-1930s, but eventually control passed to the International Association for Dental Research and the money raised became the base corpus for the William J. Gies Foundation for the Advancement of Dentistry. Printed here is the inaugural editorial.

Research is the mainspring in the chronometer of science. It is the register of a profession's achievement and standing. With it is life, and growth, and effectiveness, and enthusiasm in those who devote themselves to the high calling of a profession. Without research, however, empiricism, stagnation, inefficiency, and discouragement impair the usefulness of those who earnestly seek to render their best professional service.

Research in its highest expression is open-minded inquiry for truth, to be found and revealed unreservedly for the information, instruction, advantage, and welfare of all. Research is war on the autocracy of ignorance. It is one of the finest manifestations of the spirit of democracy. It is one of the growth impulses in civilization.

A striking anomaly of modern scientific literature is the lack of a journal devoted primarily to the publication and promotion of research in stomatology in general and in dentistry in particular. Every other specialty in medicine is fostered, and its importance is unfolded and revealed, by at least one journal devoted particularly to the advancement of research in the field it represents. Practically every phase of the physical, chemical, and biological sciences is promoted by one or more research journals, but dentistry has none! Dentists have been content to receive their original information in the dress, mainly, of widely circulated supply-house advertising periodicals.

Dentistry has been asleep in the field of original literature, narcotized by a system of dominant trade journalism that has been notable in the history of dentistry for commercial efficiency, professional obtundity, unlimited superficiality – a system of journalism, which, because of its general acceptance and approval by the dentists, which has demoralized the spirit and impoverished the imagination of dentistry, *a system of journalism that has been completely eliminated from respect and influence in every other profession, because of that system's insincerity, unreliability, and selfishness*.

The submissive subservience of dentistry as a profession to dentistry as a business, that is indicated by the continued dominance of the influence of supply-houses in dental journals suggests, invidiously to the medical profession, to professional men as a body, and to the people in general, that dentistry is more of a trade than a profession; and that dentists, by allegiance to, and dependence upon, such supply-house leadership, *appear* to concede correctness to the erroneous impression. The present undesirable situation in this regard will continue, to the detriment of dentists and dentistry, until dental leadership has the gumption and the courage to make it evident to all concerned that dental business is the *servant* of the dental profession, not its guide, its tutor, its publisher, its manager, its master.

The JOURNAL OF DENTAL RESEARCH is an open break with the past in dental journalism and is a move in the direction of complete professional ascendency in dentistry.

Worthy and successful commercial enterprise, achievement, and growth provide the foundations on which the material structure of civilization is erected. A publicist has recently said that "modern civilization rests on the production of goods." Every citizen would support and encourage the prosperity and security of deserving industries. This may be done with the highest propriety and effectiveness,

by a professional man, in terms, for example, of professional service given privately (as in the treatment of disease in an individual) that will help an industry to present to the customer a product of improved or assured high quality – for this is honest helpfulness on the basis of honorable cooperation in useful achievement. Business men seek public-spiritedly to advance the effectiveness and the influence of the professions; and do so, for example, by contributing funds, *without selfish conditions*, for the discovery and application of truth. The Rockefeller Institute for Medical Research illustrates the unlimited beneficence of a leading business man's philanthropy in the field of medicine. But it is not conceded to be a function of business to select and employ agents to conduct the public schools, to manage the churches, to direct the army and navy, to run the affairs of state, or to commercialize the professions.

It cannot be the province of dental business to superintend the education of dentists; to conduct the meetings of dental societies; or to produce, edit, and restrict, the professional literature of dentistry. The JOURNAL OF DENTAL RESEARCH has been conceived in scientific altruism, born of the spirit of dental progress, and nurtured on the ideals of public service; and it is dedicated unreservedly and without qualification to truth and advancement in dentistry, and to the promotion of human welfare through the enrichment and development of that great profession for the prevention, alleviation, and cure of diseases of the mouth and teeth.

I write this introductory note, for this initial issue of this JOURNAL, in an enthusiasm for the profession of dentistry that has come from cordial appreciation of its great usefulness, its high importance, and its intrinsic dignity, as I have gathered these essential facts from the service and the ideals of the dentists with whom I have enjoyed the privilege of professional intimacy. I am hopeful and confident that the day is not far distant when dentistry, freed from the demoralizing trade dominance that has held it back from its highest professional attainments, will be universally accorded the full degree of respect and regard that is due to every branch of the arts and sciences of medicine.

This JOURNAL represents and voices the spirit of accord and helpfulness between physicians and dentists in mutual service for humanity. Its pages will be open to all who, having sought truth and found it, would tell it.

The JOURNAL OF DENTAL RESEARCH is, as its name implies, a research journal. It will be neither a supply-house dummy, nor an advertising circular. It will endeavor to equal in quality the best of the research journals in the medical and biological sciences. It will aim, as do these journals, not only to publish the results of research, but also to stimulate and encourage the spirit of research; and it will seek to promote development in the character, and in the depth and scope, of original investigation in stomatology and dentistry, and in the applications to them of all the related arts and science.

The JOURNAL OF DENTAL RESEARCH will publish neither news items, personalia, nor editorials. It will supplement, both in purpose and in scope, such publications as the *Journal of the National Dental Association* [the name at that time of the current American Dental Association] by presenting detailed accounts of research that cannot be given ample space in journals such as these. Dentists who subscribe for the JOURNAL OF DENTAL RESEARCH will receive nothing, therefore, in duplication of anything appearing in the *Journal of the National Dental Association*, but will find both journals independent yet friendly collabora-

tors in different though important and complementary parts of the field of dental journalism.

The Director and other officers of the Research Institute of the National Dental Association are members of the Board of Editors of the JOURNAL OF DENTAL RESEARCH. It is hoped and believed by them, and by us, that the conduct and success of the JOURNAL OF DENTAL RESEARCH will be such that the papers fully descriptive of the researches conducted by or under the auspices of the Research Institute can be published regularly in this JOURNAL.

Each volume of the JOURNAL OF DENTAL RESEARCH will contain about 500 pages devoted to original investigation. Scientific proceedings of dental and stomatological societies will be accepted for presentation in the JOURNAL OF DENTAL RESEARCH, and will be published at the expense of the societies involved. There will thus be afforded a medium, for the effective publication of such transactions, that will be independent of the business of producing and selling dental supplies. The pages devoted to such proceedings will be *supplementary* pages, and will be added to the regular total (500 pages) in making up each volume. Subscribers for the JOURNAL will thus receive, free of charge, all the pages devoted to proceedings, whatever the number of such additional pages may be. The expense to societies for the publication of their proceedings in the JOURNAL OF DENTAL RESEARCH will be the amount of the actual cost to the JOURNAL to include the extra pages of transactions.

The JOURNAL OF DENTAL RESEARCH would reprint such published proceedings with additions, if desired, in pamphlet or volume form, at the actual cost of production, *without charge for service in the editorial office*, in order effectively to cooperate with dental societies that heretofore have felt it necessary to publish their proceedings in trade journals.

The JOURNAL OF DENTAL RESEARCH will be financed, *as a University is supported*, with public-spirited special gifts for this purpose and from a cumulative, permanent, endowment fund to be created; also from subscriptions for its successive volumes – not from *advertisements of goods for sale.*

The subscription price will be lowered as soon, as fast, and as far, as the philanthropic support of the JOURNAL may make it possible to reduce it.

The JOURNAL OF DENTAL RESEARCH will not be indifferent to the needs and expectations of busy practitioners, but will seek to make the new JOURNAL a necessity, a help, and a gratification, for every dentist and physician. Effective reviews of important developments in research, written by those most competent to do so, and summarizing, clearly and reliably, the knowledge of practical subjects, will be published from time to time.

The "table of contents" in each number and for each volume will include a series of *abstracts*, or brief interpretations of the contained papers, so that dentists and physicians may be shown, in a few words, the *practical* applications of the facts in each paper in a number or volume. At the end of each paper, except the shortest, there will be a summary of general conclusions, so that a paper's *scientific* aspects may be seen at a glance by those who may wish to ascertain the gist of a paper before time is given to its detailed perusal, or for any other reason. Instead of "shooting over the heads" of dentists and physicians generally, this JOURNAL, by the execution of these plans of presentation, will be not only an archive of original research for the student and scholar, but also a series of original contributions to stomatology and dentistry *in practical terms for practical men*.

Accepted papers may be subjected, *in the issues in which they appear*, to formal independent critical analysis by one or more collaborators "selected for the purpose," but in all such instances authors will have full opportunity to reply in the same issues. Execution of this plan, also, will help the busy practitioner promptly to appraise the individual papers at their real values.

The editorial office of the JOURNAL OF DENTAL RESEARCH will maintain a Bureau of Information on Dental Research for the assistance of dentists who may wish to avail themselves of any knowledge and experience the Board of Editors may have. This Bureau will aim

to answer fully and promptly all questions put to it on the status of knowledge in specified fields or on particular subjects, and will endeavor to interpret clearly to dentists, in private correspondence, the significance of facts and findings in every aspect of stomatology and dentistry. The successful execution of this broad plan will doubtless be very difficult and exacting, but the service to dental science and to dental progress that can be given in this way, amply justifies all the labor and effort that may be involved. Inquiries, pursuant to this announcement, may be addressed to the JOURNAL OF DENTAL RESEARCH. The executive officer of the Board of Editors will expedite attention to each such inquiry.

The JOURNAL OF DENTAL RESEARCH has the honor and privilege of continuing the spiritual existence of the *Journal of the Allied Dental Societies* which, designed chiefly to report society proceedings, concluded its separate and independent career with the completion of the volume for 1918, and has become part of the JOURNAL OF DENTAL RESEARCH. I say "honor and privilege," because the *Journal of the Allied Dental Societies* "has championed the cause of professional journalism as its first reason for existence" and for thirteen years has carried forward aggressively, to the most advanced position attainable, the standard of the highest professional purpose in dental journalism. *The Journal of the Allied Dental Societies* was founded in 1906, by the societies named on its cover, as a protest against supply-house dental literature, and for thirteen years it has embodied, preached, and maintained the principle that the publication of dental knowledge should be managed by the profession and not by the manufacturers and vendors of dental merchandise.

Organization of the JOURNAL OF DENTAL RESEARCH was begun in the summer of 1917, without anticipation by anyone of the possibility of this important journalistic evolution. The JOURNAL OF DENTAL RESEARCH comes upon the field, differently established and otherwise alined, [sic] but in time, by amalgamation with the *Journal of the Allied Dental Societies*, effectively to strengthen and consolidate the advanced position "held by the first division in the thick of the fight," and, with new resources, to carry the standard of professional journalism "over the top in a new drive" to a complete victory for idealism in dentistry,

The JOURNAL OF DENTAL RESEARCH offers a new opportunity to dentists to cooperate actively in an earnest movement that is unlimited in its power for good in behalf of dentistry; that is unrestricted in its capacity to promote the happiness and contentment of those who engage in the practice of dentistry; and that is exceptional in its promise of increasing the usefulness and dignity of the dental profession, and of those who are devoted to it, in the public service.

[An earlier and, in a number of respects, a much more detailed statement regarding the JDR, particularly relating to organization, was published in the last issue of the *Journal of the Allied Dental Societies* (December 1918, p. 496).]

Dental Education in the United States and Canada

A Report to the Carnegie Foundation for the Advancement of Teaching

By William J. Gies

With a Preface by Henry S. Pritchett, President of the Foundation

Bulletin Number Nineteen, New York, The Carnegie Foundation for the Advancement of Teaching, 1926

Bulletin Number Nineteen of the Carnegie Foundation for the Advancement of Teaching is 670 pages long. The first 250 pages set the context, describe the nature of professional practice and education in the 1920s, and offer recommendations. The largest portion of the report gives detailed descriptions of the educational programs, students, and administration of existing dental school in the United States and Canada, every one of which Gies visited. It is mistakenly believed that Gies focused only on education and that his report led to the closure of proprietary schools. All but two "schools for profit" were gone at the time Gies wrote. His focus was on the role education should play in elevating the scientific knowledge base and professional integrity of dental practice.

Virtually all of the recommendations for schools proposed by Gies in Chapter X have been so fully implemented that they can be better read by looking at contemporary dental education than by reading the report. Chapter X is not reproduced here. His recommendations included parity between the admissions requirements of dental and medical schools, lengthening the curriculum, becoming full members of universities for the sake of financial stability and stronger academic standards, and placing a scientific foundation under what is taught.

Reproduced here are the (a) introduction, which shows what education could do for dentistry, (b) the table of contents that lays out the scope of this monumental work, (c) most of Chapter III on the nature of dental practice (pp.50-54), and (d) Chapter VII, general views and conclusions (pp.55-59).

INTRODUCTION

A. DENTISTRY A HIGHLY MECHANICAL DIVISION OF THE HEALING ART

FROM the earliest periods of human history, the teeth have been subject to irregularity in arrangement, to decay and disintegration, to loosening from their attachments in the jaws, and to partial or complete removal by accident or intent. Among the ancients, desire to preserve teeth, to retain loose teeth, and to disguise dental disfigurement, gave birth to the art of dentistry, which has been traditionally an agency to perfect the mechanism of mastication, induce oral comfort, correct maxillary or palatal deformities, maintain normal vocal enunciation, and enhance facial comeliness. After centuries of cumulative refinement of its methods, dentistry has become, in the main, the art of realigning, repairing, rebuilding, and removing teeth; remedying diseased conditions within teeth and in tissues immediately adjacent to them; and replacing, functionally and esthetically with artificial substitutes, the teeth or parts of teeth that have been lost or removed. The last of these phases long seemed to be the most important utility of the practice of dentistry, which, by reason of its outstanding reconstructive character and its minor evidences of curative quality, appeared to be a specialty of applied mechanics with only an incidental relation to the art of healing. In recent years, dentistry has also been aiming to repel dental and oral diseases, chiefly by improved applications of the mechanical resources of oral hygiene, and by encouraging reliance upon diets that favor normal growth and maintenance of the whole body.

B. DENTISTRY AN INDEPENDENT AND CLOSELY ORGANIZED PROFESSION

Dentistry began to attain importance in 1839 and 1840, when dentists in the United States established the first journal of dentistry, the first national society of dentists, and the first dental school. For nearly three decades thereafter the organization of dentistry in America remained superficial, and there were practically no legal restrictions of its practice, which was regarded generally as a mechanical trade that anyone might undertake who was disposed to do so. In 1868, the ten existing dental schools graduated only about ninety dentists, most of those who then began the practice of dentistry having preferred to learn the art as apprentices in the offices of established dentists. In 1868, in response to cumulative demands for greater responsibility and efficiency in dental service, the legislatures of three states enacted laws that defined dentistry and specified educational requirements for a license to engage

in its practice. During the period from 1872 to 1899, this example was followed by the other states individually, and since 1900 such a law has been in force in every state in the Union.

In all of the states of this country and in the provinces of Canada, dentistry and medicine are by law regulated as independent though related professions. Admission to their practice is based on diverse educational requirements, which are exacted for each profession by state or provincial boards of examiners, or equivalent officers representing the people. The courts have interpreted these laws to mean that dentistry and medicine are separate and distinct in fact and in law, and that a dentist is not a physician and a physician is not a dentist.

Dentistry is now a highly organized profession, with about 65,000 practitioners in the United States and 3800 in Canada. In each country there is a national association of dentists; and practically every state or province contains a state or provincial society and many district and local organizations of dental practitioners. The state boards of dental examiners in this country have maintained a national association since 1888. There are forty-four dental schools in the United States and five in Canada, all but eight of which are parts of universities. Representatives of the dental schools in the United States and Canada have supported various general associations of the schools since 1884, and of the teachers since 1898, but in 1923 united these bodies in the American Association of Dental Schools. The Dental Educational Council of America, representing the national organizations of state examiners, of schools and teachers, and of practitioners, performs for dentistry, in the United States, educational functions that are similar to those of the Council on Medical Education and Hospitals of the American Medical Association. The American College of Dentists is analogous to the American College of Surgeons. Dental practitioners of all nations are united in the Federation Dentaire Internationale, and the Seventh International Dental Congress will be held under its auspices in Philadelphia in August, 1926. The International Association for Dental Research consists of a federation of five research societies in this country and one in Canada. Many of the dental organizations issue periodicals, and a relatively large number of commercial dental journals are published monthly. The dental associations have been conducted in complete independence of the medical bodies. The Section on Stomatology of the American Medical Association, established in 1881 to make the relationship between medicine and dentistry more intimate, was disbanded in May, 1925, chiefly because of lack of medical interest in dentistry. The American Stomatological Association, founded in October, 1924, aims to convert dentistry into a specialty of the practice of conventional medicine, but does not appear to be receiving any marked encouragement from either dentistry or medicine. Owing to failure of both physicians and dentists to recognize the fact that the primary objectives of dentistry and of medicine are identical – to keep people well – there has been very little practical cooperation between bodies representing the two professions.

C. DENTISTRY NOT AN ACCREDITED SPECIALTY OF THE PRACTICE OF MEDICINE

The abnormalities and diseases of such parts of the body as the ear, eye, nose, and throat are everywhere included in the practice of conventional medicine, and are the primary concern of certain of its important specialties. But in Canada and in the United States, as in other countries, the disorders of the teeth have been allotted to dentistry, which has been organized and is now legally defined and regulated as a division of the healing art that is intrinsically different from that of a specialty of medicine. The teeth and their closely adjacent tissues are the only parts of the body that have been thus singled out as a special domain of remedial treatment that may not be formally practiced by a physician without a special license.

This exceptional position of dentistry, compared with any of the accredited specialties of the practice of medicine, arose from early recognition of the unusually high degree of digital

skill that was required in nearly every act in the realignment or replacement of teeth, and for their reparative, remedial, or reconstructive treatment. The attainment of this unusual status has been due in large measure, also, to the abiding influence of ancient and mistaken opinions among physicians that, as a rule, dental maladies were wholly local, relatively unimportant in their influence on the general health, and in need of medical attention only when adjacent parts had been involved or deranged so grossly as to make medical or surgical treatment imperative. These erroneous beliefs, which were promoted originally by physicians and which persist among them even now, have been fostered, also, by general misunderstanding of the significance of early medical observations that teeth were almost wholly devoid of the capacity for self-repair; that, usually, dental disorders were not curable with drugs but could be remedied by mechanical means alone; that all of the teeth, whether healthy or diseased, could be broken off or extracted without apparent harmful influence on the jaws or on the welfare of the body as a whole; and that substitutes for the crowns of any number of teeth could be adjusted in the mouth for effectual maintenance of the dental functions. The concurrence of these conditions of incapacity for self-repair, incurability by medicinal treatment, ready recovery from the effects of total loss, and completeness of the functional restoration attainable by artificial replacement, which do not apply collectively to any other part of the body that is supplied with blood and nerves, long seemed an encouragement of medical indifference to the teeth and to dentistry.

As a result of these unfounded assumptions and of such misapprehensions of the import of dental disorders, by physicians for centuries, medicine gave little attention to the health of the teeth. Although the advance of civilization has been accompanied by accentuation of dental abnormalities, medicine persistently ignored the great desirability of careful observation in this field; and, sharing the popular belief that decay of teeth was unpreventable and loss of teeth unavoidable, physicians helped to bring about universal resignation to the supposedly inevitable incidence of dental imperfection and distress. Until recently, medicine viewed this situation with about as much concern as that excited by loss of hair from the scalp, and did little more to understand or to control the influences responsible for the one than for the other. Under these conditions of unconcern and neglect in the practice of medicine, which reflected the crudity, ignorance, and superstition of its development, the work of repairing or removing teeth, or of preparing and fitting useful substitutes for lost teeth, was considered to be as unimportant medically as that of a barber. A tooth was pulled out or broken off for the relief of toothache, and strength was the only operative requirement. Anyone whose special mechanical proclivities induced him to undertake the task might make "false" teeth and fit them in his own way, under any mutually satisfactory conditions, into the mouths of all to whom such substitutes could be sold. As a rule, physicians refrained from attempting to render reparative service of this kind. In the United States, goldsmiths, jewelers, ivory turners, umbrella makers, blacksmiths, mechanics, wig makers, tinkers, engravers, barbers, and itinerant jacks-of-all-trades became the most numerous practitioners of dentistry, which for many years remained a simple trade and a mechanical subsidiary to medicine. It was not until the last century that leading practitioners, men of high ethical standards and enlightened endeavor, raised it to the status of a profession.

After ignorance, commercialism, and charlatanry had lowered dentistry so far in public esteem that earnest practitioners in America were finally impelled to act, a few doctors of medicine, who had been concentrating their attention on dental disorders and who had a deeper appreciation than their medical confreres of the relation of the condition of the teeth and mouth to human welfare, cooperated with a number of progressive dentists in efforts to improve the quality of dentistry and to elevate it in public respect by associating it intimately with medicine. They endeavored unsuccessfully to establish instruction in dentistry in schools of medicine, the most important of their proposals to this end having been rejected, by the medical faculty to which it was presented, with the decisive comment that dentistry

was not important enough to be taught in a medical school. This historic rebuff, administered in 1839 to earnest physicians and dentists who sought, in effect, to make dentistry a specialty of medicine, did not dishearten them, but diverted their purpose and threw them upon their own resources. With a vision of greater serviceability and higher respectability for dental practice, they determined that, if dentistry could not be taught in medical schools, it should be given a suitable educational foundation in independent colleges.

Accordingly, in 1840 in Baltimore, they established the original dental school, which began promptly to give instruction leading to the degree of Doctor of Dental Surgery (D.D.S.), and graduated two students in 1841. Since 1840 formal instruction in dentistry has been conducted in this country independently of medical education without objection from medicine and with little complaint from dentistry.

The desirability of teaching the medical sciences to students of dentistry was appreciated by the pioneers in dental education, and such instruction has been given in all dental schools; but dentistry's realization of its need for the medical sciences has never been keen enough to give to that instruction the quality it bears in medical education, or to impart to dentistry the character of a specialty of the practice of medicine. Growing need for laboratory facilities to improve the instruction of dental students in the medical sciences has induced administrative officers, in most of the universities containing both medical and dental schools, to bring about affiliations between these schools in order to prevent avoidable waste from unnecessary duplication of teaching resources. Yet such affiliations, which commonly take the form of instruction of dental students in laboratories in the medical buildings, have not been expressive of any desire or tendency anywhere to make dentistry a specialty of the practice of medicine. On the contrary, as a result of traditional antagonism, these adjustments having been effected in most instances in the face of spirited resistance from the medical or the dental faculties concerned, continue to be more or less unwelcome to one or both groups of teachers. As an outcome of this lack of understanding and accord, medical faculties are often frankly indifferent to the conditions or the quality of the instruction given in their laboratories to dental students. In turn, dental faculties, which usually have little more than a perfunctory interest in instruction in the medical sciences, commonly make the best of such awkward situations as guests of medical faculties, by submitting to what they cannot avoid. The burden of the public disservice that arises from this state of affairs clearly rests upon the shoulders of the medical faculties.

Another indication of the uncompromising independence of dentistry and medicine is the fact that, although the medical schools in this country and in Canada require prospective general practitioners to take formal courses in the common features of such specialties of medical practice as otolaryngology, rhinology, ophthalmology, and dermatology, with few exceptions they ignore oral hygiene and clinical dentistry, as though all phases of stomatology were unimportant in the careful practice of medicine. Most of the medical schools, inattentive to the relation of dental disorders to the inauguration and progress of various diseases in other parts of the body, fail to emphasize even the general association between dental maladies and those of the closely related medical specialties; make no provision for effective instruction in surgery on the borderline between dentistry and medicine; exclude clinical dentistry from their dispensaries and hospitals; and do not recognize dental service in its true relation to human welfare. Even research in dental fields is regarded, in important schools of medicine, as something intrinsically inferior. These deplorable conditions occur in universities where dental and medical schools are closely associated. And yet, despite the prevailing medical lack of information regarding clinical dentistry, many physicians, often against the protests of the dentists of the patients concerned, peremptorily order extraction of particular teeth, or sometimes of all remaining teeth, on the assumption apparently that a dentist's judgment cannot be right when it conflicts with a physician's guess. It is also true that the biological ignorance of many dentists, owing to deficient education in the medical sciences

and in the requirements of oral medicine, often accounts for the disrespect of physicians for the views of dentists, and frequently makes dental contributions to consultations on the health of patients clearly unreliable.

D. DENTISTRY PROPERLY A FORM OF HEALTH SERVICE TO BE MADE EQUIVALENT TO AN ORAL SPECIALTY OF THE PRACTICE OF MEDICINE

Recent advances of science on the borderline between medicine and dentistry, particularly during the past fifteen years and especially from the contributions of bacteriology, pathology, and roentgenology, have shown that certain common and simple disorders of teeth may involve prompt or insidious development of serious and possibly fatal ailments in other parts of the body. It has also been demonstrated that dental service, even when superficially perfect from purely mechanical and esthetic points of view, may hide or evolve local pathological conditions favorable to the onset of infectious disease elsewhere in the system, if such practice disregards certain physiological requirements that neither dentistry nor medicine appreciated before the advent of recent discoveries. A discriminating attitude by individual physicians and dentists toward dental disorders, in the light of the most significant of these disclosures, has greatly extended the knowledge of specific relationships between oral and systemic pathological conditions, and has aroused belief in the existence of others awaiting detection. The reality of such significant correlations has emphasized the desirability of searching enquiry into their nature and into the extent of their occurrence, for the promotion of more accurate diagnosis and of more nearly perfect control, by both dentists and physicians, of numerous conditions of local or general disease.

The import for both dentistry and medicine of these significant findings, and of the further discoveries they presage, is obvious. They force the conclusion that dentistry is an important mode of health service, and that in general it is quite as significant for the maintenance of health as some of the accredited specialties of medical practice. Dentistry should no longer be ignored in medical schools, and its main health-service features should be given suitable attention in the training of general practitioners of medicine. Antagonism between medicine and dentistry cannot be explained on any basis of public interest or advantage and has no justification in any sentiments that are worthy of respect, for both professions are agencies for health service and cannot render it faithfully on any other conditions than those of earnest and effective cooperation. The practice of dentistry should be made either an accredited specialty of the practice of conventional medicine, or fully equal to such a specialty in grade of health service.

There are two sides to the question raised by the alternatives in the last preceding statement. Against the desirability of a conversion of the practice of dentistry into an accredited specialty of the practice of conventional medicine are a number of important prevailing conditions. Since the dental and the medical statutes in every state in this country, and in every province of Canada, oppose serious obstacles, the dental laws would have to be repealed. Neither organized medicine nor organized dentistry desires such a conversion or would be content with it. If the dental schools were discontinued and dentistry taught only to medical students, the growing general demand for dental practitioners could not be met by the best medical schools unless they doubled the size of their student bodies and completely reorganized their work. Owing to the need for exceptional digital facility in the manifold intra-oral procedures of dental practice, and for esthetic felicity in their execution, the extensive technical training and the clinical instruction and practice peculiar to dentistry cannot be superimposed upon a conventional medical curriculum, leading to the degree of M.D., without making the period of dental training prohibitive in length for most prospective general practitioners. Besides, the medical curriculum is altogether too rigid, and the views of medical state boards and of medical teachers too unyielding, to permit substitution of training in

the essential mechanical and esthetic aspects of dentistry for anything now contained in the required parts of the undergraduate medical curriculum, although the inclusion of oral subjects among the prospective elective courses to be open to candidates for the M.D. degree would facilitate special instruction in dentistry under the auspices of medicine. Unlike the practice of some specialties of medicine, such as that relating to disorders of the eye by diagnostic and directive medical specialists in ophthalmology (oculists), supplemented by modern optometrists as specialists in refraction and by opticians, the direct practice of health service applied to the teeth could not be divided properly among analogous stomatologists (dentists) and dental technicians. Such a distribution is unattainable because dentistry, in all of its terminal manifestations, must be practiced in the mouth of the patient. The independent dental practitioner must comprehend the import of the variable biological conditions involved and also must possess the skill to perform the requisite intra-oral hand-work.

In support of these deductions it may be said that the details in an ophthalmologist's or an optometrist's prescription for a pair of glasses can be obtained and transmitted with exceptional precision. On such a prescription, glasses can be made by machinery, by an optician, with relatively perfect accuracy, under standard and stable conditions, and the glasses can be fitted by an optometrist (or optician) by very simple superficial adjustments that may have considerable range of mechanical and biological variations without detriment to the patient's eyes. In dentistry, however, the equivalent of an ophthalmologist's (or an optometrist's) prescription cannot often be "obtained and transmitted with exceptional precision," nor filled accurately by machinery. The dental analogue of an optician's glasses must be fitted as a rule with microscopic exactness to prevent accession of microorganisms into the substance of the tooth or teeth affected, or to avoid unnatural or undesirable contacts with or stresses upon the teeth and tissues involved or against which the appliance impinges. Anything placed in or on the teeth, however well prepared it may be mechanically, rarely fits perfectly when first tested. It must be directly and often patiently adapted because of the individual peculiarities and the inherent difficulties of the attending variable oral and operative conditions. For this reason an appliance made by a dental technician from a dentist's models or specifications cannot be fitted by the technician or anyone else as superficially as an optometrist (or optician) effectually adjusts a pair of glasses. On the contrary, it must usually be modified and tested in place in the mouth, until its adaptation is perfect, in accordance with all of the complex anatomical, physiological, and esthetic requirements and the extreme degree of mechanical accuracy involved. Finally, it must be skillfully put into place, and adjudged mechanically and biologically sound, and artistically satisfactory, by the "diagnostic and directive" practitioner of dentistry himself. A dental technician can prepare an appliance from a dentist's models or specifications and, under a dentist's supervision, can adaptively modify it. By attending to various extra-oral procedures, a cooperating technician can very effectually and desirably increase the amount of time available to a dentist for direct personal intra-oral service for his patients. But without the education in the medical sciences that the practice of dentistry requires, the most competent dental technician, who with such additional training would be a dentist and not a technician, could not be safely entrusted with the responsibility of fitting dental appliances. At present he could not do so without violating the statutes that regulate the practice of dentistry in this country and in Canada.

On the other side of the question raised above, it is plainly essential, from the point of view of public welfare, that, if dentistry cannot become an accredited specialty of the practice of conventional medicine, it should be made the health-service equivalent of an oral specialty of medical practice in continued independence of medicine, so far as organization is concerned. For the laity, the quality of health service rather than the recognition of traditions or partisanships pertaining to such service is the primary desideratum, and medicine or dentistry by any other name would be a service just as grateful. If dentistry, having been developed and established as an independent form of organized public service, can rise

promptly to its opportunity to become the full health service equivalent of an oral specialty of the practice of medicine, and will do so in good order and without economic waste, as it appears to be inclined to do, then few would welcome the needless embarrassments and demoralizations that would follow an attempt to destroy progressive dentistry by forcibly including it in conventional medicine. If, however, dentistry as now organized should not wish to become or could not develop into the full health-service equivalent of an oral specialty of medicine, public interest would ultimately require the creation of an accredited specialty of medicine to render oral health-service in conformity with all of the evident necessities of such practice.

It should be clearly recognized that actualities rather than labels or symbols are the important factors in a consideration of this situation. It is helpful to recall that the term "medicine" is commonly used to signify not only the healing art in a general broad academic sense, but also to indicate particularly the practice of that part of the whole of the healing art that is usually taught to persons who receive the M.D. degree. "Healing art," as a term, does not logically include the application of means to prevent the occurrence of disease or to maintain health and normality, but medicine and dentistry are employing such agencies with increasing effectiveness in the most desirable extensions of their usefulness. "Practice of medicine" does not conventionally include such factors in health conservation as dentistry, public-health administration, nursing, and pharmacy. By regarding the practice of these and also of some minor types of activity for the maintenance of health or for the prevention or cure of disease, together with the practice of conventional medicine, as divisions or branches of *health service*, in the broadest and most comprehensive sense of the term, instead of divisions or branches of "medicine," one not only follows a logical and convenient course of reasoning, but also ignores the insignia of useless professional partisanships, and obtains a clear suggestion of the proper position and due recognition of the practice of dentistry as it is, and also as it may be extended.

The outstanding deficiency of the science of dentistry has been its inability, hitherto, to discover methods for the general prevention of decay of teeth and of diseases of the closely adjacent tissues. Scientific establishment of adequate means to these fundamental ends would revolutionize the practice of dentistry by eliminating the chief present occasion for it. Although these disorders are among the most common of all bodily ailments, they have received little attention from medicine. Dentistry, deeply absorbed in oral mechanics, and not versed in oral medicine, has been baffled by them and, until recently, has been content to follow with repairs, reconstructions, and replacements. The primary causes of dental decay and of periodontal disease appear to be hidden in the biological secrets of the conditions or processes of dentition, nutrition, coordination, or oral variability. It seems probable that the causative influences, whether related to defective dental development, impaired nutrition, discoordinations, or particular conditions of dental environment, or to all of them, will not be discovered until the medical sciences are used effectively to this end. When dentistry becomes equivalent to an oral specialty of medicine, its vision and effort, combined with biological understanding and aided with methods of enquiry of corresponding adequacy, may be expected to bring these dental maladies into the realm of the completely preventable disorders, if that should not prove to be inherently unattainable. Comprehensive and penetrating research in these relationships is a basic need for the universal promotion of human welfare.

E. PRIMARY EDUCATIONAL NEEDS OF DENTISTRY AS AN EQUIVALENT OF AN ORAL SPECIALTY OF THE PRACTICE OF MEDICINE

Development of the art of dentistry into the equivalent of an oral specialty of the practice of medicine would require a new and more comprehensive definition of dentistry, a corre-

sponding extension of the scope of dental health service, and commensurate improvement of dental education. Expanded as it should be in biological scope and strengthened in all its health-service aspects, dentistry, then a learned profession, would be devoted, in broad terms,

(a) to establishment of the principles, and

(b) to application, in all forms and degrees, of scientific health-service relating directly to the teeth and to the closely adjacent oral tissues, and indirectly to the welfare of other parts of the body and of the whole system;

(c) to discovery of the correlations between dental and oral conditions and systemic diseases, with special reference to observed effects of distant disorders on the teeth and closely adjacent oral tissues, and of dental and oral abnormalities on the health of the body as a whole;

(d) to detection, and provisional diagnosis, of dental and oral symptoms that indicate the prevalence or imply the probable existence of ill-health elsewhere in the body; and

(e) to suitable, supplemental, advisory health service, including consultation with the patient's physician, based on such observations *(c)* or diagnoses *(d)*.

In this view of an enlarged dentistry, its practitioners would be trained to give the service not only of dental surgeons and dental engineers as at present, but of oral sanitarians and oral physicians as well. Instead of examining only the teeth and mouth of a patient, as is now usually the case in a restricted view of their responsibility, they would also suitably enquire into and keep careful records of the state of the patient's health, particularly as it affects or is modified by conditions of the teeth and mouth. Dentists would plan their procedures to meet not only the local indications but also the possible requirements of extra-oral relationships; would also recognize and note the significance of outstanding symptoms of systemic disease, and warn or advise the patient accordingly, or explain his need for a physician's attention; and could effectively discuss, with a physician, the oral conditions in their relation to a patient's general welfare. Prevention of disease at all ages would become an inherent and predominant motive. The frequency with which dentists are, and will continue to be, consulted for oral health-service gives them special opportunity and occasion to note not only the occurrence of oral and systemic diseases, but also the existence of correlations between them, and to help or guide patients accordingly.

The type of training afforded by most of the dental schools does not promise to make the practice of dentistry the health-service equivalent of an oral specialty of the practice of medicine, and important general improvements of dental education are required for the attainment of that objective. Appreciation by dental teachers of the necessity for thorough instruction in the mechanical aspects of the practice of dentistry has seldom been accompanied by due comprehension of the need for intimate understanding of the pathological involvements and of the health-service relationships of such practice. Consequently, in most dental schools, instruction of dental students in the medical sciences has been unwisely directed, indifferently given, and poorly assimilated; and the practice of dentistry has failed, from lack of knowledge, ability, and vision, to measure up to its opportunity in health service. The general practice of dentistry is based on an amount of pre-professional education - graduation from a high school or its equivalent - that is too slight to sustain the mental load of effective study of the medical sciences. If the pre-dental educational requirement were raised to equality with that of the pre-medical - at least two years of appropriate work in an academic college - the necessary medical sciences and their applications could be taught to dental, students as effectually as to students of medicine, and there would be not only less current general disparagement of dentistry as intellectually inferior to medicine, but also less embarrassment of dental progress.

To make the dental practitioner an expert in reparative and reconstructive procedures - a good dental mechanic, in short - has been the paramount purpose of dental education, which has been primarily manual training. In the attainment of this important aim, a broad preliminary education has been mistakenly regarded by dental leadership, with notable exceptions,

as a subordinate qualification, which, while perhaps theoretically desirable, was practically unnecessary and apt, from the length of time required for its acquisition, to delay the beginning of dental study until a period in the age of the student when his capacity for active development in manual dexterity had become impaired or lost. Immaturity and ignorance, with hypothetically superior neuromuscular adaptability to digital training, have been preferred to relative maturity and wisdom, with greater degrees of understanding and capacity.

Owing to the prevalence of such mistaken views, a heritage from the days when dentistry was a mechanical trade, only twenty-two of the forty-three dental schools in this country in September, 1924, required work in an academic college for admission. At least one year of such study was first exacted effectually by fifteen schools in 1921, under the leadership of the Dental Faculties Association of American Universities. Very few practicing dentists in the United States have been students in an academic college. Practically all of the graduates of dental schools in this country, including those of 1924, have been trained in institutions where the professional curricula were based on academic requirements ranging from nominal "possession of a good English education" to graduation from a high school; but in 1925 all of the graduates for that year from seventeen dental schools in this country had at least one year of instruction in an academic college, and by 1928 the graduates of a majority of the schools will have received that extent of preliminary education. An admission requirement of at least one year of approved work in an accredited academic college is now among the Dental Educational Council's minimum requirements for its Class A or Class B rating, beginning in September, 1926. Therefore, practically all graduates in dentistry in 1930 and thereafter will have had at least one year of instruction in an academic college. Medical education in this country has been based almost universally, since 1918, on an entrance requirement of at least two years of work in an academic college, including some prescribed subjects of study, following graduation from a four-year high school. From present indications, it may safely be assumed that this premedical requirement will never be reduced in length. Since that extent of preliminary education is concededly desirable for such medical specialties as otolaryngology, rhinology, ophthalmology, and dermatology, it should be equally valuable for dentistry as an analogous mode of health service.

The foregoing views may be summarized in the general statement that dentistry is a highly mechanical division of the healing art, which has been closely organized independently of medicine, and, although not an accredited specialty of the latter, is a very important division of health service that should be extended in scope and improved sufficiently to make it equivalent to an oral specialty of the practice of medicine, either as an accredited part of medicine or independently of it. Among the chief improvements that such expansion and betterment would involve are deeper appreciation, among dentists and physicians, of dentistry as a division of *health servic*e, more effectual teaching of the medical sciences and of their applications both to prevention and to treatment; and an amount of preliminary education that would not be less than the minimum required for medicine.

Full attainment of the service equivalence of an oral specialty of medicine, by dentistry continued in its independent organization, appears to depend, also, upon general reorganization of the system of dental education on the basis of such adjustments and additions as these modifications which already several of the best schools closely approximate in important respects:

(a) Requirement of at least two years of suitable pre-professional work in an academic college, including several extra courses in such subjects as oral hygiene, fine art, and mechanics, that would either stimulate interest and develop ability in the prospective practice of dentistry, or reveal ineptitude.

(b) Reorganization of the undergraduate curriculum in dentistry into three academic years instead of four, each suitably lengthened if necessary; and the curriculum made particularly effective for intensive and. integrated training in medical science, dental technology,

clinical dentistry, and oral medicine, in preparation for the safe initiation, by the graduate, of competent general practice of dentistry. In this curriculum, the courses should be equal in quality to those in the corresponding subjects in the undergraduate curriculum in medicine, and as far as possible interchangeable with them; the degree of B.S. to be awarded at the end of the second or third dental year, or B. A. to students who complete three years of work in an academic college before admission, in accordance with the customs of the colleges and universities concerned; and the professional degree, on graduation, to be that required for admission to the license examinations, which at present is D.D.S. or D.M.D.

(c) Addition of optional, full-year, graduate curricula, based on the three-year undergraduate curriculum and conducted on a high plane of scholastic quality, for systematic and intensive training in all types of oral specialization, including teaching and research, commensurate degrees, among them M.S. or M.A., to be awarded after at least one year of successful advanced work; and Ph.D. after at least two more years of such study and adequate attainment in research.

(d) Development of combined dental and medical curricula, with adequate dispensary and hospital facilities, for united medical and dental training of specialists in maxillo-facial surgery, public-health administration, medico-dental research, and, in general, of practitioners of the types of oral health-service that embrace most intimately the joint responsibilities of medicine and dentistry; academic and professional degrees to be awarded in accord with the nature of the study concluded and the achievement therein.

(e) Establishment of dental service including dental internships in hospitals, and of dental infirmaries in the out-patient departments; and the proper use of these clinical resources and opportunities not only for the instruction of undergraduates, but also for the promotion of graduate work.

(f) Provision of advanced courses for dental practitioners, and curricula for the proper training of hygienists, technicians, and assistants.

(g) Creation of adequate library facilities, now conspicuously absent from most dental schools.

(h) Active promotion of research, now almost non-existent in the schools of dentistry.

(i) Discontinuance of all independent dental schools, unless they can be sufficiently endowed, suitably affiliated, and properly equipped to promote satisfactorily the teaching of modern dentistry, which cannot now be claimed for them.

(j) Organization of additional dental schools, where there is need for them, in close affiliation with schools of medicine in universities.

These advanced conditions could not be established without increased financial support of dental education; but, with adequate additional resources, the most important dental schools in this country and in Canada would promptly effect the proposed improvements. A dental school cannot develop the highest degree of educational quality, or the greatest measure of humanitarian service, from a financial soil consisting solely of the fees paid by the students and patients, on which most of the schools are now obliged to subsist. Although dentistry is a mode of universal health service, the public has done little to advance it. Endowments for the effective maintenance of the best schools of dentistry, and for cumulative improvement of their work, are urgently needed in the public interest. In this important respect dental education is identical with medical education; but, hitherto, in an era notable for the generous financial support deservedly accorded to medicine, the similar needs of oral health-service have been almost wholly ignored.

Contents

The table of contents of *Dental Education in the United States and Canada: A Report of the Carnegie Foundation for the Advancement of Education* is reproduced here in order to show the scope of this project and to help readers place the sample portions that have been reprinted in their proper context. Page numbers refer to the original report.

Section b. Work of the dental schools

PART III. PROSPECTIVE IMPROVEMENTS OF DENTAL EDUCATION IN ThE UNITED STATES

PART IV. DENTAL EDUCATION IN CANADA

PART V. GENERAL VIEWS AND CONCLUSIONS

PART VI. DENTAL SCHOOLS IN THE UNITED STATES AND CANADA

PART VII. APPENDIX

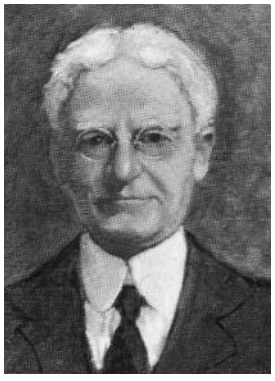
Chapter III

Statutory Definition and Regulation of the Practice of Dentistry

By William J. Gies

A Report to the Carnegie Foundation for the Advancement of Teaching
Bulletin Number Nineteen, New York, The Carnegie Foundation for the Advancement of Teaching, 1926

Much of Chapter III of the Carnegie Foundation for the Advancement of Teaching Bulletin Number Nineteen is presented here because it demonstrates that Gies was concerned with the practice of dentistry as much as with dental education. These remarks demonstrate Gies's concern that education and practice must raise their standards simultaneously. The fact that comments in this chapter sound so familiar and those in Chapter X on education sound archaic suggests that Gies was more effective in reforming dental education.



A. LEGAL STATUS OF THE PRACTICE OF DENTISTRY

a. Basis for its public control

THE practice of dentistry, in all parts of the United States, is now regulated by statutes enacted under the so-called police power of the states, whereby legislatures, in promoting the general welfare, may prohibit acts or practices that are immoral, or that subvert the peace or comfort or impair or threaten the health of the citizens; and may secure the people against the consequences of ignorance, incapacity, deception, or fraud. The courts have very generally sustained the right of a state to prescribe uniformly the requirements for admission to the practice of any type of health service within its boundaries, and to determine how the possession of the necessary qualifications shall be established, provided each is appropriate and attainable by reasonable degrees of application and effort. This right has been upheld on the broad ground that since any mode of health service, if ignorantly or ineffectually conducted. may endanger the welfare of those to whom it is applied, its practice can be safely entrusted to such persons only as are learned, trained, and skilled in the art. Therefore, among the prescribed requirements for admission to the practice of any kind of health service, a state may include specified attainments in preliminary education as well as in professional training. In accordance with these principles, no one may practice dentistry in a given state without a license from its official dental representatives; but a license to engage in such practice in one state does not automatically confer that right in another.

b. Definition and restrictions of dental practice

The dental statutes, in general, are alike in prescribing qualifications that imply possession of sufficient knowledge, training, and skill for the safe and reliable practice of dentistry; and also in empowering appointive officers to determine the fitness of individual applicants for permission to engage in dental practice, and to issue licenses therefor to all persons legally entitled to receive them. The statutes differ somewhat in the details of their specifications as to the nature of dentistry and of the particular acts that constitute its legal practice. Collectively they declare, in effect, that dentistry consists of the art of

(a) preventing, curing, or alleviating conditions of disease, and of repairing defects, of teeth, jaws, or closely adjacent oral tissues, by hygienic, surgical, medicinal, and mechanical treatment or procedure; and, by similar means, of

(b) preventing, removing, or diminishing the consequences of deformity, derangement, or abnormal relationship, of teeth, jaws, or closely adjacent oral tissues; and of

(c) obtaining impressions and models for artificial restorations or mechanical modifications of dental or oral parts that have been rendered deficient, or which have been removed, by disease, accident, violence, or surgical intervention, including the functional and esthetic placement of the appliances or substitutes.

[...Omission (ten paragraphs about legal definition of practice and difference in scope of practice between dentistry and medicine)...]

B. ENFORCEMENT OF THE DENTAL PRACTICE ACTS

a. Determination of the qualifications of prospective practitioners

1. By direct examination

In any state, one of the most important aspects of the problem of protecting citizens against the consequences of inept practice of dentistry, is the determination that the individual applicant for a license has had suitable preliminary education and adequate professional training, and is in fact competent and trustworthy. This function, essentially precautionary, is one of the duties of the official dental representatives, commonly designated the state board of dental examiners, and is a responsibility that may not at present be transferred by the board to any other authority. Thus, even in the case of a graduate of the dental school of a state university, a diploma indicating such graduation does not automatically qualify its possessor for the practice of dentistry in that state. A board may issue a license to any eligible dental graduate whose character and competency in their opinion, after formal examination, justify confidence in the ability of the candidate to begin, and in his purpose and capacity to continue, a reputable and reliable practice. A board may directly or indirectly revoke a license if, in their judgment after due legal process, a practitioner is unable or should not be trusted to conduct an honorable and efficient practice. Some of the statutes provide for automatic forfeiture of licenses after specified periods of failure to practice.

The laws of about half of the number of states specify that the license examinations must be conducted to determine the applicant's theoretical and practical knowledge of all or nearly all of the following subjects, of which those marked with asterisks are also commonly included in the curricula of the schools of medicine: *anatomy, *anesthesia, *bacteriology,* chemistry, *histology, *hygiene, *materia medica and therapeutics, metallurgy, operative dentistry, oral surgery, orthodontia, *pathology, *physiology, prosthetic dentistry. In a number of the states, natural subdivisions of some of these subjects, such as crown and bridge work and roentgenology, are specified. It is generally assumed that proficiency in these particular sciences and arts affords a sound basis for safe initiation of the dependable practice of dentistry as defined on pages 59 and 60.

2. By interstate certification ("reciprocity")

By special interstate agreements that are authorized by law, the boards of examiners of approximately half of the number of states may issue licenses, without examination, to all who, having been continuously engaged in the lawful, competent, and reputable practice of dentistry elsewhere during the last preceding five years, present certificates to that effect from the boards of states with which such reciprocity is maintained. In addition about one-fourth of the number of boards are permitted, under such reciprocal agreements, to license immigrant dentists without subjecting them to examinations beyond tests of practical or clinical ability. In nearly all of these states, however, considerations of interstate comity are emphasized. With few exceptions, each state accordingly stipulates that the favor of admission to dental practice, without examination or by abbreviated examination, shall not be granted to practitioners from states which do not extend the same privilege to its own emigrant dentists. In most cases such reciprocal agreements may not be made with the boards of states that

maintain lower educational or professional standards. These boards usually retaliate by refusing to admit, without examination, experienced dentists from states having higher standards.

Opportunity lawfully to practice dentistry at will in any state is an ideal of freedom in professional service that organized dentistry desires to promote. In seeking this goal, however, the real objective should be the highest welfare of the public in each state and not the greatest convenience of the individual practitioner. It is obvious that such freedom is not desirable if it involves acceptance of dentists who could not meet the standards of practice set by a state for the licensing of its own citizens. The only possible ground for temporarily condoning inferior service would be a serious deficiency in the number of practitioners. So long as individual statutes remain widely diverse in educational and professional criteria, and disregard the universal need for proficiency in practice, every state having advanced facilities for health service will be justified in requiring, to the satisfaction of its official dental representatives, that the competency of incoming dental practitioners be established in terms of its own standards.

b. State boards of dental examiners

1. Function, membership, appointment, and terms of service

Execution of the provisions of dental practice acts is the duty of designated groups of appointive officers, which in nearly all of the states are the boards of dental examiners. In most cases the board consists of five members; in about a third of the number of states, the membership ranges from three to nine. In several states the provisions of the dental statutes are enforced by departments of education, health, law enforcement, registration, public welfare, or by similar bodies, and the associated boards of examiners are without independent executive functions, but conduct the license examinations. Membership in a board is always restricted to citizens, who as a rule, immediately preceding their appointment must have been engaged in the practice of dentistry, in the state, for a specified minimum period of years ranging from three to ten. Most of the dental laws prescribe one or more additional qualifications, as for instance that members of the board must be graduates of reputable dental schools, or engaged actively throughout their terms in respectable practice, or members in good standing of the corresponding state dental societies, or without direct or indirect interest in any phase of the production or sale of dental supplies, or free from any personal relation with a school of dentistry. Occasionally an indicated minimum number of members must be chosen from each of two or more designated districts.

In nearly all of the states in which the boards of examiners have authority to enforce the dental laws, the members are appointed by the governors; in several, however, they are elected directly by state dental societies. In approximately half of the number of states the governors are free to appoint on their own initiative; in about one-third, they are restricted to nominees selected by the state dental societies; in a few, the governors are obliged merely to select majorities from such nominees, or may appoint independently, if the societies fail to present nominations. Where the examiners are assistants to special lay bodies for law enforcement, they are appointed by the latter. The terms of the members of the boards are usually five years in length, and do not expire simultaneously. In many states members may be reappointed for an unlimited number of terms; in other states, no one may serve for more than two successive terms. The governors may remove members of boards for such causes as criminality, immorality, incompetency, or neglect of duty, or are directed by law to do so; and usually may fill vacancies under all of the legal conditions that affected original appointments.

[...Omission (one paragraph on the need for men of good character on examining boards)...]

2. Desirability of improvement in the license examinations

In many states the license examinations are notable for high degrees of competency and earnestness. In some, however, they are inadequate or conducted superficially. Because of wide variations, in the standards of qualification for practice, the examinations collectively lack interstate equivalence. In a few states the examinations show partiality for or prejudice against the graduates of certain schools, lack discrimination and reliability, and fail to represent the progressive aspects of dental practice. Determination of what an applicant for a license can do and how well he does it, rather than what he may remember perhaps on the day, should be the primary objects or a license examination in dentistry. It should consist of a broad and direct precautionary enquiry into the candidate's proficiency in the art or oral health-service as already certified by the school from which he graduated, and of his capacity to apply its scientific principles under the variable and complex conditions of actual practice. Written tests should be regarded as incidental in value and subordinated accordingly. The recurrence or particular questions year by year, in the written examinations conducted by some of the boards, has become well known to dental students. Competent examiners can ascertain all that is significant, for a proper rating, through searching tests that include problems of diagnosis and procedure. A candidate who does not have a good working understanding of the principles known to be involved in practical situations cannot pass such an examination; but, even if he *knew* all about dentistry and yet were unable to *do* effectually its essential tasks, the award to him of a license, the board's certificate or proved proficiency and acceptability as a *practitioner*, would be indefensible. The occasional selection of competent teachers to membership in state boards; intimate accord between the boards and the faculties of the better schools, for mutual guidance and to prevent waste of time and effort in duplicate tests; and greater emphasis on determinations of ability to practice dentistry as a thorough integration of arts and sciences – in which the so-called fundamental sciences blend as indistinguishable parts – are among the most obvious means to increase the usefulness of the state boards.

3. Need for the highest type of ability, integrity, and disinterestedness in the membership of the boards of dental examiners

[...Omission (one paragraph urging integrity among board members)...]

Unfortunately, the state boards have not always been selected on this plane. The public functions of the individual members of the state boards have not been given their true evaluation by the dental profession, which has failed seriously to note the indirect consequences of its unconcern for the proper performance of these duties. Many appointments to membership in state boards continue to be purely personal or obviously political. Private desire to protect the interests of poorer schools has developed powerful and selfish concerts in some low-grade selections for state board memberships. It has been widely observed that many examiners do not and cannot appreciate the requirements of modern dental practice. Yet, instead of close attention to the selection of the examiners as the most important representatives of the conscience and public fidelity of the organized dental profession, there has been a general indifference to the conditions and methods of their designation, and a similar disregard for the performance and significance of their functions. Although state board memberships afford special means for altruistic endeavor and for expressions of the finest spirit of a health-service profession, they have been left too often to the devices of those who seek to use them for ignoble purposes. Organized dentistry should insist that the duties of the state boards of dental examiners be taken as seriously and executed as effectually as their importance requires, and that the work of the boards be given commensurate financial support. Appointments to membership should be raised appropriately to the plane of accredited

opportunities for professional distinction in unselfish public service. Dentists everywhere should be alert to the fact that the public official representatives of dentistry, as its personal exponents, formally reflect not only the quality of dental practice, but also the intelligence and character of dentistry as a profession.

[...Omission (two paragraphs on changing conditions in dentistry and opportunity to change boards)...]

b. Desirability of improvement and uniformity in the dental statutes

The force behind the enactment of the earlier dental statutes, when the preceptorial method of training dentists prevailed, was the purpose to improve the quality of dentistry by ultimately restricting its practitioners to *graduates* of dental schools. Subsequently, when commercialism [proprietary schools] degraded the quality of many of the schools, moral leadership in the profession demanded that licenses be issued only to graduates of *reputable* schools. Lately, with the rapid elimination of commercialism from dental education, and the impending extinction of unacceptable dental schools, the prevailing statutory requirement of reputability has lost its original practical importance, for all of the schools will soon be reputable. Inasmuch as some of them may continue to be *poor* in quality, however, the new problem for the states in this relation is that of licensing graduates of *good* schools only, and of requiring applicants for the license to pass examinations commensurate with the instruction in such schools and with the requirements of progressive dentistry. The Association [of dental examiners] may be expected to meet its responsibility in this regard, and to suggest corresponding improvements in the statutes, in the state board procedures, and in the practical relations between the boards and the schools.

[...Omission (one paragraph urging board to be more open in sharing data)...]

c. Need for uniform national examinations as a basis for suitable interstate exchange of licenses

Desirable freedom of opportunity for competent dentists to engage in practice in any state would seem to be most satisfactorily attainable, from the point of view of public welfare as distinguished from the personal convenience of dentists, through the agency of an accessory system of uniform national examinations. This should be conducted on a plane high enough to ensure approval of only such persons as would certainly be able to practice dentistry in accordance with the most advanced legal requirements. License examinations of uniformly high grade, approved by the most exacting state boards, and conducted by a national board of dental examiners in an advisory relationship, preferably under the auspices or with the active cooperation of the National Association of Dental Examiners, would be a reliable foundation for an interstate exchange of an increasing number of qualified practitioners of universal acceptability. A national board of dental examiners might also devise and conduct the most suitable and economic examinations of prospective specialists, who at present may publicly announce themselves as being superior to general practitioners in particular branches of oral health-service without having to demonstrate, to an examining board, the validity of such claims (page 200). The abuses of this privilege have become notorious.

Chapter XII

General View and Conclusions

By William J. Gies

A Report to the Carnegie Foundation for the Advancement of Teaching
Bulletin Number Nineteen, New York, The Carnegie Foundation for the Advancement of Teaching, 1926

The summary to Bulletin Number Nineteen shows that Gies was interested in more than dental education. He presents a vision for dentistry based on better oral health through prevention. The three pillars for this are improvements in practice, education, and research.

[...Omission (three paragraphs on the importance of oral health)...]

b. Failure in prevention of dental disorders

No physical defects are so common in children as those of the teeth. The greatest concern of the dentist in private practice should be the oral health of the largest number of children he might be able to serve. Adequate oral health-service during early childhood may be expected to assure the largest measure of enduring dental health thereafter, yet dentists as a body, with many notable exceptions, have not realized their social and professional obligations to make preventive dentistry for children, by both advisory and operative means, the fundamental purpose of dental practice. Fortunately, however, while dentists awaken to their responsibilities in this regard, oral health-service for children is being gradually extended under public auspices. Although as yet there are comparatively few communities in which public dental work is being done for children, it seems certain, from current demonstrations of the great usefulness of this service, that every well-organized public agency for the supervision of the health of children will soon include "public health dentistry" in its program. The usefulness of the dental hygienist in this field is indicated in Chapter IV; the urgency of oral health-service for children is considered on pages 79 and 84; and the need for operative intervention, in children's teeth, to prevent initiation or extension of decay, is mentioned on page 166 ("prophylactic odontotomy"). But appreciation of the immediate importance and value of direct corrective measures should not be permitted to disguise the causes of unfavorable biological variations in dentition nor to minimize concern about the earliest possible discovery of all of the conditions of normal dental development and of the causes of its perversion, so that true prevention may be ultimately achieved, if it is not inherently unattainable.

Heretofore the practice of dentistry, exclusive of cleansing and extraction, has consisted chiefly of realignment of teeth, arrest of processes of dental decay and repair of the damages, treatment of dental and periodontal infections, replacement of the main parts of lost teeth, and surgical operations on the jaws and oral tissues. All of these procedures are effectual for the maintenance of the dental functions, and each is an important phase of grateful service for the protection, comfort, and contentment of the patient. Although dentistry has been endeavoring, also, to devise ways and means to prevent dental and oral abnormalities, little has been accomplished beyond the improvement of time-honored methods of cleaning teeth; the application of corrective measures to remove infections and defects or to delay the development of disorders; and extension of the common knowledge that teeth and jaw cannot grow normally in embryo or in childhood, and the surrounding tissues cannot be kept healthy after maturity, on a diet that is insufficient to maintain normal general nutrition. The new information on these aspects of oral hygiene has

increased dentistry's ability to postpone the occurrence or to retard the progress of various dental and oral deficiencies, but the goal of true prevention has not been attained, for these maladies frequently occurring in mouths that receive special hygienic and operative attention and in persons whose diet keeps them well nourished.

[... Omission (two additional paragraphs with suggestions for preventative dental practiced)...]

D. MAIN REQUIREMENTS FOR THE IMPROVEMENT OF ORAL HEALTH-SERVICE

a. Practice

The keys to progress in dentistry are the practitioner who serves the patient directly, the teacher who instructs and trains, the practitioner, and the investigator who extends the knowledge on which the teaching and most of the improvements in practice depend.

Lately the number of dentists has been growing more rapidly than the general population but it is far from adequate and the distribution is very irregular (pages 83-87). The organized dental profession, and also the universities and dental schools, are doing practically nothing to promote more uniform distribution. The number of licensed practitioners from foreign countries is very small. Current elevations of educational requirements may decrease the number of graduates during the next few years. The early creation of loan funds for the assistance of dental students would favor continued increase in the number of dentists until the supply fully met the demand. The American College of Dentists is developing a plan intended to promote the public welfare in this manner.

Dental practice has been very progressive in the technical procedures of repair, restoration, and replacement, but has been backward in the biological responsibilities of prevention and therapeutics, which cannot be fully met by dentistry until, based on an adequate system of education that will also support and stimulate the best teaching and research, it becomes the full service equivalent of an oral specialty of the practice of medicine. In attaining its remarkable mechanical and esthetic successes, dentistry developed aptitudes and interests which, by focusing concern primarily upon procedures of reparation, distracted attention from its greatest opportunities in health service. The average dental practitioner, having had a poor education in the integration of the medical sciences with clinical dentistry, finds it difficult to apply them in his practice, and to keep himself informed as to the main features of their growth and further correlation. Few dentists have had the type of education that develops capacity and inclination for the serious and continual study of scientific literature, which the progressive practice of a profession requires. As a consequence many use antiquated methods of practice, or they uncritically or casually adopt new procedures that appeal empirically, or have nothing to commend them beyond persuasive demonstrations by salesmen or plausible advertisements by manufacturers. In accordance with these evidences of lack of the true professional spirit or of the understanding that a liberal education begets, a large number of dental practitioners use various patented therapeutic products regarding the true nature and properties of which they know little or nothing, and to this extent practice superficially and unprofessionally. The *Journal of the American Dental Association*, which represents the organized dental profession in the United States, has been helping to maintain these conditions by publishing advertisements of such products.

In discussing the prevailing critical attitude of medicine toward dentistry, physicians whose judgment is accorded universal respect often justify their want of confidence in individual dentists, and in certain relationships of organized dentistry, by pointing out not only that dental practitioners freely use patented therapeutic products of doubtful value, but also permit manufacturers to finance many professional projects; make important meetings of

practitioners adjuncts to commercial exhibits; encourage the continuance of a system of supply-house journalism that is so obviously mercenary that sometimes its issues cannot be distributed in the mails at the reduced postal rates accorded to professional literature; elect to positions of honor, in professional organizations, beneficiaries of the sale of patented therapeutic products, stockholders of proprietary dental schools, editors of "house organs," and other industrial emissaries; and in sundry ways seem to proclaim unabashed that they regard dentistry as a trade and a business rather than as a profession. So long as large numbers of dentists show such partialities or indifference to commercialism in their professional affairs, it will be impossible for medicine and dentistry to attain that accord and cooperation which the highest development of oral health-service requires, and which must be based on the mutual respect of the main bodies of their practitioners. Fortunately, among dentists themselves strong discontent with mercenary domination of organized dentistry is growing apace; and the prospective elevation of dental education to a plane of equality with that of medicine, with its collateral tendencies to reduce the proportion of the professionally unfit, to heighten the self-respect of the practitioner, and to stimulate the growth of ideals of service, promises an early end of the commercial regime.

Although these deficiencies of dental practice retard its evolution, and despite the fact that dentistry has not yet attained marked success in prevention or in the application of the medical sciences, it is true, nevertheless, that for many years dentists have systematically encouraged their patients to submit to periodic precautionary examinations for the diagnosis and treatment of dental disorders in their incipiency, and for the application of direct measures of oral hygiene. The importance of this procedure for children, in whom, most dental abnormalities and diseases may be arrested, cured, or corrected, cannot be overestimated. These efforts by the dental practitioner, to discover promptly the incidence of oral maladies and to prevent their extension in his patients individually, exemplifies an ideal of health service – to keep people well – which has not yet appealed strongly to the average practitioner of medicine, who, manifesting little concern about prevention of illness among his private patients, seldom gives them personal advisory health-service when they are not sick. This notable difference between the direct efforts of dentists and physicians, in which dentists have set a useful example by endeavoring to convert a passive aspect of health service into an active phase, suggests an opportunity for marked improvement of medical practice in harmony with the popular expectations that are being developed by progressive public education for the conservation of health, in which lay agencies and medicine, dentistry, and nursing are actively participating.

The frequency of the periodic examinations gives dentists exceptional opportunity to note early signs of many types of illness outside of the domain of dentistry, and by advisory health-service to help their sick patients promptly to obtain suitable medical attention. This situation, in which the dentist might more actively cooperate with physicians for the welfare of his patients, emphasizes the desirability of improvement in the instruction of dental students in the medical sciences and in the correlations between clinical dentistry and clinical medicine.

Dental practice relates inherently and intimately to the individual patient, and, with occasional exceptions, can be conducted entirely in the office of the dentist, requiring neither visits to the home of the patient, nor treatment in a hospital or dispensary. This condition accentuates the importance of the clinical practice in the infirmary of the dental school, where the conditions of the student's chair-side experience closely approximate those of his prospective private practice, which is rarely the case for the medical student in the medical school or in the hospital. In a general way the efforts of public-health officers and various other agencies, lay and professional including dentistry, to prevent dental diseases, are analogous to similar activity for the control of communicable diseases, although thus far they have had little effect on the quality of dental practice. The psychological features of oral health-

service, especially in the treatment of children, and also the social and economic relationships – and their sympathetic comprehension by the practitioner – have not been receiving the attention in dental schools they require, but a broader preparatory education will facilitate their more effective development.

b. Education

The proper training of the practitioner is a matter of prime importance. That he should be an educated man, with a background of culture and refinement, is quite as essential for the dentist as for the physician. That his professional training should give him a true medical comprehension of his duties, as well as mechanical facility and esthetic felicity in the execution of his procedures, is equally obvious. In educational quality and influence, dental schools should equal medical schools, for their responsibilities are similar and their tasks are analogous. The dental graduate should be the peer of the medical graduate in all important personal attributes, and in professional capability. Dental faculties should show the need in medical schools for integrated instruction in the general principles of clinical dentistry and in its correlations with clinical medicine, and should also cooperate in teaching stomatology to medical students and in conducting effectual dental service in the hospitals and dispensaries. Proprietary dental schools are about to become extinct, and non-proprietary independent dental schools are no longer able to meet the most important educational obligations resting upon them. The early union of these schools with universities, or their discontinuance, is clearly foreshadowed.

Everywhere education is chiefly what the teacher makes it. The most important immediate need in all of the dental schools is a much larger proportion of able and inspiring whole-time teachers, who, devoting their lives to teaching as a profession, by their character and example would exalt the spirit of dentistry, by their conduct of the instruction would heighten the quality of oral health-service, by their research would steadily extend the boundaries of dental knowledge, and by their scholarship would give to dentistry and to dental education the intellectual distinction now lacking in each. All desirable early improvements in dental education would follow their advent. In order to strengthen dental education at the point of its greatest weakness, funds sufficient to enable the schools to pay adequate salaries must be provided, and suitable means must be devised for the selection and training of the most competent prospective teachers and investigators. Fellowships and special funds are needed to encourage and support advanced study and research by the most promising candidates for whole-time teaching positions.

c. Research

Most of the research in dentistry has been conducted under commercial influences, and relatively little has been attempted in dental schools or universities. Large sums have been expended on the invention and improvement of valuable dental goods, but practically no funds have been forthcoming for the promotion of research relating to the welfare of the teeth and mouth and to the health of the whole person as it is affected by oral conditions. Compared with the activity in original investigation in medical schools, research in dental schools is weak and uninspired. The secrets of the means for the prevention of dental and oral abnormalities may remain hidden indefinitely unless dental schools actively institute a search for them, and find the minds and obtain the resources with which to promote adequate investigation. Many of the universities have been indifferent to this situation because dental faculties, interested chiefly in private practice, have failed to show the urgency of biological research for the promotion of dentistry.

The spirit of enquiry should animate the teaching of dentistry, and should be exemplified in the service of the practitioner; but, as a rule, fundamental research can be conducted with success only by those who are fitted by nature and by training to advance it, and whose abil-

ities have been matured under the guidance of competent teachers. Worthy motives, ardent desires, keen aspiration to serve, and ready imagination, are not sufficient resources for the conduct of an important investigation. Without logical plans, accurate methods, careful controls, balanced observations, patient repetitions, rigorous skepticism, intellectual integrity and independence, and judicial discrimination and decision, research becomes a make-believe of unwarranted inferences and unsupported speculations, however attractively or persuasively it may be dressed up. The prevailing uncritical acceptance of the pretensions of such research in dentistry will come to an end when dentists receive the kind of education that will fortify their minds against it, and that will enable them to form a reasonably sound judgment as to the quality of any published research on a dental subject.

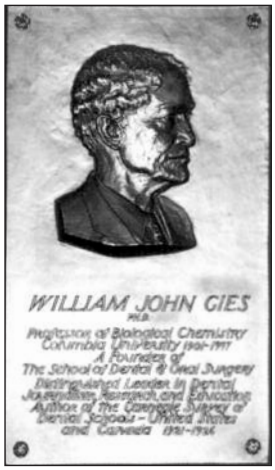
E. PUBLIC RESPONSIBILITY FOR FURTHER DEVELOPMENT OF DENTISTRY

In some states and provinces in North America public resources are used to provide dental service and to promote the education of practitioners, but most communities leave to individuals or to institutions the opportunity and the obligation to advance dentistry, which heretofore has been promoted mainly with funds supplied by dentists themselves or taken from profits in commercial dental enterprises. The public, the main beneficiary, has given little attention to the possibilities of improved oral health-service, and does not seem to realize that the universities are greatly in need of permanent resources for the furtherance of dental research. It is essential that the development of dentistry be projected through far-reaching enquiry in the field of prevention, yet important progress will be impossible without adequate financial support. The opportunities for disinterested public service through the furtherance of dentistry, for the betterment of the health of individuals and communities, are exceptional.

Response to Tribute

By William J. Gies
Columbia University, New York City, 1937

On July 11, 1937, the American College of Dentists hosted a banquet in Atlantic City in honor of Gies. A full description and copies of the remarks are found in the last number of the *Journal of the American College of Dentists* for that year. Dr. Gies's acknowledgement of the numerous testimonials appears here.



Mrs. Gies and her youthful husband, and our sons and daughter, are deeply appreciative of your extraordinary generosity and are overwhelmed by your very great kindness. The moving addresses and the many other happy events of this notable occasion, and the great size this cordial assembly under the extreme physical discomfort of one of the warmest days of the summer [90 degrees, plus], has so strained my emotions that, like Mrs. Gies, I am almost speechless – a condition that many friends here tonight will agree they have never noticed in me before. If I were to take from a dictionary in any language all words that express delighted appreciation, it would be impossible with them, to convey the depth and breadth of our gratitude for what the events of this evening will mean to us throughout the rest of our days. If you planned to make this testimonial a treasure of happy memories in old age, you succeeded far beyond all your calculations. Adding to Mrs. Gies' response an acknowledgment also of my great pride in your presentations to me, it is certain that the spiritual values and the personal recollections radiating from the scroll, from the books of letters and signatures, and from the felicitations, resolutions, and congratulations, will be an undiminishing fund of joy – for us and for generations in the Gies family. The brilliant vision of this great company, and the many individual expressions of good-will as we assembled, are also unforgettable features of a very happy day. I thank you earnestly, gratefully, heartily.

[...Omission (one paragraph saying he had prepared a lengthy speech but thought better of giving it in light of its being 11:30 at night)...]

In the spring of 1909, when my attention was first directed to dental matters, I was 37 years old. Mrs. Gies and I were married ten years before – it didn't seem that long. As my story opens, the youngest of our three sons had arrived on May 1. I was then very strenuously at work in a number of professional activities, among which were these: *(a)* Biochemical instruction and research in the School of Medicine and Pharmacy, and in the Department of Zoology, Columbia University; also at the New York Botanical Garden; *(b)* preparations for the opening of a laboratory and the beginning courses in physiological chemistry, in the succeeding September, New York Teachers College; and *(c)* the duties of Secretary of the American Society of Biological Chemists and also of the Society of Experimental Biology and Medicine, of each of which I had been one of the active founders, and both of which were then, as they are now among the leading societies in the so-called medical sciences. Although engaged in this public work, which illustrates my professional relationships during the preceding eleven years of my service at Columbia, I knew personally only two dentists in New York – and only as a patient. Although my researches included some attention to saliva and connective tissues, I regarded these studies as contributions to general physiology, and their dental relationships were eclipsed by others of closer interest. Thus ten years earlier, my old friend, Dr. William D. Cutter, upon whom honorary fellowship in the American College of Dentists was conferred tonight, was an assistant in our biochemical laboratory at Columbia. During the period of our association there, he and I conducted a biochemical study of white-fibrous connective-tissue as typified by tendon. Our findings, published by us jointly

in 1901 in the *American Journal of Physiology*, remain today the accepted results for general composition of this tissue. I am certain that Dr. Cutter agrees with my recollection that, in full accord with conditions then prevailing in "scientific medicine," we gave no thought whatever to the white-fibrous connective-tissue of teeth. My professional career was begun in 1894, at Yale University, but before 1909 I never examined a dental journal, nor attended a dental meeting, nor entered a dental school. Nothing had occurred to interest any of my colleagues, or me, in dental science, or in dental education, or in any other dental affairs. We knew no dentist who was a member of any scientific society or non-dental educational group. In making these admissions I feel impelled to say, also, that my ignorance of and indifference to dental matters were not then unusual but, instead, are typical illustrations of conditions as they existed generally, not only in a university in New York City but elsewhere.

Note the general import of what has just been stated. Twenty-eight years ago, as the official head of the large and active Biochemical Department of Columbia University, I was intimately associated with leaders in professional education, also in the "medical" sciences and in medicine, in New York City and in the United States and Canada. I had been occupying positions of trust and responsibility in various scientific and professional organizations, and had the same opportunity to become acquainted with the minds and hearts of useful men in these various spheres of activity as, since then, I have had in dentistry and among dentists. As a layman I then, and since have, enjoyed exceptional opportunities to see clearly what was going on in professional education, in the "medical" sciences, and in medicine. Yet these advantages in association and experience gave me, during fifteen years before 1909, no attractive scientific or educational impressions of dentistry. If I were not aiming to exhibit a situation that, even today, is full of suggestiveness for the future of dentistry, I should be unwilling to make these admissions.

What were the reasons for the prevailing indifference to dentistry in scientific, educational, and medical circles in 1909? Among the reasons were these: *(a)* Dentistry was generally regarded as an occupation that was more trade than profession. *(b)* It was provincial in its tendencies and relationships, and did not induce its practitioners to participate actively in public affairs. *(c)* Its science, chiefly that of prosthetic mechanics, had exerted little influence beyond the useful applications. *(d)* Its growth in professional quality had been greatly retarded by a system of journalism that was predominantly non-professional, under editorial leadership that was commercial and selfish. *(e)* Its educational system was mainly proprietary, chiefly technological, and weakly biological. Other reasons might be mentioned, but these are sufficient for our present purpose.

In the spring of 1909, while blissfully indifferent to matters relating to dentistry, as I have just indicated, and while closely attentive to the duties and opportunities previously outlined, I received a letter from Dr. J. Morgan Howe, a New York dentist, chairman of the then existing New York Stomatological Institute – of which Dr. Merritt, who addressed you a few minutes ago was a member. Prior to the arrival of Dr. Howe's letter the only communications I had ever received from dentists were proper bills for professional services rendered. Dr. Howe's letter, which was accompanied by a note of introduction of Dr. Howe from one of my Boston biochemical colleagues, requested an appointment to confer about prospective salivary research. Every such request, by a bearer of an introduction from a biochemical colleague, received a polite personal response. A conference with Dr. Howe followed in my office at the Medical School. When Dr. Howe indicated that the proposed salivary research was intended to discover correlations, if any, between salivary composition and dental conditions, I told him I was not the man he was looking for; that I did not know anything about any teeth excepting my own, and very little about them – so little, in fact, that it was not enough to prevent my recurrent visits to a dentist. Although Dr. Howe was much older then than I am now, he manifested a spirit that was so youthful, ardent, and altruistic – and he exhibited so persuasively the mental qualities of a zealous searcher for truth – that I felt I was

conferring with a man I had known for many years; and before we closed our conference I agreed to proceed with the proposed research, in cooperation with him and Dr. Merritt and their colleagues, despite my fear that they would be disappointed and I should get nowhere in the effort.

Shortly thereafter, to decide where the proposed research should be begun and what lines should be followed, I had the pleasure of meeting Drs. Howe and Merritt and their associates of the committee. I was impressed by the fact that they looked like physicians and behaved like physicians. In their discussion of the need for research on the prevention of dental caries, they were just as much in the dark as physicians were then and are now on, say, the cause of cancer. And I, the reputed expert in a so-called medical science, like my colleagues in medical faculties, knew less than they did about the biochemistry of "saliva and the teeth." I began dental research by learning from them. As I proceeded with the ensuing researches, I soon became conscience-smitten by the fact that not only had most physicians been ignoring dental conditions, but also in the medical schools the teachers of the so-called medical sciences, myself among them, had been overlooking or disregarding the teeth. This strikingly negative situation – with its prejudices and injustices – clearly represented a serious public detriment. From the day of that realization to this, I have had an increasing purpose, in serving the public welfare, to promote the advancement of dentistry.

Before beginning the projected dental researches in cooperation with the committee of which Drs. Howe and Merritt were members, I gave special attention, of course, to the related literature. In the ensuing review of previous publications, I soon learned that knowledge in the part of the dental field I had entered was slight, discordant, and unreliable; that the records of related data in scientific or medical sources were few and uncertain; that dental faculties generally had been inactive in research, especially in its biological aspects; that dental periodical literature was chiefly a trade-house system of dental sales promotion; and that the dental journal that was then notably expressing the professional self-respect of dentistry was the one established three years previously by a group of which Drs. Howe and Merritt were members. These observations at the start, which in the main were very disconcerting, aroused a very strong professional sympathy for my new friends in dentistry; emphasized my distressing realization of the serious negligence to which scientific and medical men had been subjecting dentistry; opened my eyes to the consequences in public disservice; increased rather than diminished my sense of personal responsibility; and induced me to endeavor to bring about correction of a deplorable situation. Questions of personal advantage were not permitted to dominate. I had been regarding my salary, as a teacher, as a retainer not only for biochemical teaching and research but also for other public service. I reacted in that spirit, and proceeded.

During the decade from 1909 to 1919, my attention shifted into increasing activity in the dental field, the old research interests gradually becoming minor to the new responsibilities. Dental practice, as I was then idealizing it, was an *important means to keep people well*; and, in the public interest, dental science and dental art plainly merited special consideration and development because of their obvious relation to *health* conservation. As for the importance of the relation of dentistry to *health* conservation, I declined to accept the derogatory comment of prejudiced physicians, or the unprofessional example of uninspired dentists, or the signs of indifference and ignorance of scientific colleagues. Thoughts of what dental service should, could, and would be, in the public interest, provided the constructive forces in my attention and efforts. Despite the handicap of lack of dental knowledge and experience, I endeavored to see clearly and to understand the chief professional and scientific problems in dentistry. This decade was a period of bewilderment and orientation, and also of development of my scientific respect for the dental domain. Much time and earnest effort were spent in numerous researches in many dental relationships. These studies were scouting expeditions, to ascertain the lay of the land in different directions. Problem after problem,

presumably simple and open to direct solution – in chemical composition, physiological secretion, bacteriological condition, diet and nutrition, glandular coordination, etc., as affecting the mouth and teeth and their systemic correlations – was seen, through the results of experiment, to be far more complex and difficult than anyone appeared to realize. In these excursions to get my bearings, various current delusions, such as the assumed relation of sulphocyanate to the prevention of dental decay – then engaging wide attention among dentists – were studied and dissected by experimental research, and the findings published in many papers. In such work as histological correlations, cooperation from medical colleagues – all of them then indifferent to dental projects – could not be obtained without undesirable coercion. Private suggestions that various biological researches be conducted at different dental schools brought replies to the effect that neither inclinations, facilities, nor abilities were available. Active workers in dental research were very few and far between. G. V. Black was then the most active and successful. In that decade, the creation of the Commission on Research of the American Dental Association had begun to awaken interest among dental practitioners in support for dental research.

My diversified dental experiences during the decade ending in 1919 assured me that the research problems in dentistry were unique, in part because of the relative slowness of the processes of change within the hard tissues of teeth; that problems in dental physiology and pathology were not only particularly difficult but also surprisingly multitudinous and complex; and that the solution of these problems would probably require many years of earnest clinical and experimental efforts, by an army of workers of increasing understanding and competence. These findings also convinced me that, having learned these realities in this arduous way, I had thereby acquired the very serious personal and professional obligations not to run away from them but to help dutifully and earnestly to initiate movements that would increase general understanding of dental and oral problems, and ultimately achieve their solution. In the ensuing efforts cumulatively to strengthen the professional spirit, and the scientific and educational foundations, of dentistry – and to advance the usefulness and promote public appreciation of dental service – special agencies within the sphere of my professional training and experience were initiated, among which were these: *(a)* A journal without advertisements devoted to dental research; publication started in 1919. *(b)* An international association of workers in dental science; founded in 1920. *(c)* A study of dental education in the United States and Canada and, through it, of the function, scope, and interprofessional relationships of dental practice and the dental profession; begun in 1921. The succeeding endeavors, in full accord with the aspirations and hopes of the best dentists everywhere, were given hearty encouragement and earnest support not only by the dentists with whom I had been associated in New York, but also by an increasing number of dentists and scientific and medical colleagues throughout the country. *Before long I realized that I was merely arousing a vigorous professional spirit that had been only dormant in dentistry.*

The Journal of Dental Research was created not only to provide for dentistry a journal devoted to research but also, by excluding supply-house relationships and commercial advertisements, to demonstrate issue by issue that the dental profession would support, and derive benefit from, a scientific journal that was not dependent upon either trade leadership or trade gratuities. The history of the *Journal of Dental Research* is an index of the growth of idealism and professional quality in dentistry. The *International Association for Dental Research*, now in its seventeenth year, has 439 members in 29 sections, of which 329 are members in 20 U. S. sections, respectively. The Association's growth and proceedings register the steadily increasing activity and rising achievement in dental science. During the *Carnegie Foundation's study of dental education* I was privileged to visit every dental school in the U. S. and Canada, in the academic year 1921-22; some were visited several times during the next four years. There were then two vigorously antagonistic associations of dental faculties and also an institute of dental teachers. Many of the schools were proprietary

institutions. The purposes shown and the methods used, in the study, developed an era of cooperation and discussion that paved the way for constructive developments. Leadership in dental education then soon proceeded from depressions of partisanship to elevations of scholarship. Many important events in dentistry since 1921 have been fruits of the projected and stimulated general reexamination; and dental education, no longer a field for proprietary exploitation, has become a continuing process of active study, experimentation, and development under the guidance of the dental profession and the auspices of universities.

This general review has been purposely restricted to events and conditions that were initiated, or which occurred in the main, before 1923. A quotation from comment by me in a debate, in New York six years ago, will indicate, however, that the earlier impressions were not diminishing in 1931:

"I desire now to make a public declaration of faith. Having had abundant opportunity to serve contentedly in the profession for which I had been educated, with a reasonable prospect of having an enlarging share in the satisfactions of increasing usefulness in that field, I gradually though willingly surrendered my place and relationships in order to give my best endeavors to the advancement of dental practice and to the promotion of the dignity, the self-respect, and the usefulness of dentistry, which now constitute the chief aims of my remaining years. I was deeply impressed by the idealism of the men in this city who, having asked me to cooperate in research, introduced me to the important possibilities in your profession. I have been completely persuaded, by my own observations, that dentistry as a separately organized profession is rapidly evolving toward all that it should become, but that it needs much disinterested cooperation. I have given cheerfully of my own because of the virtues I see in dentistry. In the estimation of many friends this has involved severe and unusual sacrifices for me personally. But if that is so, I have made them deliberately and proudly, and with great confidence that dentistry, as a separately organized profession, will continue to grow toward its greatest possible value as an important natural division of health service. With great respect for those who conduct the actual work of practice in health service, with due recognition of the earnestness of all concerned, and aware that deficiencies are inevitable in even the ablest and most faithful persons in every walk of life, I believe it may be said with truth that today the average dentist does not make any more mistakes in judgment or in skill than the average physician. No profession in the health-service field has given so much attention as dentistry to the prevention of disease in the individual patient. At no time in the history of this country has dentistry stood deservedly higher in the confidence and esteem of the public than it does today. No other profession is now making a more earnest effort to meet all of its professional responsibilities – to overcome obvious infirmities, which are common to all professions (pp. 404-5).... The dental profession has abundant cause to congratulate itself that *the soul of dentistry goes marching on* (p. 422)." *Journal of Dental Research, 1931*, 11.

This rapid review has indicated, in general terms, what I set out to do – to show how an indifferent layman was converted into an interested and appreciative cooperator in dentistry. I carried the review only far enough to answer that question. Preceding speakers have given special and very complimentary attention to consequences. I may now suitably ask before concluding: Where do we stand today? What of tomorrow? What are the main conclusions of 28 years of effort to cooperate with many earnest dental colleagues in endeavors to make dentistry better, more useful, more highly appreciated? Speaking as a layman, thinking chiefly of the greatest good for the greatest number, and rejecting all bias other than earnest desire to serve the public, the many units in the foundation of my faith in the future of your profession include those that follow:

Dentistry is a natural division of *health-service*.

It will be continued, and grow, as a separately organized profession.

It will, by preference and accommodation, be closely coordinated, in practical phases, with all other health-service professions.

It will be neither ruled nor coerced by any other profession, and its natural domain will be amply protected against invasion or partition.

It will be made the full service-equivalent of the best possible oral specialty of medical practice.

Its status in universities, both professionally and educationally, will be determined by public needs, and by dentistry's requirements for intellectual and professional growth, not by conveniences of university administration.

Its journalism – an important agency in graduate professional education – will represent professional integrity, fidelity, and responsibility, and will merit public respect as truly professional both in character and in function.

It will actively advance clinical observation and research, to provide adequate new knowledge for steady progress in all its professional relationships.

It will focus its most intensive attention upon the dental welfare of *children*.

It will aggressively seek to perfect, and universally to apply, its measures to *prevent* dental diseases and their sequelae, and thus to promote dental public-health.

It will plan and endeavor to bring to all the people the benefits of ample oral health-care. As a humanitarian profession, it will help perfect economic procedures for the benefit of all persons who cannot, or who without aid could not, pay for needed oral health-service. It will, by action and guidance, achieve these constructive results as a welcome professional *opportunity* to serve the public, rather than as a *task* in political servitude.

Perhaps the main doubts in the minds of many, as affecting future relationships of dentistry, are concentrated in this question: *Should dentistry be made a specialty of medical practice?* I feel that the answer to this question, in the public interest, is No. Dentistry, continued in its own adapted system of education, will be made, instead, the full *service-equivalent* of the best possible oral specialty of medical practice.

[...Omission (three paragraphs of self quotes on previous topics)...]

Dentistry has the quality of a noble profession. It has high ideals, important duties, special opportunities. It has identity, personality, self-respect, responsibility, solidarity, continuity – soul. Unfortunately, within dentistry's ranks, as in those of all other professions, there are some who lack true professional quality; but, like deficient cells in a healthy organism having active powers of replacement and repair, their number is rapidly diminishing and their influence is steadily decreasing. To all dentists I make this direct appeal: follow impulses and leaderships that represent ideals; that point the way to your professional destiny; that express integrity, fidelity, service, and lofty purposes – the finest that is in you individually and professionally.

You are doing me the very great honor to applaud my endeavors in the field of dentistry. But in reality you are paying tribute to the spiritual influences that attracted me into, and have sustained, these efforts thus to promote the public welfare. *I have been merely interpreting the spirit, and urging attainment, of your own best aspirations.*

It was the soul of your profession – the heart of your professional service – that beckoned me to enlist in the cause of dental advancement. I have been happy in responding to that spiritual call. After you forget everything else I have ever said, I hope these last words tonight will linger in your memories: *The soul of dentistry is marching on. Keep on going with it!*

Dental Autonomy: A Policy of Isolation

By William J. Gies, Ph.D.
New York City, 1942

In a 1941 issue of the *Journal of the American Dental Association*, V. H. Kazanjian described the "Harvard Plan" for dental education, which included admission to dental school on the same basis of prerequisites and the first half of dental education in common with the medical school. Gies wrote a review of that paper which appeared a year later in the *Journal of the American College of Dentists*.

A recent paper bearing the above title endorses the new dental program at Harvard University as a step toward termination of the autonomy of the dental profession. The author of the said paper bases his statements on the concepts that "*autonomy* and *isolation* are *synonymous*" (p. 1671), and that "*cooperation* is essential and autonomy is impractical" (p. 1672). There are no definitions in the said paper, but the above italicized words have these accepted meanings: "*Autonomy*: – the power or right of a nation, community, profession, association, etc., to make its own laws, regulations, rules, etc., and to elect its own officials for its self-government. "*Isolation*" – the act, or state, of being detached from others of a like kind; placed alone. "*Synonymous*" terms – equivalent in meaning; express the same ideas. "*Cooperation*" – the act of two or more persons or groups, etc., working together to one end or for a certain purpose, *without loss of individuality or identity in so doing*.

The author of the said paper seems to have intended to say in effect that the dental profession, by its autonomy, has been isolated and in this impractical position is unable to cooperate, cooperation being essential. If these premises and this conclusion were sound, it would be equally true to say that the medical profession, by its autonomy, has been isolated and in this impractical position is unable to cooperate, cooperation being essential. But that would be an obvious absurdity, equivalent to saying that the medical profession has been isolated from – to illustrate – the professions of zoology and chemistry, and on that account cannot cooperate with zoologists or chemists for the application of either zoological or chemical science in medicine. In other fields this absurdity is also self-evident. Thus, the autonomy of Britain and of the United States does not restrict either of them to impractical conditions that prevent their active cooperation. In their autonomy and isolation they are now closely associated, and voluntarily cooperating very effectually, in accord with their highest independent national interests. Would their cooperation be more effective if their autonomy (isolation) were terminated by their union? But can any country or any profession cooperate with itself? The writer of the said article seems to assume that the kind of cooperation that commonly occurs between a cat and a canary, when the cat terminates the canary's autonomy (isolation), is the kind of cooperation that will be promoted *within the Medical School* at Harvard by the new "pioneer" dental program at that University.

The latter deduction may need qualification, however, because the reader cannot be confident that the writer of the said paper means all of the contradictory things he states. The reader's predicament is illustrated by the following quotations, arranged in groups A and B (italic not in Kazanjian):

A. (1) "Much of its [dentistry's] *progress* as a profession has been independent of *outside* influences, and its efforts have been *exceptionally* creative of means to meet its own problems" (p. 1671).

(2) "It would be wise for dentistry to remember that it has *earned an identity* which it is prepared to *defend* should the occasion arise" (p. 1671).

(3) [Dentistry] "merits an *independence* of thought and action, and as an entity *could not be absorbed by medicine*, even if either dentistry or medicine so desired" (p. 1671).

(4) [Dentistry's] "modern *progress*, crystallized into really *noteworthy accomplishments*, started late in the nineteenth century, and has continued without interruption" (p. 1672).

(5) "Dentistry has amply *earned* its place in the *professional sun*" (p. 1672).

(6) "Dentistry has largely *risen above* its early failures, and has carved out of the rocks of [medical] opposition an *honorable standing* in the educational fields" (p. 1673).

(7) "Dentistry is far *too strong to be absorbed* by any other profession, and this *very strength guarantees* its position in the future" (p. 1673).

B. (8) "With neither profession advocating such a policy [absorption of dentistry into medicine], both should realize – and dentistry in particular – that *autonomy and isolation are synonymous* and *selfish* in thought as well as *impractical* in the long run" (p. 1671).

(9) "The Harvard School [of Dental Medicine] will endeavor to train specially qualified young men for broad opportunities in dental medicine, and this *cannot be accomplished by isolation*" (p. 1671).

(10) "Harvard is upholding its belief that *cooperation* is essential and that *autonomy* [for dentistry] is *impractical*" (p. 1671).

(11) "The prospect [for the dental profession] is for *union* [with the medical profession] and not for *submergence or absorption*. ...[but] for a *unified government*" (p. 1673).

The last quotation serves conveniently as a basis for further direct discussion. What, in the light of the foregoing quotations, is meant by "union?" If "submergence or absorption" is not "the prospect" in a "union" of the dental profession with the medical profession, what other relation is implied by the proposed "unified government?" How would the dental profession, after the proposed "union," "defend" the "identity" which the dental profession has "earned?" (quotation 2, above).

In the said paper "dentistry" and "dental profession" are used interchangeably without due regard for the distinction between them, and with consequent confusion. It seems obvious that there can be neither autonomy nor isolation for the *knowledge* of any science or art. It is also self-evident that no *knowledge* of any science or art can cooperate with any other knowledge. Therefore it follows that the author of the said paper used "autonomy," "isolation," and "cooperation" to refer to the dental *profession* (persons), not to dentistry as a science or art. But this again requires qualification, because in the said paper there are such allusions as this:

"A complete review of the [dental] curriculum...would but add proof that isolation is vanishing and that it would even require a struggle to maintain it" (p. 1671).

Does the author of this quoted statement mean that the "isolation" of dental knowledge is "vanishing"; or that professional requirements in medical and dental schools are becoming identical; or that dental students are being taught to yield, when they become dentists, the "earned" professional "identity" which "it would even require a struggle to maintain" and which the dental profession is said (quotation 2, above) to be "prepared to defend should the occasion arise?"

The uncertain import of much in the said paper is further illustrated by the following quotations (A-F), to which are appended comment by the present writer:

(A) "The increasing attention to the cultural and scientific background of the dental student as expressed in the dental school entrance requirements is but a tacit confession that broader fields lie ahead" (p. 1671).

This statement does not indicate that its author understands that if, for the word "dental" in the two places in which it occurs, he had substituted "medical," "law," "engineering," or any other indicating a professional group, his statement would have been equally applicable to any profession as progressive as dentistry (see quotations 1, 4,5, and 6 above).

(B) "The doors of medicine, dentistry, and all sciences must be thrown open in equipping the student to meet his responsibility to society" (pp. 1671-2).

Where in the United States have "the doors" been closed to any student competent to pass through them? Will the new dental program at Harvard open any closed "doors" at that University?

(C) "The techniques of cooperative scholarship are continually discovering new areas for exploration between the old boundaries" – quoted approvingly twice, in the said paper, from an article by MacLeish (p. 1673).

MacLeish referred to new areas for exploration between the old boundaries – not to removal of "old boundaries" – the exploration to be done "by *experts* in *different fields* to work *together*" on problems common to them all, without loss of their professional identities and interests. He referred to "cooperation" between representatives of "autonomous" and "isolated" groups, the new acquisitions in knowledge to be available to each group. MacLeish also evidently used the word "expert" in its accustomed sense – a person skilled or thoroughly informed in any *particular department* of knowledge or art, such as dentistry, medicine, economics, psychology, etc. His comment does not support the idea that cooperative scholarship could be achieved more effectively within the scope of any two professions by uniting them, or converting all professions into one. MacLeish did not intimate that – with the rapid extension of knowledge in all directions, and the concomitant multiplication of details and increasing need for precision in their use – the "different fields" of knowledge *(each more than any mind can master)* should be delimited, specialization discontinued, and professions combined. He did not suggest that the growth of a tree would be promoted, if a way were found to keep the branches in the trunk and the trunk in the roots.

(D) "The [dental] profession has become vulnerable; for self-sufficiency blurs the possibility of cooperation, while domination stifles initiative and independent thought" (p. 1671).

In what sense may "self-sufficiency" be ascribed to the dental profession that does not apply in the same degree to any of the many professions in the whole range from astronomical to zoological? Is not the existence of the various professions based upon the principle that separate organization assures intensive and sustained attention to objectives, interests, or causes that would not be effectively furthered without such special collective effort? The author, in this quoted use of "self-sufficiency," evidently made another inadvertent choice of terms and also disregarded the many current evidences of the desire, readiness, and ability of the dental profession to cooperate in all aspects of health care in which dental science and art may be of service. The word "domination" suggests that, when the author used it, he confused "dental profession" with "medical profession."

(E) Conditions imposed by the medical profession "during the second and third decades of this century" – mass extractions [having been terminated by]..."a union of thinking minds," [now there can] "be a [medical and dental] union of objectives, as well as of thought. ...In truth, dentistry has been admitted to the company of educated men" (p. 1673).

Were not the adverse "conditions imposed by the medical profession during the second and third decades of this century" forced upon dentistry by "thinking minds" that were in "the company of educated men?" Has the traditional medical indifference to dental health-

care been abated? Was not the dental profession "admitted to the company of educated men" many years ago, as in 1867, when, according to the said author, "the first dental school connected with a university" was founded at Harvard University? Harvard had been so eager through so many years to perpetuate the claim for this distinction that its representatives customarily ignored the fact that "the first dental school connected with a university" was founded – seventeen years earlier – in 1850, in Transylvania University, a "company of educated men" in Lexington, Ky.

(F) "Harvard...undertakes this plan [School of Dental Medicine] with *no idea of being universally followed*" (p. 1672).

If this quoted statement is true, why did its author devote his paper chiefly to advocacy of the establishment of "union" and "unified government," and concomitant discontinuance of "autonomy" and "isolation," etc., instead of restricting the said paper to a discussion of the virtues of the new dental program at Harvard as such? There was no indication in his paper that any statement therein was made by approval or authorization of Harvard University. Therefore this question arises: When and where did a representative of Harvard announce officially that the University, in its new dental program, is not enacting the following formal declaration, in a Harvard publication, by the present Dean of the Harvard Medical School, who was chairman of the Committee that formulated the new dental program, and now is also Chairman of the Committee on Instruction of the Harvard School of Dental Medicine *within the Medical School*?

"Harvard University realizes both the need and the opportunity to establish dentistry as an integral branch of medicine....This kind of a dental school must develop as a part of the ...medical school." (*Harvard Dental Record*, 1937, July 26, pp. 3–4).

The Harvard Dental School evidently stood in the way of attainment of this definitely stated "pioneer" objective; the Harvard School of Dental Medicine has obviously been created to "lead the way to it."

The author of the said paper does not present any opinions or evidence that would answer pertinent related questions such as those that follow (a-f):

(a) If "the prospect is for union (of the dental and medical professions), not for submergence or absorption" [of the dental profession in the medical], why was the Harvard Dental School discontinued, and the Harvard School of Dental Medicine created – *within the Harvard Medical Schoo*l – to succeed it?

(b) If "the prospect is...for a unified government" [of the dental and medical professions], how would this government be organized without "submergence or absorption" of the dental profession in the medical?

(c) Has any other pair of professions been "united" without submergence or absorption of one in the other?

(d) Since none of the science or art upon which a profession is founded is the exclusive possession of that profession, why have not the faculties of the Dental and Medical Schools at Harvard been able – in effective cooperation – to provide the instruction their students should have received, and also to conduct "cooperative scholarship" (research) for discoveries in "new areas for exploration between the old boundaries?"

(e) Why should it be necessary or desirable to discontinue "the first dental school connected with a university" (in its 77th year) and to transfer to a succeeding School of Dental Medicine *within* that University's Medical School, the function of attaining the objectives stated in question (d), above? This inquiry is particularly pertinent in the light of the import of the following comment in the said paper:

[The medical profession not only has given the dental] "scant welcome, [but also] with a strange absence of logic, created an educational no man's land around the mouth and the teeth, and it was medicine's ignorance of oral conditions which was responsible for the ruth-

less years of mass extractions during the second and third decades of this century" (p. 1673).

Has human nature changed so completely anywhere that the advancement of a cause, or the welfare of anything, should be entrusted *preferably* to those who have been traditionally indifferent to it?

(f) What is the evidence indicating that at Harvard the objectives stated in question (d), above, could not have been attained most effectively, without discontinuance of the Dental School, if the University had provided supplementary adequate opportunities in combined undergraduate curricula and in graduate work for qualified students, dentists, and physicians, *in accord with accepted university procedures*?

It is very surprising that the proponents of the new dental program at Harvard do not discuss their plans in a way to anticipate such natural questions as those stated above. The author of the said paper seems to have expected its readers to understand, regardless of the numerous contradictions and ensuing uncertainties, that he meant to present these ideas: "I should like to see dentistry united with medicine and the dental profession discontinued. The new dental program at Harvard will initiate a movement to bring about these changes. Therefore, I endorse the new dental program at Harvard."

These three direct assertions seem to measure the scope and to express the intent of the paper under review.

Letters

By William J. Gies

1916–1940

This selection of 11 letters written by Gies over the period from 1916 through 1940 covers topics as diverse as the qualifications of dental school faculty members to the best font to use for a professional journal. They are by nature more personal, particular, and opinionated than his formal writing for publication. The heavy use of underscore for emphasis (also evident in Gies's published work), intensifies the impression of urgency. As a set, these letters also reveal Gies's preoccupation with creating networks of collaborators for his projects and his care for precise understanding of complex issues that approach the skill of a seasoned diplomat.

The newest of the letters appears first because it is reflective of the earliest events.

Letterhead: Columbia University College of Physicians and Surgeons
Department of Biological Chemistry

July 31, 1940

Dr. William B. Dunning, Cotuit, Mass.

Dear Dr. Dunning:

I am about to begin a vacation – now in the 13th day of the heat wave – but before leaving send you below, in response to the request in your letter dated July 21, some notes on the origin of our Dental School.

(a) Early in the period of my interest in dental research, beginning in 1909, the desirability of a dental school in Columbia group frequently came to mind.

(b) The idea crystallize definitely during the summer of 1914 when my special course in dental chemistry was well attended; researches were effectively conducted by the students I guided; and some of the results were published in the fall in the J. Allied Den. Soc.

(c) About that time, as Secretary of the Medical Faculty, I was intimately informed privately about the negotiations then in progress between Columbia and the Presbyterian Hospital regarding the creation of the Medical Center, which I felt should include a dental school.

(d) Dean Lambert, to whom (in the fall of 1914) I first presented formally the suggestion of an added Dental School, was indifferent, but believed the Medical Faculty "would not object," if the admission requirements were made the "same as those for the Medical School," etc.

(e) Dean Lambert felt that nothing should be done before I presented "the general plan to President Butler and obtained his O.K." Dr. Lambert said he would discuss the proposal with "some of the clinical men."

(f) A statement on all this was presented to President Butler and later discussed with him orally. He approved. Dr. Lambert also found that "the clinical men favor it" – <u>on the conditions mentioned in (d) above</u>.

(g) After numerous delays in the foregoing process, I gave attention occasionally to practical ways and means of going ahead – listing dentists to consult, etc. – when, during a visit in my office at West 59th St., you suggested the desirability of a dental school in Columbia. I then stepped into an adjoining room and obtained, and showed you, a copy of one of my previous

communications to Dr. Butler on the subject, and said the project was then in embryo. I welcomed your interest. You suggested that your brother be added to the projected group of men who would be asked to cooperate.

(h) Now, Bill, "go on with the story."

Details are omitted from the above outline. I believe I could help you most effectively in a chat to ascertain what links are missing; also by commenting on preliminary drafts of your statement for any inaccuracies I might be able to detect.

I hope you are having a fine rest.

Yours cordially,

William J. Gies

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December 11, 1916

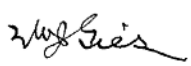
The S. S. White Company
Philadelphia, PA

Gentlemen:

I have seen copies of the miniature pamphlet on "Good Teeth", etc., through which you have said you aim to discharge, "in a large way", a part of the great debt you owe to the dental profession. On page three of that pamphlet you reproduce, without the knowledge or approval of the Managers of the Vanderbilt Clinic or of the Executive Committee of the N. Y. School of Dental Hygiene, from the first official Announcement of the N. Y. School of Dental Hygiene, a portrait entitled, in our Announcement, "Students engaged in clinical practice at the Children's Clinic for Preventive Dentistry at Hunter College", but which you erroneously designate, in your pamphlet, "Class of oral hygienists at work in the Vanderbilt Dental Clinic, New York City".

I object to your exploitation of our school, or its students, in your trade circular. Although we have no means of preventing you from doing as you please in this connection, I request you, nevertheless, to remove the portrait from all future editions of the pamphlet that bear your, or any, advertising imprint. I request, also, that you refrain from distributing available copies of the pamphlet containing the misstatement of fact, by you, to which I have alluded above.

Yours very truly,



Chairman of the Executive Committee and
Treasurer of the N. Y. School of Dental Hygiene

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November 29, 1916

Dr. A. H. Merritt,
59 West 46th St.,
New York City

Dear Dr. Merritt,

A few days ago when you told me, incidentally, during the course of our telephone conversation on research matters, that it was probable that publication of the Journal of the Allied Dental Societies would be discontinued, I suggested impulsively that "the Journal" be "continued in", or "incorporated into", the new Journal of Dental Research. You considered this idea a good one and we agreed to discuss it further at a conference between us, which we did on Wednesday of this week. Pursuant to your request, at that conference, I now submit, formally, for official use, the gist of the proposals that bear on the execution of the general suggestion I made to you, impulsively at first but which reflection fully confirms as a "consummation devoutly to be wished."

Proposition 1. I suggest that the Journal of the Allied Dental Societies be "continued in", or "incorporated into", the Journal of Dental Research, in order to (a) keep embodied the soul of the old journal, and to (b) give the volumes of the old journal direct bibliographic life in, and continuity with, those of the new journal, thus saving the old journal from spiritual extinction and fixing it in a place of historic priority in journalistic and research developments it has done so much to bring about.

Proposition 2. I have suggested that the aims to be achieved in proposition 1 above could be attained by the subscript insertion on the title pages (with the name of the new journal), or the legend: "continuing", or "incorporating, the Journal of the Allied Dental Societies".

Proposition 3. I also suggest that the scientific transactions of the First District Dental Society be published exclusively in the new journal at the expense of the Society, the charge in this relation to be exactly equal per page to the actual cost to the new journal of such publication, said publication to conform with a plan of presentation to be agreed upon, under the editorial control, within the limits of the said agreement, of the official editorial representatives of the Society.

Proposition 4. I suggest, also, that the Society agree to purchase year by year, or for definite terms of years, stated minimum numbers of copies of issues of the new journal for its own use as a Society, these copies to be supplied at a cost to be agreed upon (in general at the cost of actual production and distribution of the copies received by the Society in excess of the number of copies – "regular edition" – required for independent individual subscribers), provided

(a) that the Society would agree not to sell or present to any person or group of persons, except members of the Society in good standing, any copy or copies of the new journal thus allotted to it;

(b) that the Society would agree to supply only a single copy of each issue thus allotted to it to any one members of the Society in return for the apportionment of the annual dues paid by the member to the Society;

(c) and that the Society, in recognition of the special financial consideration on which its allotment of copies would be sold to the Society, would agree to the adoption and enforcement of a rule requiring member of the Society, who might wish to sell, exchange, or give away their individual copies of the issues of the new journal, within 5 years of the date of publication, to return such copies to the Society or to the management of the journal (unless the latter should waive this reservation), at a price not to exceed that originally paid by the Society.

Note. The larger the number of copies the Society would take, for immediate distribution to, and to be held in reserve for, its members, the smaller the charge per volume under the terms of such an agreement. It would be understood, of course, that the executive staff of the new journal would attend regularly to the work of mailing, to all the addresses designated by the Society, copies of the journal purchased by and for the Society.

Proposition 5. (An alternative to proposition 4 and independent of propositions 1-3). Should the Society wish merely to secure a medium for the publication of its Proceedings, and to distribute to its members copies of its published Proceedings, instead of copies of the journal containing the Proceedings, its Proceedings, could be published in the new journal and then supplied in the form of separates (so-called "reprints"), at the actual cost of original publications, production and distribution, and adjusted bibliographically for binding in volume-units.

Note. The adoption of this proposition (5) would involve the Society in less expense than the adoption of the alternative above, proposition 4. The proceedings could be published in the new journal as a unit and entitled regularly: "Proceedings of the First District Dental Society of the State of New York". There could be printed, independently, whatever subsidiary pages of executive and other proceedings, to be bound in the recurrent volumes, that the Society might wish to preserve in this way. If others of, or all, the "Allied Dental Societies" were disposed to do this together, such "separate" Proceedings might be bound together, suitably grouped, and consecutively paged, and given the general title: Journal of the Allied Dental Societies, thus continuing the old journal bodily, volume by volume, in this new form. The adoption of this latter alternative would stand in the way, however, of the adoption of proposition 1.

Propositions 1, 2 and 3 above, can be executed without reference to propositions 4 and 5. The latter two are alternative propositions. Proposition 5 might be adopted independently of propositions 1-3.

Each of the foregoing propositions is purely tentative in character and represents nothing more than an attempt on my part to help to solve a problem, each element of which attempt is open to revision in discussion.

I should be glad to talk over with you, further, all of the foregoing propositions and any details involved in, or evolved from

them or from any of the matters in, the journalistic situation under consideration. Any agreement I would make would be conditioned on approval by a majority vote of the associate editors of the new journal.

Recent war conditions delayed the execution of our plans for the new journal, but we have lately been proceeding to the realization of our original intentions. The first issue of the new journal will appear during the first quarter of the year 1919.

The new journal will not present advertising matter and the Society's Proceedings could not, therefore, be misused, or exploited, as supply-house assets.

Yours cordially

WmJ Gies

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LETTERHEAD: Columbia University College of Physicians and Surgeons
Department of Biological Chemistry

January 8, 1921

Dr. William B. Dunning
180 W. 59th Street
New York City.

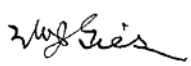
Dear Doctor Dunning:-

I have been pretty heavily bombarded lately on the matter of making a public apology to Ottolengui for what I wrote about trade journalism more than four years ago. In all cases I have insisted that nothing was said that was either personal to Ottolengui or unjust to him in general but that as soon as he would show that I am wrong, instead of merely saying that I am, I should do the rest in accordance with what might naturally be expected of me.

The committee appointed to inquire of Ottolengui whether he cares to become a member of the Association of Dental Research has just informed me that he has indicated that he will not become a member unless I meet his ultimatum.

I am sending you the enclosed copy of a letter which expresses, I believe, the gist of my feeling in this relation. In view of the fact that Ottolengui is discussing this matter freely with particular friends I feel that I am justified in presenting a copy of this letter to you and several others who I am sure will use the information confidentially but effectively just the same.

Yours sincerely,



WmJGies

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NOTE: Dr. Rodrigues Ottolengui was the editor of Items of Interest:
A Monthly Magazine of Dental Art, Science, and Literature

January 7, 1921

Dr. J. Lowe Young,
18 W. 74th Street,
New York City.

Dear Doctor Young:-

I have your favor of the 6th. In reply permit me to say that organization of the International Association for Dental Research was proposed in the hope that the Association would consist only of investigators who would devote themselves collectively, far above the plane of personal differences and petty disharmonies, to the search for, and the advancement of the cause of, truth in dental science. I hope that no one who is so egocentric that he is unable or unwilling to work harmoniously in this great cause, with others whose personal views he does not share, or whose personalities, religion, race, or color, he may not like, will be elected to membership in the Association.

I believe I have frequently shown clearly a cordial willingness to work in close cooperation with Dr. Ottolengui in various relations that were plainly for the advancement of dentistry. If Dr. Ottolengui feels that his animosity for me makes it impossible for him to associate with me in any such important relationships, and your committee believes that my retirement from the Association is desirable under the circumstances, so that Dr. Ottolengui may enter it without embarrassment, my resignation will be placed promptly at your disposal.

I paid close attention continuously to what Dr. Ottolengui said at the dinner three years ago, to which you allude. I noted also what was said at the dinner by others. I have before me, also, private letters bearing on various aspects of this subject – many of them received shortly after the dinner referred to, in response to specific inquires. There is evidently nothing new in what Dr. Ottolengui suggests that you present to me. Besides, let me add, since the matter to which Dr. Ottolengui refers is a purely personal and private matter, I feel that I should be excused from discussing it in detail with any one but Dr. Ottolengui himself. I should be glad to make an appointment to see him here at any time that would be mutually convenient for us, if he cares to go into the matter directly and privately.

I cordially appreciate, and thank you for, your very friendly desire to effect adjustment of an unhappy personal situation. I feel, however, that it is due from me to every dental friend I have, and to the Association also, to make it plain, once and for all, to all concerned, that Dr. Ottolengui is the only man with whom I can effectively discuss the cause of his personal animosity for me. If Dr. Ottolengui himself will show me, in a conference between us, which of the statements in my paper on trade journalism (in which neither he nor his journal was mentioned) were specifically and personally unjust to him, and which did not reasonably and properly apply to editors of trade journals as a group and therefore impersonally and generally to him, as one of the group, it would be

a pleasure and a duty then and there, and publically later, to make due acknowledgment accordingly – and to use publically in his defense the facts that Dr. Ottolengui would give me on that occasion.

With kindest personal regards and best wishes, I am,

Yours sincerely,

William J. Gies

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NOTE: Dr. Egbert was chair of the committee to consider proposed merger of the College of Dental and Oral Surgery of New York with the Columbia University School of Dentistry. The College of Dental and Oral Surgery was established in 1892, Columbia University's dental school was created in 1916. The College of Dental and Oral Surgeons was merged into Columbia in 1923. By this time, Gies was working on the Carnegie Foundation report on dental education.

March 22, 1923

Professor J. C. Egbert,
Columbia University,
New York City.

Dear Dr. Egbert:

In conformity with our understanding yesterday, and in response to your request, I present herewith a general summary of the main items in my remarks, with a few additions.

The essence of my protest, at the meeting of the dental faculty, on Tuesday night, was objection to your committee's suggestion of automatic appointment of <u>all</u> the present professors of the College of Dental and Oral Surgery to similar full professorships in Columbia University, in continuance of their present functions, without regard for any lack of individual qualifications as teachers, and without reference to the responsibility of some of them for the present very low <u>educational</u> status of that dental school. All else in the terms of the proposed merger seemed to be desirable. I stated that I believed important facts were unknown to your committee and I proceeded to present some of them.

The College of Dental and Oral Surgery of New York was officially notified by the Dental Educational Council of America [a precursor to the present Commission on Dental Accreditation, CODA], in a letter dated February 7, that the College is a class-C school and that that rating will be published on July 1, 1923, with the official re-classification of all the dental schools, unless the College is able, meanwhile, to make such improvements in the quality of its work as to justify a more favorable announcement. (Similar notifications were forwarded simultaneously to other dental schools.)

With the said notification, which was addressed to Dean Carr, the Council sent a special statement entitled "suggested improvements and comment." Dean Carr also received detailed reports of the College's standing on all the "points" (100) in the Council's system of classification, as applied recently (October-December, 1922) <u>to all dental schools in this country</u>.

Although the foregoing information has been communicated to the Carnegie Foundation confidentially, I am privileged to convey it to you and your committee, confidentially also, in view of the circumstance that consummation of your present negotiations without knowledge of these facts and their implications would be, I know, very greatly regretted by the Council.

The official communications referred to should be show, by Dean Carr, to you and your associates of the committee before you proceed any further.

The official opinion of the Council, as indicated above, agrees with my own independent observations and conclusions regarding the College, in our study of dental education.

The College of Dental and Oral Surgery, as I have said, is a class-C dental school. Graduates of class-C schools are unacceptable to State Boards for examination for licensure. After publicly receiving a C rating, the College will be unable to meet its obligations to its students and cannot continue, unless it gets a new faculty and justifies a higher rating.

The percentage of failures of graduates of the College of Dental or Oral Surgery at State Board examinations, as officially compiled and published by the National Association of Dental Examiners, was 37.1 per cent, for 1921-1922; and 27.2 per cent, for the twelve years since 1910. Only four of the forty-six dental schools in this country have a poorer record for the later period, and only five have a poorer record for the year 1921-1922.

On this item the Educational Council has an excellent standing public regulation as follows: "If for more than two successive years the (combined) records of failure (in examinations for licensure) before State Boards of the graduates of any school shall exceed 20 per cent in each year, on reports approved by the Dental Educational Council of American, the school shall not be considered acceptable." The College of Dental and Oral Surgery is one of the "unacceptable" schools.

The very poor educational quality of the College of Dental and Oral Surgery is due to indifferent attention to teaching, to put the situation as mildly a possible. If all the present heads of departments should be automatically reappointed to their present positions, without regard for their qualifications as teachers, individually, the school would continue to be what it is now; the dentists of this city particularly would be amazed; and the Dental Educational Council would certainly not be disposed to call black "white" because a Columbia label is affixed to it.

For your direct information permit me to say, incidentally, that the Dental Educational Council of America is a body of twenty-four members – eight representative each of the American Association of Dental Schools (teachers), the National Association of Dental Examiners (state examiners), and the American Dental Association (practitioners generally). I have attended each of the meetings of the Council since August, 1921; have seen the earnest effort of all concerned to perform their duties faithfully, sympathetically, judicially, and constructively; have observed the great care with which every situation was studied and evaluated; and have noted that the Council to a man (twenty present at the meeting) has a very keen understanding of the situation in the College of Dental and Oral Surgery. I know that the Council has the confidence and support of the schools as a group and of the dental profession as a body.

The property and equipment of the College of Dental and Oral Surgery may be suitably rated class-A. The fact that the college, with a class-A equipment, is a class-C school, further emphasizes the very low quality of its teaching and educational work in general. The responsibility for the low educational status of this school rests squarely on the shoulders of its faculty – a fact that is widely known among dentists, the graduates particularly.

The great need for much better education of dentists; the urgent demand for prompt betterment of such facilities in New York; and the obvious duty of the New York universities to meet a serious public emergency in this relation, make a merger of the College of Dental and Oral Surgery with Columbia University a very desirable achievement, provided all the property of the College and its control can be transferred to the University; and provided, further that the University will be free to take up independently, with each officer of the College, the question of his continuance, in the light of his degree of ability to "do the work" acceptably, on the educational basis that the dental public would naturally expect of Columbia University.

Of course you will have assumed that I mean to add, in accordance with my knowledge of the spirit at and custom of Columbia, that I know every consideration of generous fairness will be shown in the matter of determining individually which members of the faculty should be continued – within the essential condition that any who may be obviously unfit shall not be given opportunity to influence the educational work of the College, which must be completely reorganized to be of any real public use or of any credit to Columbia.

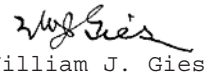
[...Omission...]

It is a very unpleasant duty to write a letter of this kind. I send it in the understanding that you will show it to your associates in the committee but to no one else without my consent. I am sending a copy of it to President Butler, and to Dr. Van Woert for their personal information.

I desire particularly, in conclusion, to call attention to the broad fact that a merger with the College of Dental and Oral Surgery, that would leave the whole of its present incompetent faculty in active charge of the instruction of the students now in its first three classes, and in the class to be admitted next September, would put the University in the predicament of knowingly continuing class-C conduct of a section of its professional work, and apparently for a financial consideration. A frankly commercial school would be far more respectable. To conduct a class-C dental school on E. 35th Street for money, and to maintain class-A dental pretensions on W. 59th Street for ideals, would make Columbia University contemptible in the sight of those who understood.

I am glad to have had an opportunity to present confidentially some facts that the dental faculty and your committee did not happen to know but which can easily be verified. I hope you will not recommend merger, unless it can be effected without any impairment of the University's freedoms to administer the property of the College and to conduct the work of all departments, after the merger, in full accord with Columbia University's standards of professional education and on the basis of the Dental Educational Council's conditions for a class-A rating.

Yours faithfully,



William J. Gies

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NOTE: Dr. Waugh was a driving force behind the founding of Columbia Dental School and a faculty member there, as well as a charter member of the International Association for Dental Research, which was created largely from Gies's initiative. This letter appears to have been written to Dr. Waugh in his capacity as immediate past president of the New York Academy of Dentistry.

December 11, 1933

Dr. Leuman M. Waugh
576 Fifth Ave.,
New York City

Dear Dr. Waugh:

During the informal conference last Wednesday evening, Dr. Dunning, there present as President of the New York Academy of Dentistry, suggested that the American College of Dentists had failed to show consideration of, and courtesy to, the N.Y.D.A. in proceeding independently, without consultation, with plans for the publication of a separate journal. At the time, I dissented and expressed a contrary view. These statements on both sides were reiterated, and the prevailing temperature was noticeably raised. At the time, I concluded to postpone further discussion until I could present to Dr. Dunning privately some facts, from available records, showing that the A.C.D., in its plans for the new journal, had been following consistency a purpose that had been under advisement for some time. I believed that the presentation of these facts would assure Dr. Dunning that the A.C.D. had not shown any lack of esteem or respect for the N.Y.A.D., and that the circumstances which appeared to indicate such a lack were superficial, and the inference therefrom incomplete.

In a letter dated December 7, addressed to Dr. Dunning, I stated the most important facts in the following sequence:

"In 1932, as chairman of the A.C.D. Committee on Education, Research and Relations, I suggested that the College include in its plans, for development, the publication of its own journal – <u>such a medium, to keep the members in intimate touch with the affairs of the College</u>, being essential. It was expected that this new journal would be one of the group, under Plan A, to be published by 'Dental Research Publications, Inc.' [Plan A called for several of the highest-quality publications, such as the Journal of Dental Research and the Journal of the American College of Dentists, and Dental Abstracts to be sponsored by various professional organizations and published by a group headed by Gies.] Action was postponed.

"Again last spring and summer, in the same capacity, I renewed the proposal. At the convocation on Aug. 6, the proposal to establish the College's own journal was adopted in the spirit of Plan A. (Decision as to when to proceed remained with the Regents.) At this <u>same convocation</u> the College <u>also endorsed Plan A</u> in the following resolution, which was unanimously adopted after full discussion in the open meeting:

'To insure the future of the <u>Journal of Dental Research</u>, and to maintain it as dentistry's finest journalistic asset, the college, in Memphis in 1931, instructed the Commission on Journalism to

open negotiations intended to accomplish these purposes. The end result of the conversations has been the adoption of a tentative formula by a group of confreres representing several dental societies. The plan, if approved by the editors, provides for transfer of ownership of the Journal of Dental Research to the International Association for Dental Research, and the delegation of responsibility for the Journal's management to a separate corporation to be jointly owned by the American College of Dentists and other dental organizations. The plan provides for an equitable representation on the Board of Directors of the managing corporation, and for a divided and limited responsibility for any publishing deficit.' [This plan was not realized. Political differences involving leaders in the American College of Dentists, the International Association for Dental Research, and the New York Academy of Dentistry resulted in Gies retaining personal control of the Journal of Dental Research for several more years following a decision by the board of the Journal of Dental Research not to establish relations with the American College of Dentists.]

"These two highly creditable acts of the College, which occurred at the same meeting, are in no way inconsistent, for the first decision was merely added to, and in full accord with, the second.

"On November 14 I send to all concerned a notice of the decision of the editors of the J.D.R. (voted since the A.D.D. met in August). This decision, by rejecting Plan A, obviously terminated the informal working alliance of the societies that had advanced Plan A. But it did not terminate my own purely personal constructive efforts to evolve a new plan in accord with the spirit of Plan A.

"When, on November 23, acting solely for myself, I informally proposed a plan to take the place of Plan A, I believe my selection of the societies to be represented in that initial conference indicates that I personally supposed the A.C.D. and N.Y.D.A would, if they approved, renew the working relationship that had been severed by the rejection of Plan A by the editors of the J.D.R., not by the A.C.D.

"The societies represented informally at the conference on November 23, or last night, have not been committed to any decision or relationship pending formal action by the societies themselves. I believe it would be to their interest and the public interest to form the alliance there suggested."

Dr. Dunning has graciously replied that some of the facts indicated above were not known to him last Wednesday evening; that he withdraws the suggestion of discourtesy by the A.C.D. toward the N.Y.D.A. because the additional information shows that the inference was incorrect; and that I may make this statement to that effect. Dr. Dunning and I have thus cooperated in eliminating a possible factor of mistrust among us, and in preparing the way for an understanding and an accord that should be highly promising for the future of dental journalism. I quote the following from Dr. Dunning's letter:

"Let's get it straight that you and I are in full accord in regard to the present 'set-up' – pending further developments – and that I believe the sooner we go about the organization of our central executive body, the better."

I have not consulted Dr. Davenport, but I believe he will be equally happy to agree that the A.C.D. and the N.Y.A.D. are mutually

respectful and considerate, and that they are well organized to work together disinterestedly for the promotion of dental journalism and the advancement of dentistry.

I am sending copies of this letter to all of those at the conference last Wednesday, in order deliberately to remove a source of possible discord in our group, and to show the spirit that will make the proposed alliance a "go."

Yours cordially,

William J. Gies

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HANDWRITTEN ON LETTERHEAD: American College of Dentists

12-9-33

Dear Bill D, [Dr. William Dunning]

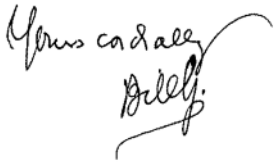
Your letter of the 8th is appreciated. Let me assure you at the outset that the purely personal matter to which you alluded in the first paragraph was regarded by me and I believe by all the others as simply a passing incident of no significance, and like many such that arise casually when old friends earnestly discuss matters of mutual concern. You and I have always been free and easy in mutual and take. We are now too old and tough to stop the habit.

My letter was written with no thought of that, however, but instead with sole intent to remove, with your help, the impetus to discord that the unjust allusion to the A.C.D. has created. I presented some facts that I believe you did not know. The third paragraph in your letter leaves me doubtful whether you continue to think the N.Y.A.D. was slighted by the A.C.D., or whether you intend only to indicate why you thought so before you read my letter.

Foreseeing certain contingencies, and wishing to head off consequences such as those of the cumulative ventilation of discord last summer in the correspondence with the editors, I suggest that you permit me to send to each of those at the conference last Wednesday a letter stating, in effect, that I gave to you, in my letter of the 7th, the facts indicated with red ink on the enclosed duplicate see quoted sections of previous letter, and that with this information, some of which you did not have last Wednesday evening, you have withdrawn, because unwarranted, the statement that the A.C.D. failed to show consideration for, or courtesy to, the N.Y.A.D. under the circumstances you and Dr. Davenport stated last Wednesday.

This prepared statement simply a correction based on more complete information would indicate that you and I have deliberately removed a source of discord in the group, and that any recollection of the charge against the A.C.D. would be out of place in the further negotiations.

I believe in direct and frank action in all such cases. Can we not set an excellent example in the art of cementing good fellowship? Let's show how the proposed alliance is going to go.



[Yours cordially,
Billy]

P.S. I enclose a copy of the tentative manuscript of the front cover of the Journal of the ACD, for your personal and confidential information until final decision on the details.

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LETTERHEAD: Journal of the American College of Dentists

10 March, 1934

Dr. William B. Dunning,
140 East 80th St.,
New York City

Dear Dr. Dunning:

Copies of your letter of the 3rd and of this reply will follow the others into the hands of our Board of Editors.

In this letter, as in the preceding one, I endeavor to adhere to the facts involved. I am sure you wish to have a matter-of-fact response. At all times criticisms will receive attention, in sufficient detail and pertinence, to be wholly responsive. Any constructive criticism that indicates better procedures, as distinct from merely different procedure, will be followed wherever that is possible.

The closing sentence in your letter, expressive of general good-will and confidence, is personally appreciated.

In your comment on the importance of "clothes," you allude, in an irrelevant way, only to differences between good dress and poor dress. In this contrast you ignore the basis of your criticism. In your first letter, you declare that the J.A.C.D is so much the same as the J.D.R. in "style and appearance" that they are like twin brothers – and you said the J.D.R is a peach for style! In your first letter, you referred to the J.D.R. as dressed in good clothes, and objected to a dress up for the J.A.C.D. that resembled it,

because you wanted to get the J.A.C.D. away from what you called "deadly uniformity." An illustration as to clothes, to fit your objection as originally stated, is that of two men in full dress – clothes that are acceptable as the upper limit of excellence. Full-dress rigs are outwardly so much alike, however, that, on the basis of clothes, you and Carnera, even in borrowed outfits, might pass as twin brothers. Does any one ever seriously say that the uniformity of clothes on men at a full-dress affair affects or impairs the spirituality of any of them, or detracts from the individualities or personalities? Does not the uniformity of dress actually help to emphasize important personal distinctions? The J.A.C.D. and the J.D.R. are like two well-dressed speakers at a formal dinner. If the uniformity in clothes of the speakers is not "deadly," why should any similar superficial resemblances in journalistic dress by deplorable?

Referring to your first suggestion: you concede that the comment about the color of the cover was mistaken. The error was evidently dependent upon subjective conditions, not upon objective realities.

In item 2, you suggest that a different font of type should be used – one that would be "distinctive" for the J.A.C.D. Just how "distinctive," i.e., exclusive, could any publisher afford to make a font for a quarterly of 32 pages? The J.A.C.D. followed the (full-dress) style of the J.D.R. in the matter of font because that font was found, in tests about twenty years ago, to be not only good in general but also one of the most conducive to close attention and ease in reading, and one of the best adapted for good typographical structure and effective economy. This font is now used (like dress suits at formal dinners) not only by the J.D.R. and the J.A.C.D. but also by many of the leading journals. You seem to imagine that it is distinctive for the J.D.R.

Under item 3, you raise various questions. We are obliged to give close attention to economy. Please get that clearly fixed in your understanding of present conditions. The Regents voted to approve expenditures for the J.A.C.D. in a total amount that would not exceed the cost of 32 pages per quarterly issue for 1934. The Board of Editors is not free to exceed this maximum. Dentists, like all other professional men, have been financially embarrassed by prevailing conditions. We who spend their money for the promotion of causes, wish, very frankly, to avoid the waste. After we get out of the current depression, some of the economies now required – such as getting 40 pages into 32, as related in my previous letter - will not be necessary, and then may not be attempted. You apply the words "niggardly" and "cheap" to the outcomes of our efforts in this regard, apparently again forgetting you objection to our resemblance to the J.D.R., which journal you feel is first class.

Where you allude to "good literary style" you introduce considerations that carry you rather far afield, with implications that are not pertinent; and you also ignore your own assurance, earlier in the letter, that "it would have been obviously futile for me [you] to discuss the 'inner' nature of a publication based on its first 32 pages." Although, later, this obvious futility seems to be ignored in your comment, it is a pleasure to say, nevertheless, that the articles by Cumming, Gurley, and Gies – the three consisting of quotations – are wholly satisfactory to these authors. These articles, in their opinion, were not edited "too much," nor were the

originals left flat. I fail to see, also, why essentially private matters may not be omitted from published proceedings. The telegram-phraseology of the article by Midgley accords with his purpose to make the unit like an index or a dictionary – a bare statement of the essential facts; and by so doing he compacted matter into less than four pages that otherwise would have required ten. The item numerals in parenthesis afford fine conveniences for correspondence among the members of the College regarding details. We regard his article as an improvement over the inflated or porous style of most accounts of proceedings of societies. Editorial and other comment on such proceedings will give effective evolution to matters that are not merely routine.

What you say about "a flat surface of mere factual values from which all literary or human significance has been squeeze out," – etc. in the same vein – is not an objective allusion to the condition of the first issue of the J.A.C.D. Froth, verbosity, or pansy waving do not contribute anything material to good literature.

Item 4 relates to propaganda. Your allusion to this was, you admit, based on subjective conditions relating to the J.D.R., <u>not to the J.A.C.D.</u> For this reason nothing need be said on this subject, for it would not apply to the J.A.C.D.

I have referred to several inconsistencies in you comment. One inconsistency not mentioned above is the argument that the J.A.C.D. should follow the style of the J.D.R. in beginning each article at the top of an odd numbers page – that, in effect, this important difference between them should be removed. Yet your original criticism referred to the desirability of preventing resemblance to the J.D.R. and the "deadly uniformity: thus induced, etc.

Considering the revisions in your second letter and omitting the inconsistencies, I feel that your criticism comes down directly to this: change the font of type – the excellent font now used in the J.D.R. and <u>in many other leading journals</u> – so that the J.A.C.D. would not resemble the J.D.R in textual typography; and in thus being <u>different in externals</u>, the J.A.C.D would create or derive thereby important spiritual considerations that now it lacks and presumably cannot acquire if it continues thus to resemble the J.D.R., which you have praised for its style.

As I state in the opening sentence, copies of your letter and of this reply will be sent to the Officers and Regents of the College. This course accords with the purpose of the College to give to every member's suggestions the attention and action they may merit. If the Board gives me any ensuring instructions, their wishes will be duly executed.

Yours Cordially,

William J. Gies

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LETTERHEAD: Journal of the American College of Dentists

June 29, 1936

Dr. William B. Dunning,
140 East 80th St.,
New York City

Dear Dr. Dunning:

Your letter of the 25th is appreciated. Another copy of the last issue of the Journal of the American College of Dentists will be sent to you by our printer – our local supply was promptly exhausted.

Our advertisement plan, if it works, will be so useful that every reasonable criticism that may be registered against it is wanted. We wish to adapt the policy to the conditions that the most light will show to be the most useful.

I am glad that you feel it is inherently sound. You are correct in your assumption that it is not our intention to discuss the individual advertisements as we did "our first advertisement." This was done primarily to emphasize the quality of our policy in action and also to establish, in a definite instance, the principle stated on page D of that statement (note the dynamite in it): "If any claims in, or reasonable implications from, the Company's statement should prove to be unwarranted, the advertisement would be withdrawn, and the reason for its removal would be indicated." The Company knew that this is our position.

The Williams "ad" was on the border line – to accept or not to accept – because indium improves some alloys but does not improve others. Some referees were skeptical; others have found the "XXX" claims justified. Our statement illustrates a policy to which no advertiser who is not "square" will wish to subject himself.

One good reason for omitting such statements as the one under discussion might not have occurred to you: the item of expense. We could not afford to give so much space to any but exceptional conditions.

All of your comment is welcome and appreciated.

I hope your vacation will be happy and restful throughout.

Very cordially,

William J. Gies

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LETTERHEAD: Columbia University College of Physicians and Surgeons
Department of Biochemistry

July 11, 1940

Dr. William B. Dunning,
Cotuit, Mass.

Dear Dr. Dunning:

Your letter dated July 9 came yesterday.

I am very glad to have your frank opinions on the situation. The Committee of the New York Academy of Dentistry, of which you are a member, was appointed by President Chase because the Board of Directors indicated desire to participate in the development of the proposed coalition to place Dental Items of Interest under professional control. Your feeling that Dental Items of Interest is not worth saving is shared by some. But many also consider other conditions such as the fact that the dental profession is not yet ready to provide the funds for the creation of the various journals that would ideally be desired, such as the regional journal that you have long urged and which many of us would prefer. In this relation I feel as I did in trying to convert propriety dental schools into integral parts of universities: where universities, having accepted such schools, treated them liberally the outcome was excellent; where such treatment was not accorded the outcome was unfavorable.

The questions I raised in my letter dated June 14 were based on (1) the indicated general desire of the Board of Directors of the Academy to enter the proposed coalition, feeling that the funds required for the continued publication of Annals of Dentistry cannot be provided. (2) It seemed likely that there would be general desire for a modification of "Dental Items of Interest," to get rid of the word "Items" and (3) also that Dr. Nevin would prefer to retain the old name. My suggestion of "Dental Interest," dependent on these conditions, was intended as a compromise that might pave the way for a complete renaming at a later date. It would not have been suggested if it did not offer a way out of prospective difficulties. Possibly my apprehension was unjustified and there will be no "differences." Perhaps Dr. Nevin would be willing to substitute Annals of Dentistry for Dental Items of Interest.

May I inquire whether you have made your views known to Chairman Palmer of your Committee. If not, may I send him a copy of the parts of your letter bearing on the situation?

I have not yet had any news as to the date of the prospective conference "immediately after Dr. Nevin's return."

Hoping that you and the members of your family are having a very enjoyable vacation, and looking forward to the pleasure of seeing you in Cleveland, I am,

Yours cordially,

William J. Gies

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