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The American Academy of the History of Dentistry, a not-for-profit organization founded in 1951, has as its goals the following:

Increasing interest among dentists in dental history.

Encouraging dental schools to develop historical collections on dentistry, and to offer adequate instruction in dental history.

Developing a broader understanding of the facts of dental history among the leaders in dentistry in order to aid them in their attempts in solving important problems in dental education and practice.

Stimulating more thorough and comprehensive research in dental history, thereby extending the boundaries of dental knowledge, giving substantial support to growing professional culture.

Creating an authoritative body to which important questions relating to dental history could be referred for factual verification.
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Our new President was born in Little Falls, New York in 1917, but grew up in Forest Park, near Chicago, where he still resides in the same house. Frank went to college as an entering student at the University of Chicago in 1935 and is still there, but now on the staff as a Professor. He attended the College of Dentistry at the University of Illinois receiving his D.D.S. degree in 1941. Soon after, he married Phyllis Therese upon her graduation from medical school at the same University.

Back at the University of Chicago he received his Ph.D. in microbiology in 1949 while on the staff of the Zoller Dental Clinic of which he later became Director. Concomitantly, Dr. Orland served almost a dozen years as Editor of the Journal of Dental Research and then became President of the International Association for Dental Research in 1972. He is a Diplomate of the American Board of Microbiology and author of many scientific articles in the field of oral microbiology and dental caries. He has written extensively on historical subjects, as well as editing two important historical books: The First 50-Year History of IADR and The Chronicles of Forest Park.

Dr. Orland is an active member of the century-old famous Chicago Literary Club and Chairman of the Committee on History of the Illinois State Dental Society. Currently he is also President of the Historical Society of Forest Park. Additional biographic data about him is cited in Who's Who in America and World Who's Who in Science.

Upon assuming the presidency of the American Academy of the History of Dentistry, Dr. Orland issued the following statement about the aims, aspirations and importance of our Academy:

In the U.S. Bicentennial year just past, we have been the happy witnesses of how history can kindle the interest and imagination through celebrating events of two hundred years ago. For our own Academy, the past year marked the twenty-fifth anniversary since our founding. Both of these events, aside from jubilation and commemoration, should serve to
focus attention on the road by which we came. We must study it so as to better know the road into the future toward the tricentennial on the one hand, and toward our own golden anniversary right after the year 2000.

Even though our organization is entitled The American Academy of the History of Dentistry, we need to take a more positive view and be for the History of Dentistry. As President this year, I firmly believe it is not enough to merely observe and record the history of the various dental areas but must also make history that is worthy, reflecting the merits of our Academy and its publication, the Bulletin of the History of Dentistry.

This is the year after historic 1976. It is the period after the great celebration including that of our twenty-fifth anniversary. It now provides us with the time and opportunity to clean up our shortcomings and reinforce our long-range views. Surely we can still improve our programs and emphasize our objectives with greater profundity. During my stewardship year, I hope to communicate with all our members and be in constant contact with our committees and officers by means of presidential letters, telegrams, tapes and telephone calls. All this will be personally costly, in time and money, but I feel it is essential to move our Academy onto the level where we remain alive all year long, not merely for that one-day-a-year meeting. May I encourage you all to participate in this new look of our maturing Academy!
Sanford C. Barnum,  
Discoverer of the Rubber Dam  

—ARDEN G. CHRISTEN, D.D.S., M.S.D.  
San Antonio, Texas  

Perhaps two of the most exciting, important, and stimulating years in American dentistry were 1839 and 1840. During this momentous two-year span, the first dental college was formed at Baltimore and the first national dental society, the American Society of Dental Surgeons, was established. On June 1, 1839, the first periodical devoted exclusively to dentistry, the American Journal of Dental Science, was launched. These developments resulted in the first real interchange of ideas and dissemination of professional knowledge. These were also the first critical days in the development of anesthesia using ether. In 1839, another event was to greatly influence the practice of dentistry in modern times. Charles Goodyear, a Connecticut inventor, discovered accidentally a way to vulcanize rubber with the use of sulfur and other chemicals. The superior vulcanized rubber became a dependable product since it now possessed elastic, airtight, and watertight properties. It could even be used to make tight seals between moving parts of machinery.
BARNUM’S EARLY YEARS

Into these exciting times, Sanford Christie Barnum was born on August 24, 1838 in Oakland Valley, Sullivan County, New York. He was the son of George W. and Caroline Griswold (Clowes) Barnum. His childhood days are hidden in obscurity but he was probably an only child. He obtained his early education at public and private schools in the area in which he was born, and then attended Monticello Academy, a well-known private educational institution of that time. In 1858, when he was 20 years old, he studied dentistry in the office of his uncle, Dr. Joseph W. Clowes of New York City. After this 4-year preceptorship, he opened a practice of dentistry in Monticello, New York.

DISCOVERY AND DEVELOPMENT OF THE RUBBER DAM

By 1835, gold foil was generally accepted as a superior restorative material but a dry operative field was necessary for placement. According to Barbakow, after 1840, cavities were being dried by a variety of absorbent materials, including "locks of cotton," dried flax, pieces of muslin sponges, strips or pellets of linen or cotton cloth, etc. In 1862, spurred on by the clinical frustrations and the inadequacies of "bibulous paper," napkins, and cotton locks to adequately wall back saliva, Barnum developed the idea of using a sheet of rubber to isolate the tooth. Years later (1877), Barnum recollected to the Connecticut Valley Dental Society the circumstances leading to his discovery:

At the time when the idea of the rubber dam dawned upon my mind, I was practicing in Monticello, Sullivan County, New York. It was the result of much persecution from the inroads of saliva. I had spent many an hour, weary and distracted, battling against its incursions. Many a sleepless night I had over sad failures . . . With the one absorbing question ever before me unanswered, "How shall I keep the cavities dry?" The answer came, and may I say that I was led to the discovery in this manner. In plugging cavities near the gum, I had adapted the use of rubber rings or ligatures around the necks of the teeth, crowding them well up under the free margins . . . Also in plugging the upper teeth I placed a piece of oilskin beneath the napkin, it preventing the accumulating moisture in the floor of the mouth from being taken up and soaking the napkin. These two things led me to the thought, "Can I join the ring of rubber to the apron of oilskin?" In the Fall of 1863, I procured some sheet of rubber cloth for the same purpose I had been using the oilskin. How soon after that the idea of cutting a hole in the rubber and slipping it over the tooth came to me, I cannot call it to mind; but this I have well fixed, that on the fifteenth day of March 1864, a case presented itself of a cavity in a lower molar, standing alone, on the left side in a mouth as wet-well, as water gushing from every duct could make it.* In a sort of half-desperate way, and partly to try the new idea, I cut a hole in my napkin protector — and over the tooth it went. There I found I had the ring of rubber and an apron combined! There was the rubber dam! And from that time until it was presented to the profession the following summer, I developed step-by-step many of its important points.

*The first recipient of the rubber dam was a Mr. R. C. Benedict of Monticello, New York.
In early 1864, Barnum went into practice with his uncle, Dr. Clowes, in New York City. On May 13, 1864, he demonstrated his discovery to Dr. Clowes who instantly recognized the highly useful value of the rubber dam to the chairside dentist. Dr. Clowes advised the youthful Barnum to present it to the profession as a free gift. A close friend, Dr. John Allen, seconded the suggestion. Consequently, in June 1864, at Dr. Barnum’s request Dr. Clowes presented the invention to the dental profession through New York Dental Society members who met at the Cooper Institute.

Two months later, August 1864, the first written description of rubber dam usage appeared in The Dental Cosmos by Dr. J. S. Latimer. “Barnum’s Rubber Dam” is the name of a simple device for preventing the intrusion of blood or saliva during the operation of filling. A piece of rubber-tissue or bandage-cloth, as large as one’s hand, perhaps, is pierced with a small, round hole. The elasticity of the rubber permits it to be pressed over the tooth; or as an Ameralder would say, the tooth is thrust through the hole, and, by its contraction about the neck of the tooth, prevents the entrance of fluids. No napkin is required where this can be used. The suggestor of this simple device is Dr. Barnum, of the City of New York.

Almost from the very start, the use of the rubber dam was popular. Early authors humorously and yet realistically portrayed the pathetic struggles of the practicing dentist when the “Swamp Angels” were on the rampage. There were many dentists who scoffed at the “newfangled” idea saying it was impossible to apply. For example, Dr. S. P. Cutler, a prominent dentist from Memphis, was an uncompromising opponent to “all this rubber damming.” His opposition was threefold: (1) Drs. Badger, Chapin Harris, and other first-rate operators achieved perfection without its use; (2) the application of the rubber dam was too time-consuming, tedious, and unnecessary for filling simple cavities; and (3) how would you like to be put in the patient’s place with your mouth kept open for hours, with a sheet of bad-smelling rubber in place? Many difficulties were to be overcome for its practical use, but by 1867, the use of rubber dam had become widespread at home and abroad. Although it is outside of the scope of this paper, the reader is referred to Barbakow’s excellent review (1964) which shows how the techniques of application, armamentarium, etc., of rubber dam usage have been refined since 1864.

In contrast, Dr. Charles E. Francis’ enthusiastic comments were typical of many early authors. He wrote, “How discouraging to the dentist, during his fatiguing operations, to observe the streams of saliva pouring copiously from the ducts of Steno and Wharton! . . . Gentlemen, of the profession — learn to use Barnum’s rubber dam and when you thoroughly understand its true merit, you will bless the name of the worthy dentist whose ingenuity gave us so valuable a boon.”

At this time, Dr. Barnum desired to obtain formal training in dentistry, so he attended two courses at the New York College of Dentistry. He received the degree of Doctor of Dental Surgery from that institution on December 2, 1868, being one of the first graduates. After graduation, he again opened his office in his uncle’s house in New York City but later left to open his own practice. He never married.

HONORS AND TESTIMONIALS

In August 1870, when he was 32 years old, Dr. Barnum received a unanimous vote of acclamation at the American Dental Association
meeting in Nashville, Tennessee, and a large gold medal costing $1,000 was presented to him. It was inscribed as follows:

In appreciation of the great value of his invention of the rubber dam, and of the true professional spirit in which it was given to the World.

In 1873, at the American Dental Association meeting, Dr. Barnum received a medal from the California State Dental Association in appreciation for his "service and liberality." This large jeweled gold medal was surrounded by a beautiful olive branch wreath in gold, attached to a brooch set with gold bearing quartz. On this occasion, Dr. Barnum stated, "I have never regretted freely giving to the profession what I might have made lucrative to myself. I don't ask for money - that I can work for - but this I look on with great satisfaction."

On January 2, 1874, Barnum was presented with an elegant hunting-case gold watch and heavy gold chain from nearly 50 contributing dentists from ten Eastern seaboard cities. Also contributing were Dr. C. J. Peacock from Scarborough, England, and Dr. J. W. Crane from Paris, France. It was inscribed:

Presented to Doctor Sanford C. Barnum by his professional friends for his valuable gift to the profession, 'The Rubber Dam'.

Finally, in 1876, Dr. Barnum received a silver-mounted album containing the portraits of 22 European dentists. The inscription read:

The American Dental Society of Europe to Dr. S. C. Barnum in token of their appreciation of the Rubber Dam, 1876.

THE FINAL YEARS: CONTROVERSY

During the last 10 years of his practice, Dr. Barnum was in ill health, suffering from chronic meningitis. The extent of his disease, improperly diagnosed, was only revealed by a postmortem examination. The excruciating pain which he stoically bore, especially during the last two years of his life, was known to but a few close friends. He was obliged to give up his practice during this time.

During the last two years of his life, a jealous rival claimed priority of invention. This occurred 19 years after the rubber dam was initially introduced to the dental profession. At a remarkable, uproarious meeting of the First District Dental Society, held November 6, 1883, Dr. William T. La Roche, Sr., Vice President of the New York Dental College, New York City, presented a paper claiming to be the originator of the Dam. He presented seven affidavits as proof fixing the date in 1857, some five years prior to that of Dr. Barnum. Dr. La Roche stated that from 1849-1852, before he became a dentist, he worked at Van Duzen and Jagger & Company, a large dry goods store in New York City. In this store, the Goodyear Rubber Glove Company had an office. It was here that he became familiar with the rubber material he was to use later in his office. He claimed that he used the rubber dam on patients and taught it to his students, one of whom practiced dentistry on the island of Cuba.

Why did he wait so long to press his claim? According to Dr. La Roche he was able to attend but one dental meeting in 11 years and was not present when Dr. Clowes introduced the rubber dam at the Cooper Institute in 1864. Furthermore, he also presented an affidavit by an oculist stating that Dr. La Roche was unable to read from September 1864 until April 1865 due to ophthalmia. In the words of La Roche: "Let the
whole truth of this matter be known, and now. If I could I would always
avoid doing any act or saying anything that might provoke a discussion
involving delicate questions of this character, or that could invoke any
unfriendly feeling or spirit. Rather than do so, though again and again
urged to speak, I have remained patiently silent, and would still continue
silent, but this matter has now assumed such proportions and portent that
knowing I am right, with the truth on my side, I cannot and will not
stand in a false light before the profession any longer. A due respect for
myself and my word demands this. Justice is all I seek, honors I ask of
none.''

BARNUM’S FRIENDS RALLY

During the meeting, various imprecations and murmurings were to
be heard from all parts of the room. Finally, an incensed Dr. O. A. Jarvis
(who originally contributed to the medal for Dr. Barnum) arose protesting
that it was out of order to bring this matter before the meeting. He
castigated Dr. La Roche for presenting the claim at such a late date, es-
pecially since Dr. Barnum had already received numerous testimonials for
introducing the dam to the profession. He convincingly argued: “All I
claim is that if I have discovered and used something for a long time, and
have not made it public, and somebody else makes a discovery that covers
the same ground and makes it public, he is the discoverer and the man to
be benefited by it, and I have no claim. I said it was no dishonor, but it is
almost a disgrace for one to come up with such a claim afterwards.”

Dr. Jarvis was just warming up. He continued, “In view of this, the
statement of the gentleman that he had practiced deliberately for a
number of years the use of this wonderful invention and never turned it
over to his next door neighbor, astonishes and pains me, and I feel almost
like passing a vote of censure upon him.”

During this meeting, several speakers arose, weakly defending, in
part, the action of Dr. La Roche. Dr. Abbott said, “The fact is that in
1857, and for years subsequently, nearly every man in the city of New
York, and all over the country and all over the world, who had a good
thing kept it to himself.” Dr. Atkinson said that when the rubber dam
was first introduced, there were many who did not think it was worth
anything. But after it had proved to be a great blessing, somebody wants
to take the credit for inventing it. But the minutes of the meeting reveal
that Dr. Jarvis spoke for the group when he concluded, “I hope we shall
not disturb the matter further. I have not the slightest doubt, in view of
those affidavits, but what Dr. La Roche used the rubber dam at the time
he states, but he has no claim as the discoverer, because he did not in-
troduce it.”

According to Winner, Dr. La Roche’s claim to the introduction of
the rubber dam was not too kindly received by the profession. In the New
England Journal of Dentistry, January 1884, we read:

Even if Dr. La Roche, by affidavits and other evidence, is able to convince
some of the truths of his claim, it is of no consequence; he does not make it
appear that the profession is in the least indebted to him for it ... If he did,
what of it? During seven years, no dentist outside of his own office ever
heard of it. If it is true, of what interest is the fact except as an example of
selfishness?
A FINAL INCIDENT

One final painful episode was to take place concerning the La Roche claim later that same year. Dr. Barnum was obviously distressed about the whole matter. He purportedly told Dr. G. A. Mills, of Brooklyn, "I am exceedingly troubled that an effort is being zealously used to take all the credit from me and to place me in a very unenviable position before the whole profession, branding me as dishonest, for as you know, I have been the recipient of several tangible and valuable testimonials." Dr. Mills replied, "You need have no fear, the profession will stand by you. No man can afford to promulgate such a claim of priority, for it comes too late."

In a well-meaning but ill-advised move, Dr. Mills then placed the following notice in the widely circulated American Journal of Dental Science:

As we here all know Dr. S. C. Barnum to be a man of modest pretensions and an upright member of our profession who has gone in and out before us all these years, quietly and unobtrusively, and we can but feel that to have his claim called in question at this late date, and considering all the publicity given it, and also considering his quiet and polite demeanor, his failing health, it is only kind and just to give him our sincere and hearty cooperation in maintaining more tenaciously the need of praise already accorded to him. I feel that to italicize these expressions is not enough; but it can be done in a more tangible and practical manner. Let us one and all enclose to him a dollar Postal Note, with our own words of encouragement and praise. By this we will be putting flowers on his home mantlepiece that shall shed a grateful fragrance, helping him to make his last days his best. Dr. Barnum is not over-supplied with this world's goods. His opponents have no need.

Dr. Barnum was painfully mortified to read the announcement, especially concerning the part that said that he was financially embarrassed. In a printed card, he feelingly contradicted it and returned the money whenever he could.

Dr. Barnum was a member of the First Division, Third Brigade of the Seventh Regiment, National Guard, State of New York and received his honorable discharge in 1873. In religious belief, he was a Universalist, being an attendant of Dr. Chapin's Church. After Dr. Chapin's death, he worshipped with Dr. Pullman for whom he had a strong personal attachment.

He died at his father's home in Monticello, December 24, 1885, at 47 years of age and 4 months. He was buried in St. John's Cemetery, Monticello, New York.

In his biographic sketch of Barnum, Thorpe dramatically concludes:

He will ever be known as the profession's benefactor who made it possible, 'to govern the tide and command it to go hence that we may approach the wreck on the beach and repair the breaks in the hull that the ship may continue to sail on its mission of usefulness.'

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DENTISTRY IN FOLK ART; I: Sunday color comic strip by Frank Swinnerton, 1903.
Professional Dental Organization in Antebellum America

—JAMES F. GARDINER, D.D.S., M.P.H.
MAXIMILIAN REICHARD, A.M., Ph.D.
New Orleans, Louisiana

The better class of operators shunned fellowship with the rest, and in a state of sullen and fretful isolation, grieved over evils they knew not how to avert. (Chapin Harris, editorial, American Journal of Dental Science, 1850, I, p. 397.)

The profession of dentistry, like many other institutions in American society, went through a profound change in structure, function, and values in the first half of the nineteenth century. Indeed, modern dental practice as an organized profession was born in this era.

One of the most persistent chroniclers of American dentistry, Bernhard Weinberger, concluded that he could not account for the labor pains:

What happened to dentistry between 1820 and 1835, I cannot dwell upon at this time, except to state that a serious situation arose that compelled the better type of practitioners to band together, not only as a forum of exchange of knowledge and fraternal intercourse but to prevent quackery from becoming rampant.  

That, of course, was an account of “what happened to dentistry,” but Weinberger was a serious historian who realized that the internal dynamics of dentistry could not account, except in part, for the changes which occurred. After all, these changes were not peculiar to dentistry, and they did not end in 1835.

Almost all American institutions and certainly all the professions went through a common pattern of changes in this period. To understand the origins of modern dentistry, the changes in the larger social order of American society must be understood.

SOCIETAL CHANGES IN THE PRE-CIVIL WAR ERA

What occurred in American society between the Revolution and the Civil War, a span of time shorter than two lifetimes, has been variously characterized as the decline of gentility, the advance of democracy, and the growth of egalitarianism. Alexis de Tocqueville, visiting America in the 1830s, perceived the relationship between an emphasis on individual progress and the ideals of equality:

Among democratic peoples new families continually rise from nothing while others fall, and nobody’s position is quite stable. The woof of time is ever being broken and the track of past generations lost. Those who have gone before are easily forgotten, and no one gives a thought to those who will follow.  

Historians do not agree with all such generalizations, but there is a consensus that, for whatever reasons, there was a decline in respect for
traditional institutions and values, and for authority of any type. The minister and the seminary, the lawyer and the courts, and the physician and medical schools were all challenged by democratic ideas. Special knowledge, expertise, and craftsmanship were considered elitist and antidemocratic; it was believed that anyone could do anything and should be allowed to try.4

From the early nineteenth century, in the professions as in the larger American society, a continuing conflict can be perceived between modern values which emphasized freedom and individual rights and more traditional values such as the need to have social responsibility and order based on institutionalized authority. In the 1820s and 1830s rights were no longer the prerogative of high status, or not supposed to be. In contrast to a society based on elitism and inequality, and on rule by the “better citizens” who provided the stability of privileged birth and established family, a new ideal was given credence. The revolutions of the eighteenth century spawned the entrance of the mass into the politics of the 1820s and 1830s. This new ideal emphasized the individual and natural rights; it argued for a natural harmony between private interests and the public welfare. It was believed that the individual would naturally fulfill a positive social function in competing in the marketplace and in seeking his own interests. Caveat emptor and laissez faire became substitutes for ideals of pro publico boro and communitas. The ministry, law, and medicine, while never giving up totally their medieval ideals, all responded to the changes which affected social organization in the nineteenth century. The emergency of dentistry as a profession separate from other medical professions, occurred in an atmosphere of tension between competing values. This study will briefly narrate that emergence and suggest how modern dentistry belongs to the history of the larger social order.5

THE ORIGINS OF THE SEVERAL LEVELS OF DENTAL PRACTITIONERS

Society has always required and demanded persons of learning and ability, especially when knowledge and skills of a particular type were critical to its efficient function. The dependence of society on these individuals led to a grant of special powers, with special authority over members of society, but with a larger responsibility as well. In the Middle Ages specially skilled individuals were regulated by the corporate nature of institutions which took into account the status of the individual in society. In medicine, for example, guilds protected and restricted practice. Guild membership was based not on ability but on the privilege of status usually acquired by birth. The assumption was that those privileged to be members of the guild were in fact the most capable. By the time of the Atlantic Revolutions not only was this complex web of culture torn, but also attempts to weave a new pattern were largely futile because so many different patterns and weavers were involved in the process.6

From the beginning the practice of dentistry in America had few restrictions beyond individual conscience and the marketplace. During the Colonial period a fierce and tenacious spirit of independence characterized dental practitioners, who fell into two categories broadly defined by training. The higher level practitioner was medically trained, either by attendance at medical lectures or by a preceptorship with a medically trained
individual. This practitioner specialized in the restorative aspects of dentistry such as operative and prosthetics, and his clients were for the most part persons of substance. This pattern continued into the nineteenth century so that as late as 1844 M. Rogers, M.D., a well-known physician-dentist, expressed an opinion typical of the higher level practitioner:

To get a proper idea of the importance of our profession, it is well to inquire who are the subjects of it? It is not with us as with the profession of medicine, where the lame, the blind, the halt, the poor and the distressed of life, get the largest share of professional labor. Our principal business is performed for the most valued, most useful, and the most beloved members of society.

The other type of practitioner seemed to concentrate on surgery and advertised himself as a "tooth drawer." Practitioners of this type often had no formal training and had little formal, academic education. In an article by Dr. John McCabe in 1839 on the abuse of dental practice, the following letter appears under the hand of a barkeeper turned dentist:

Dear Sur

I take pen in hand to inform you of how I am doing. I have turned dentist and am making money. I have a mity nice office in this place, and keeps a sulkey I am very fond of drawing teeth and meen to learn how to make seahorse teeth. This is a better profession than making Cocktails at hapence a glass. Yew must rite to meen at this place;

I remayn your humble survant

Since most educated practitioners believed that dentistry ought to serve the "most beloved members" of society, the lower level practitioner was fulfilling a societal need. Regulated by only the marketplace, and often involved in cases of severe malpractice, these practitioners nonetheless served a vital function in providing a service to the large segment of the population who could not afford the better educated and trained dentists. The practice of dentistry varied on a continuum from competent (within the parameters of existing knowledge), to outright quackery. Practitioners had little contact with one another and were very possessive of their professional knowledge and skills. And although the value of individual honor and duty to perform one's best was certainly part of the ethics of the gentlemen trained to the calling, the typical practitioner was untrained and, all too often, unscrupulous in his public service.

FORCES WHICH FOSTERED PROFESSIONAL ASSOCIATION

Dental practitioners were latecomers to deliberations on the nature of professional life. Medicine, law, and the clergy had begun to work toward resolution of that issue by various, pluralistic means as many as fifty years earlier. In medicine the first voluntary associations and medical schools in America dated from the eighteenth century. Until the nineteenth century, however, it was unclear what role the structure and functions of these institutions would play vis-a-vis the individual practitioner. The intensity of the struggle in dentistry during the 1830s, however, was due to many factors. The two most important seemed to be: first, a growing separation of dental practitioners from other medical practitioners; and, second, an accompanying concern about malpractice, particularly following the rapid influx of untrained individuals into dentistry during the economic depression of the mid-thirties.
The activism of some of the better practitioners was probably also fueled by a concern for the growing disparity in quality of care available to the public and the generally low esteem of dentistry. Perhaps of more immediate concern, these dentists considered the increasing number of lower level practitioners as a threat to their economic security, particularly since the growing emphasis on individual entrepreneurship was equated with the God-given right to the pursuit of happiness. Some of these better practitioners made a clear decision to give definition and restriction to dentistry through a variety of organizational efforts, but primarily they followed the pattern of other professional, business, and citizen groups in antebellum America — the voluntary association. Solyman Brown, a leading dentist of his era, in summing up the sentiments for such an organizational effort in 1839, said, "It is our duty, as good citizens, to labor collectively, as well as individually, for the elevation of our profession in character and in usefulness." 13

James McCabe, a contemporary of Brown, described the particular force of such voluntary associations in 1843:

It seems to comport with the genius of our free institutions, that great public benefits are most effectively secured by associations for their prosecution . . .

What uttered by one, would be regarded as heresy, or an attempt to obtain professional reputation, spoken by the many, assumes the tone of an oracular voice, and finds in the listeners, willing disciples to its teachings; this then is an advantage derived from association, and its name is legion. 14

The rationale for a voluntary association was provided by Brown and McCabe, but not an explanation. A succinct explanation has been suggested by Rowland Berthoff in An Unsettled People, a social history of American institutional development: "A disordered society being unable to resolve its own disorder, new institutions suited to the times had to be devised." 15 This is not functional or historical determinism, for contemporaries like Brown and McCabe seldom understood the conflicts they faced or the paradoxes they created. American society seemed to be characterized by revolutionary conservatism. Berthoff, however, is not satisfied to leave such paradoxes unexplained:

Americans throughout the nineteenth century were . . . casting about for social institutions with two essential qualities: consistency with the revolutionary new individualism of private enterprise, and yet the capacity to cope with the social anxieties that were products of the same economic revolution. The answer was the voluntary association. 16

WHAT WAS THE ROLE OF THE NEW SOCIETIES TO BE?

The problem of defining the role of a specific voluntary organization, however, was not as easily solved. Who was to control it? Who was to constitute its membership? And what were its objectives to be?

Any effort at control of dental practice through a voluntary association threatened the lower level practitioner since he would likely be unable to join. But even among many higher level practitioners there was passionate argument against restrictions on practice. In 1849, Dr. Henry James Brown summed up the feelings of many practitioners for the prior two decades:

They who claim for voluntary associations more than an advisory prerogative have fallen into the error of attempting to make those obedient
to laws in which they had no part in their formation, and who have never assented to any test which may have been established. A few individuals, in a county or state, voluntarily band together as a medical association with no other authority than that possessed by them in common with the members of a large body of professional men, and modestly claim to be the Medical Faculty, and issue their edicts with the authority of an emperor, commanding all men to choose between unconditional obedience and unmitigated disgrace! What can be more ineffably farcical than that a few members of the same family, possessing no excellency or authority above the rest, should claim to be the family, and exact obedience from the whole circle to such laws as they may enact, upon pain of forfeiture of the patrimony which it was intended should descend to all!"

It was probably inevitable that the first dental association would be viewed by most dentists as the creation of an elitist, Eastern clique whose sole purpose was to impinge upon their individual practices. And further, it was suspected that the criteria for membership would be set so that membership would be unobtainable for the majority of individuals in dental practice.

FAILURE OF THE FIRST SOCIETY PAVES WAY FOR SUCCESS OF THE SECOND

The first voluntary dental association was the Society of Surgeon Dentists of the City and State of New York, founded in 1834. The association seems to have been organized against the wishes of most practitioners, and it existed in relative obscurity, with few members and no organ of communication. Members of this first association did petition the legislature of the State of New York to grant a charter for a dental school. They failed in that effort, but many of the practitioners involved in that first effort were later to succeed in the State of Maryland.

How was this small coterie of concerned dentists to bring form to the amorphous profession of dentistry? How would they impose structure beyond the local level, eliminate what they believed to be quackery, and attain parity with the practice of medicine? They expected to accomplish these objectives by: first, establishing a national journal of high quality which would be available to all the better practitioners in the country; second, forming a national association of dentists with discriminatory powers and with restrictions on membership; third, founding a dental college which could supplement the preceptorship method of training; and, finally, codifying rules of ethics within the states, that is, encouraging the enactment of dental laws.

LAUNCHING OF THE FIRST JOURNAL AND NATIONAL SOCIETY

The seeds of an organizational revolution in dentistry were sown in June of 1839 when the first national dental journal, The American Journal of Dental Science, was published under the sponsorship of Eleasar Parmly, Elisha Baker, and Solyman Brown. The Journal was not intended for the eyes of all those practitioners who called themselves dentists. In a prefatory address to the readers, the editors stated that "the details of Dental Practice and even the more sufferable theory of our Art, possess an absorbing interest chiefly with the more intelligent, and ambitious of
our own profession; and it is to them therefore, that we appeal."  The appeal was elitist, and the Journal was intended to be a conservative force, but at the same time it appealed to the liberalism of the era by aiming at the "talented" individual.

In their prospectus, the publishing committee stated a detailed plan of publication with twelve objectives. These objectives were both educational and functional. Among the educational objectives were "a general diffusion of dental knowledge among subscribers" and "the printing of important dental treatises and articles." Among the functional objectives were "elimination of quackery from the profession" and "the publication of a list of subscribers" which would provide an ipso facto recognition of good dental practice. Successful accomplishment of the educational objectives was theoretically possible, but until the Journal became the organ of a national association the functional objectives were impossible.

The American Society of Dental Surgeons came into existence in New York City on 18 August 1840, a short year after the Journal began publication. Article I of the Preamble of the Society stated its purpose:

The objects of this society are to promote union and harmony among all respectable and well informed Dental Surgeons, to advance the science by free communication and interchange of sentiments, either written or verbal, between members of the Society, both in this and other countries; in fine, to give character and respectability to the profession, by establishing a line of distinction between the truly meritorious and skillful, and such as riot in the ill-gotten fruit of unblushing impudence and empiricism.

Article I describes in reality two functions for the Society, one which most practitioners were willing to grant it, the other which they were not. The free communication and interchange of sentiments had as its premise the educational enlightenment of all who would associate. But the function of establishing a line of distinction between practitioners was not so readily agreed upon.

**SOCIETY AND JOURNAL PROVIDE IMPETUS FOR PROFESSIONAL SCHOOL**

Membership in the new Society was limited in its formative years, but among those who were permitted the privilege of association there was an early and vehement call for a professional school. An earlier call by Chapin Harris in 1839 for such a school was echoed by the membership. Harris had written:

We should furnish the necessary facilities for those who may design practicing the art, to qualify themselves properly for its duties. Dentistry should be as much the subject of public instruction, as medicine and surgery; and to me it has been a matter of much surprise, that the efforts of the better informed of the profession, have not been directed to the establishment of an institution for this purpose.

Of course, not a year after he had penned those words, Harris, along with Horace Hayden, laid the foundations of the Baltimore College of Dental Surgery. Evidently, the State of Maryland was more amenable to granting a charter for such an institution than had been the State of New York.
COMING OF DENTAL PRACTICE ACTS

The last of the mechanisms for change within the profession as envisioned by the founding fathers of organized dentistry was the enactment of state dental laws. Alabama did enact the first dental practice law in 1841, but there was no widespread movement toward such legislation until later in the century.

It is apparent that four crucial events occurred during the period 1839-40. Among many of the better practitioners the response to the changes was supportive. In 1844, Dr. James McCabe remarked with obvious pride upon the events of the recent past:

The American Society of Dental Surgeons and the Virginia Society, (and others which may be formed in the several states), present a means to unit the profession, to bring them together, and inspire a proper zeal in the elevation of their art . . . .

The Journal, as the record of transactions of all, should have a place in the library of every practitioner, and by the simple operation of the facilities, a large share of what is required, will be accomplished, but the crowning act, will devolve upon 'The Baltimore College of Dental Surgeons.' This last institution, presents itself with strong claims upon the profession, as the only dental college in the world!!

WHAT WAS THE IMPACT OF THESE INSTITUTIONS UPON THE PROFESSION?

By mid-nineteenth century the mechanisms of change had been put in motion and a major shift in the character of dental practice seemed imminent. But major changes in practice were not to be automatically forthcoming. All of these changes began during a period of history known as the Age of Jacksonian Democracy. Simply stated, it was a period when many persons believed that the future of America was unlimited, that it was a society of the "long chance," of entrepreneurship, and a society which was perfectable without the restraints of traditional authority, especially government. Dentists shared in the values of their society, valuing both private enterprise and freedom from external constraints. The organization of dentistry into a distinct profession did not temper the conflict between such values and the public responsibility. Indeed, internal problems so concerned the profession, that there was little room for concern for the public at large.

Thus, the immediate impact of the nascent developments in dentistry was minimal. The Journal existed almost as a labor of love for approximately fifteen years before its demise. The first dental society collapsed under the weight of its authoritarian proscriptions against the use of amalgam alloy in dental restorations during the famous "amalgam war." The first dental school attracted a mere handful of students during its early years, and it was not until well after the Civil War that it had any impact upon dental practice. The first dental law in Alabama proved unenforceable, and, as noted earlier, the next attempts at legislative restrictions upon dentistry occurred only later in the nineteenth century.

WHAT WAS DENTISTRY'S FIRST RESPONSIBILITY?

In its formative years dentistry was not dominated by any oppressive allegiance to old medical beliefs. It had, in fact, been among the freest of
professions in the country. But the lack of restraints led to abuses (real and perceived) and to a conservative revolution. The important and largely unanswered question was how to give structure to an unstructured profession and yet leave it free in its pursuit of new knowledge, skills, and techniques.

That question, moreover, was related to a larger issue: the place of dentistry as a public service profession in the larger social order. Was it, indeed, another opportunity for the entrepreneur, as land was for the farmer and the speculator? Or was dentistry’s first responsibility to the public good?

The process of professionalization in general has been caught in a conflict between competing values in the American tradition. The fragmentation of learning, science, and public service into distinct, compartmentalized groups was partly a symptom of the emphasis on individual competition, even in public activities. Thus, the dentists, as one fragment of the medical community, made claim to certain rights and privileges lest others claim that domain. As a result, “... occupational subspecialties detached themselves from larger specialties in that same search for distinctiveness ... homogeneity ... [and] autonomy” which characterized regional, ethnic, religious, and other groups in American society.

PRIVATE RIGHTS VS. PUBLIC SPIRIT

Throughout American history there has been a value competing with rampant individualism. There has always been a concern for the public welfare, for working for the larger community. That value, that spirit, is perhaps stronger than ever today. But from the founding of the first colonies the concern for the commonwealth was overwhelmed by concern for individual wealth, by what has recently been labeled “privatism”: the bias toward private rights.

Perhaps the public spirit, the community spirit, was not so much disabled by privatism as it was diverted into segmented, pluralistic activities — a neighborhood, a church, a voluntary association, a profession. “The public tradition [has] endured without flourishing.” 24 Ironically, the concern for the public good may have been channeled into support of the self-interest of the individual as a member of a group of like-minded individuals. Being like-minded, their loyalty and public concern was for the group, often at the expense of other, weaker groups or the society at large. Nowhere is this clearer than in professional organizations:

By definition, the units of specialization in the twentieth century rewarded members for the purity of their resolve to an occupation. Professionals were hired, paid, and honored for such priorities ... Doctors who pondered the illnesses of the poor, automatically raised questions about their dedication and dependability. 25

It might be argued that the learned professions, particularly scientific ones such as medicine and dentistry, do not fit this model of privatization because of the nature of the discipline and the work. But, indeed, as sociologist Reinhard Bendix has recently argued, professionalism and scientism in the modern world, like liberalism, capitalism, and Marxism have assumed that “the intractable problems of today would be resolved by the increased productivity (or knowledge) of tomorrow.” 26

That assumption seemed satisfactory as long as potential abundance
was unlimited — land, resources, technology. The vices which accompanied private pursuit of gain at the public expense were tolerated as long as the people believed that ultimately the benefits would trickle down to the larger public.

Increasingly, however, the limits of growth, particularly unplanned, unregulated growth, have been recognized. This is as true for the learned professions as for business and commerce: "As long as the private pursuit of knowledge yielded public benefits, the questions of priorities could be ignored and pluralism enjoyed." The faith and confidence that knowledge — and its private pursuit of private ends — would necessarily benefit the public are questioned severely today.

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1976 is a year of celebration, the bicentennial of the founding of these United States as well as the silver anniversary of the founding of our Academy. And for the next few moments, I would like to briefly trace the correlation between 200 years of our nation and 200 years of dentistry in America.

THE MOMENTOUS GROWTH OF DENTISTRY IN THE UNITED STATES

The dental art in the United States can be traced to Colonial days, a time when there were a small number of practitioners who had come from the Old World where they received the traditional preceptoral training. There is much evidence to show that they were not only travelers throughout the Colonies, but many had settled in the major cities along the Eastern seaboard. These, in turn, became the preceptors to native-born men who transferred their talents in crafts to dentistry. Thus within another generation there developed a number of native dental practitioners.

These were men of dedication to the dental art from whom sprang the beginnings of the profession of dentistry. They established ethical modes of practice, developed a technology adapted from other mechanical arts, and initiated the publication of a literature devoted to enlightening the public as well as for professional advancement.

The next generation of dental practitioners sought to establish its calling upon a sound scientific basis. This led to the establishment of specialized schools of training - dental colleges - which had on their faculties both dentists and physicians, and who were able to transmit medical and scientific knowledge.

In an effort to elevate their art and science and to eliminate the quack and charlatan, they sought companionship, friendship, mutual enlightenment and discussion of mutual problems. They gathered together and formed dental societies. And, to promote the spread of this new found experience, they established dental periodicals.

The latter half of the 19th Century saw the formation of a professional organization that has existed to this very day, the American Dental Association. It also saw the establishment of more than 50 proprietary dental colleges, which together with the preceptoral system, resulted in a dentist population of close to 30,000 by the year 1900. There was also the invention of new techniques and the perfection of established methods.

Information became more available to the profession through jour-
nals and other publications sponsored by individual dentists, by dental organizations and schools, as well as by manufacturers or dealers in dental supplies. These years saw an ever increasing number of textbooks and other works on practically every phase of dentistry, with over 500 volumes produced.

Great strides were made in dental practice by the introduction of the x-ray; the invention of local anesthesia as well as by commercial companies promoting the manufacture and sale of supplies and equipment. Capping these advances came the regulation of dental practice by state agencies.

With the advent of the 20th Century, dentistry continued to advance on many fronts. Not resting with pre-eminence in technology, American dentists increased their research in the biologic sciences. There were other notable advances: a growth of professional literature; an awareness that dental fitness is a part of the totality of health and a recognition of social responsibilities in the practice of the profession.

Dentistry was always equal to the challenge. As the need and demand for concentration in a particular field increased, specialties were created. Dentistry was recognized as an integral part of a comprehensive health program when a Dental Corps was created in both the Army and Navy. Auxiliaries were introduced into the field with the utilization of dental hygienists, dental assistants and dental laboratory technicians, thus creating a team approach to dentistry.

Prevention had by now become the key to the development of modern dentistry. New concepts of nutrition, studies in microbiology, research into the histo-pathology of dental organs and the re-evaluation of anatomical structures all became standard studies in modern dentistry. Thus, the remarkable advances in dental technology became matched by progress in the prevention of dental and oral diseases.

Dental practice management is being more seriously studied than ever before. The concept of independent private practice is being challenged by new social and political forces. Dentistry has moved to a position of the highest priority in the delivery of health care.

Thus the modern dentist must develop extensive technical and clinical skills based on a sound biologic basis. In addition, he must possess a background in ethics, philosophy, social sciences and humanities which makes him capable of understanding and meeting the great demands and challenges of the future.

THE GROWTH OF OUR ACADEMY RECAPITULATES THE GROWTH OF AMERICAN DENTISTRY

Having briefly glimpsed the fascinating course of the history of our profession in America, we are struck by the fact that the development of our Academy bears a striking resemblance to the development of dentistry itself. It its beginnings and its rise, dentistry's growth was the result of individual effort which gave way to collective effort. Similarly, dental historiography started as a labor of love of individual men. The preservation of our history was their greatest professional concern. There was a handful of ardent historically-minded practitioners who saw the necessity of researching, preserving, and publishing the results of their work. They felt that in this way a foundation would be laid for future use. But they worked in isolation and, in addition, fostered their own interpretation of
historical developments and claims to priorities. Historical methods of procedure had not been established; moreover, their influence was not felt by the great number of dentists or interested laity, and thus their efforts received scant attention.

To have continued along this road would have led to disastrous results. Without uniformity in research methods; without an organized, systematic approach to the subject; without some training in the historiography of science; and without proper integrated relations with other science historians, their efforts would remain amateurish, or even be lost.

And so there developed in the minds of a few dental historians the realization that to preserve this most important aspect of our culture and tradition there should be a "community of dental historians." This was envisaged as an organization which would unite all those having an interest in dental history. And thus the story of our Academy begins.

There can be no question that the Father of this organization is J. Ben Robinson. Last week he wrote me that he would be unable to attend this meeting because "Father Time passed the word along that I should not do with travelling for fear of over-exertion. Best wishes for a fine meeting. Regards to the fellows." We will excuse him since his 93 years precludes an exacting schedule. He has been one of the pioneers in this country in the study of the history of dentistry and the premier teacher of the subject at the Baltimore College of Dental Surgery of the University of Maryland. It was my very good fortune to be one of his students.

For years Dr. Robinson had been a leader in advocating that the history of dentistry should be studied not only by dental students but by the rank and file of the profession as well. To this end he helped in the formation of a Committee on History in the American Dental Association. When in 1950, the American Dental Association decided to disband this Committee, he discussed the matter with many friends and soon realized that the only way to keep alive this concern for dental history was to organize a society devoted to it. He began by calling together certain key persons to discuss this project. I was fortunate to be invited, together with Emeritus Professor Gardner P. H. Foley (then Mr. Foley); Dr. Harold L. Faggart of Philadelphia, an instructor in dental history at Temple University School of Dentistry; and Dr. William E. Hodgkin of Warrenton, Virginia, one of the most outstanding scholarly gentlemen of the South. The meeting engendered the highest enthusiasm and all agreed to the formation of an society, as yet unnamed. All persons who were actively interested in the study, research or teaching of dental history were to be invited to an organizing meeting. Dr. Robinson and Mr. Foley volunteered to draw up a tentative Constitution and By-Laws for consideration at that meeting.

A list of 70 persons who had shown special interest was drawn up, and invitations extended to them to attend a meeting in Washington, D.C. during October of 1951. Positive replies were received from 45, with many of them expressing a keen interest in the project and plans to attend. The others conveyed their interest, but regretted that they were not able to be present. At 9:45 A.M. on October 16, 1951, at the Mayflower Hotel in Washington, D.C. a meeting was called to order by J. Ben Robinson announcing that the purpose of the gathering was the formation of an organization of individuals interested in the study and teaching of dental history.
The charter members were: Bert C. Anderson, New Haven, Connecticut; Milton B. Asbell, Camden, New Jersey; Otto H. Brandhorst, St. Louis, Missouri; Homer C. Brown, Columbus, Ohio; George B. Denton, Chicago, Illinois; E. J. Doran, Buffalo, New York; J. Martin Fleming, Raleigh, North Carolina; Gardner P. H. Foley, Baltimore, Maryland; William E. Hodgkin, Warrenton, Virginia; L. W. Johnson, Denver, Colorado; Morris C. Keikind, Washington, D.C.; Milton Siskin, Memphis, Tennessee; E. J. Ginn, Memphis, Tennessee; Arthur H. Merritt, New York, New York; R. W. McNulty, Los Angeles, California; Wayne K. Stoler, Valparaiso, Indiana; Herman F. Stamps, Washington, D.C.; Walter H. Wright, New York, New York; J. Ben Robinson, Baltimore, Maryland; and Harold L. Faggart, Philadelphia, Pennsylvania. These twenty-one men from 16 states achieved their goal: the establishment of an organization that would become a fraternity of dental historians, men working together to foster the development of a program that would hopefully become a part of dentistry. The goals were fourfold: to spark the interest of the rank and file dentists in the important subject of dental history; to give encouragement to dental schools in developing historical collections and offering adequate courses in dental history; to encourage leaders in the dental profession to develop a broader understanding of dental history in order to help them in solving important problems in dental education and practice; and to stimulate thorough and comprehensive research in dental history. For the first time an authoritative body was created to which important questions relating to dental history could be referred.

After general discussion, the group unanimously approved the formation of The American Academy of the History of Dentistry and selected the following officers: J. Ben Robison, President; Arthur H. Merritt, President-Elect; Harold L. Faggart, Secretary-Treasurer; Gardner P. H. Foley, Editor. Milton B. Asbell, John E. Gurley, George B. Denton, J. Martin Fleming and Lloyd W. Johnson completed the Executive Committee. The Constitution and By-Laws, drawn up by Dr. Robinson and Mr. Foley, were adopted and $5 per year dues approved. It was decided that the first regular annual meeting would take place on September 6, 1952 in St. Louis, Missouri.

This first meeting was a huge success with 40 members in attendance with scholarly papers presented by Drs. L. Laszlo Schwartz of New York, George B. Denton of Chicago and Nell Snow Talbot of Chicago. The business meeting concerned itself with the establishment of criteria for membership, awards and dues. Dr. M. D. K. Bremner outlined his views of the matter of awards. As a result of his great interest, he established a fund, the proceeds of which were to be used to give awards for original papers on dental historical themes submitted by dental students. Gardner P. H. Foley chaired this project for many years and established it as a permanent activity of the Academy. The treasurer’s report showed the magnificent sum of $240! Our logo was approved, as were the Constitution and By-Laws.

The publications of our Academy, since 1968 under the excellent editorship of Dr. Malvin E. Ring of Batavia, New York, did not then enjoy the relative security they presently have. In those early years George B. Denton was chairman of the Publications Committee. He issued an informal newsletter which was underwritten, strictly as a courtesy, by friends at the American Dental Association. In 1953 the Academy
designated this newsletter as the official Bulletin of the Academy with Donald Washburn as Editor. For the first time honorary membership was conferred upon Dr. Vincenzo Guerini of Italy, Sir Frank Colyer and Mrs. Lilian Lindsay of England, and Dr. Hermann Prinz of the United States. The present custom of holding the annual meeting immediately prior to the opening session of the American Dental Association was adopted.

In 1954 Dr. John Gurley as Chairman of the Committee on the Survey of the Teaching Dental History presented a most comprehensive and outstanding report. For the first time there was available an accurate description of the courses in dental history taught at our dental schools. It included many details such as time allotments, course content, and so forth. As a result of the report, the Academy established a Committee on the Teaching of Dental History. In fact, a few years later a detailed report by Dr. Robinson was included in the agenda of the 1958 annual meeting of the American Association of Dental Schools.

The proceedings of the Academy’s 1954 annual meeting, together with papers presented, were published in the September 1955 issue of the Journal of the American College of Dentists. This was a great compliment for a but recently organized dental society and showed the impact our work was having on the profession.

Our affiliation with the Smithsonian Institution began in 1958 with a special committee chaired by the late C. Willard Camalier, Sr. Starting in 1960, he was instrumental in securing dental artifacts for the proposed dental museum to be established in the Hall of Dentistry of the Museum of History and Technology. Admiral Alfred Chandler has headed the committee since 1967. The result has been a strong cooperative effort with the Institution, especially with our Academy members on the staff, Dr. Audrey Davis and Mr. Everett Jackson.

In 1959 the first joint meeting with the Subcommittee on Dental History of the Federation Dentaire Internationale was held. (This was to be repeated in 1969 and 1975.) From those who attended this first joint meeting came nothing but the highest praise. It was called one of the finest meetings on the history of dentistry ever held throughout the world. The program was a joint effort with speakers from the United States and Europe. It was the centennial meeting date of the American Dental Association as well, and there were many magnificent exhibits by our members: rare books; newspapers; journals; collections of early hand instruments; extraction forceps; porcelain items such as figurines and mugs; and many paintings and prints of dental subjects. Various presentations were made, among which was a gavel made from wood from a walnut tree from the farm of G. V. Black.

In 1964 efforts were made to establish our own journal, and appointed to this task were Jacob Sharp, Donald Washburn and Harold Hillenbrand. Closer ties with our colleagues in foreign countries was desired, and a Committee on International Relations was established with Eli H. Siegel as its chairman. As a result contact was made with friends in Brazil, Holland, England, Sweden, Mexico and France, ties which continue to this very day.

Under the chairmanship of Past-president George E. Batterson A Guide to the Teaching of Dental History was published by the Academy. It went into a second printing; copies are available from the secretary.

In 1967 the Academy presented its first Hayden-Harris Award to J. Ben Robinson. The award, named after the two founders of the first den-

To help support the publication of the Bulletin of the History of Dentistry, the Academy received contributions from the Henry Spenadel Fund for the Advancement of Education in Dentistry and the William J. Gies Foundation for the Advancement of Dentistry. The grants were in the amount of $750 from each organization for a period of 5 years beginning in 1971. Needless to say, this was most appreciated and gave the Academy the financial support it needed so desperately. During this time Dr. Henry A. Swanson was chairman of a liaison committee with the dental section of the Medical Library Association to help establish a greater interest in dental history within that Association.

This brief recital of the various facets of the Academy's short 25-year span does not reflect the sincere devotion, time and effort spent by those who have gone to their final reward. I do not in any way begin a eulogy, but rather a vote of appreciation and a recall of those past officers who should be remembered at this time and as long as the Academy exists. I recall George B. Denton of Chicago, a scholar of the highest order in literature and history, who nursed our publications from their infancy until they could be taken over by younger men. William N. Hodgkin, one of the founders of our Academy, who gave unstintingly of his efforts during the formative years. C. Willard Camalier, Sr. through whose efforts thousands of persons were able to view at the Smithsonian the heritage and tradition of American dentistry. John W. Gurley, whose pre-eminence as author and editor brought to the attention of the dental profession the splendid activities of the Academy. Arthur H. Merrit and L. Laszlo Schwartz of New York City who guided our Academy during the early days. Sam R. Parks and Walter E. Stout; Van B. Dalton and James M. Courtney; W. Edgar Coleman; all of these gave a full measurement of concern and effort to further the aims and purposes of our Academy.

This American Academy of the History of Dentistry was founded "to stimulate interest, study and research in the history of dentistry." Its charter members were men who, through research and special interest, made substantial contributions in broadening this field of knowledge. Through the intervening years the Academy has attracted other individuals who have taught or written dental history; who have collected and documented dental memorabilia; who have researched early dental practice and education; who have collected and preserved early dental literature; and who have contributed to dental knowledge through related disciplines in the life sciences. The goals of the founding Fathers is being realized.

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(Presented at the 25th Annual Meeting of the American Academy of the History of Dentistry, Las Vegas, Nevada, November 12, 1976.)
In the late 1700’s electricity was the new scientific wonder. Generators had been introduced which allowed a modicum of direct electric current to be produced, but of insufficient intensity for most practical purposes. However, this new energy source was looked upon by both honest practitioners and charlatans in the healing arts as a tool to be exploited, with the quacks sadly outnumbering the honest souls in its promotion.

Physicians tried electricity for a variety of ailments, beginning with John Fothergill who sponsored Benjamin Franklin’s work and which resulted in the latter’s publication in 1753 of Experiments in Electricity. Among his attempts which failed was an electric shock cure for palsy.

Quacks abounded and many notorious ones made use of electricity. A “Dr.” Elisha Perkins of Connecticut achieved fame through the use of “electric tractors” made of mysterious alloys and which he claimed “…would draw out disease wherever seated.” The public’s enthusiasm was boundless and so was Perkins’ business.

One of the most grandiose flim-flam schemes was that introduced by an Edinburgh physician, James Graham, who had been inspired by a meeting with Franklin while on a visit to America. Otto Bettman, in his Pictorial History of Medicine describes this monumental hoax.

(It was) a colossal monument to charlatanry, an electro-therapeutical showplace which he established in London under the name of “The Temple of Health.” Its main attraction was the Celestial Bed. A night spent here, Graham promised, would rejuvenate the old. The bed which soared above the floor on forty magnetized pillars was available at a rate of 100 pounds a night with accompanying soft music and seductive shawl dancers, such as the beauty who later won fame as Lady Hamilton. Graham called the state of medicine “inadequate, ineffectual, absurd, ridiculous.” His words proved an apt verdict of his own efforts.

By the mid-nineteenth century the healing professions were still attempting to utilize electricity, but with little success. This held true for dentistry as well as medicine. An electric “toothache machine” was introduced about 1850. The patient grasped one electrode, the dentist the other, and while the assistant cranked the machine the dentist touched his finger to the offending tooth and the toothache miraculously vanished, or so the gullible were led to believe. (This machine was exhibited at the 1976 annual meeting of the American Academy of the History of Dentistry by Dr. Robert A. Sproull.)

Some dentists believed that if electricity were applied to a tooth at the time of extraction, anesthesia could be achieved. This was eagerly grasped at by the many dentists who had not yet learned the techniques of administering the new gaseous anesthetics, and injectable local anesthetics were still half a century in the future. Reports of “success” with this new modality were widely reported in the literature. One of the
most interesting, and curious, reports was the juxtaposition of two separate articles on the same page (66) of the same issue of Volume I of the New York Dental Journal for 1858. The first item reported; in all seriousness, that

A new process of extracting teeth has been tried in Baltimore with success. All that was felt was a numbing sensation about the teeth, produced by passing a current of electricity through the tooth at the time of extracting. The patient grasps firmly in his hand one pole from an electro-magnetic machine, the other pole is attached to the forceps, and by this means a current of electricity is passed through the tooth, and produces a local anaesthesia, and so avoids the use of chloroform or ether.

This was not tongue-in-cheek reporting, and so it is very hard to reconcile this with the Journal's reprinting immediately after this report of the following satirical essay which the Journal culled from the New York Sunday Dispatch. It seems that the Dispatch's writers weren't as easily gulled as the dentists!

The members of the minor branch of Medico-surgical Science, will be found to be following in the footsteps of the illustrious higher branches of the learned profession. We allude to the Professors (!) of Dentistry, a peck of whom — who, from their excessive increase of number, must now be taken by their measure rather than counted upon their merits — met at 2051 Pully-hauly street, in a neighboring vicinity, to experiment on a few unfortunate, but morally guilty, wretches; of the offence of being victims to that curse of human afflictions — the 'toothache!' The newly-invented instrument experimented with by these Mechanico-Surgico-Philosophical men of science, in their search under the most painful — to their poor victims — difficulties, was — pause gentle reader, and hold your breath, while we state the name of this wonderful instrument — it was nothing less than A Compound-Electric-Antipain-Magnetic-Painless-Tooth-Extracting Forceps! The 'cold water,' or 'freezing,' or, 'benumbing!' humbug having been 'played out' — something NEW!! was desirable, hence the meeting of Modern Science — hence the birth of this new and formidable-named Forceps! This wonderful instrument differs widely from the 'Royal Tooth-Extracting Chair!' introduced, by a French dentist, a few years since, to the notice, and a very few jaws of the benighted republican simplicity of the American people. This 'royal chair' was made with an iron gibbet, projecting up and over the patient's head, from the chair's back. From the end of the gibbet was pending a chain, with grasping 'claws' at its end; these claws were made secure to the offending tooth, when lo! the operator touched a spring, supporting the seat, and let the patient drop, after the most approved principle of dropping malefactors before Newgate. In the case of one unfortunate lady, she hung by the tooth, and struggled hard to be released. This caused the too sensitive lady to give out to a too-credulous public that the Frenchman had intended improper liberties with her. From that moment the 'Royal Tooth-Extracting Chair' received its coup de grace in the estimation of the tooth-extracting seeking portion of the public.

Now we have a peck of dental savans meeting at No. 2051 Pully-hauly street, to experiment with the novel instrument — the compound electric antipain, magnetic, painless, tooth-extracting forceps. The practical result of their experiment will answer for its importance as a new phase in mechanico-philosophical surgical science.

Victim No. 1—Biddy O'Donohue was seated in the operating chair. The forceps attached to a galvanic battery by the usual galvanic 'poles' or wires, isolated from the operator's hands by a nonconducting gutta-percha covering, is applied to Biddy's tooth, and the galvanic shock is applied. Poor Biddy, if not knocked into a cocked hat, is stupefied with the electro-galvanism applied to her head, shrieks with terror — a wrench and the tooth is out, and Biddy howls from pain. She is dismissed and told to 'keep her mouth shut' to keep out the cold.
Victim No. 2 — Bridget Murphy. Second dental savan operates. Galvanic shock — she don't know whether she stands on her head or whether she is dead. Bridget in terror and cold sweat — a wrench at the tooth — did not accept the invitation to vacate the premises — sobbing, crying and fainting, she submits to another electro-galvanic shock and wrench at the tooth — she is carried into the next room in an insensible state — tooth remains in her head.

Victim No. 3 — Mary Malone. Electro-galvanic shock by third dental savan — not quite ready. Mary turns ashy pale with premonitory symptoms of 'hysterics;' second shock too soon — Mary begins to scream; third shock and the tooth and Mary go off, Mary in a paroxysm of hysterics and the tooth borne away as an electro-galvanic trophy.

But why proceed with the misfortunes and torturings of the too-confiding Biddies. Have not the dental savans made their experiments? Will not the public be made cognizant of the wonders of this instrument? We hope that no duel — no blood-shed beyond that shed in the above victims — will be brought about by the claimants as to whom the honor is due for the discovery and introduction of this wonderful dental forceps. Yours, &c.

Mawley Tugem, D.D.S.
"What Is It?"

—ROBERT C. SPROULL, D.D.S.
El Paso, Texas

(Editor's note: With this issue we begin a new feature which we hope will provide enjoyment as well as enlightenment. The items to be featured in each issue are from the collection of Dr. Sproull, a Past-president of the American Academy of the History of Dentistry. If any of our readers know what the item is, it would be appreciated if he could drop a note to Dr. Sproull, 2405 Gairloch Drive, El Paso, Texas, 79225. Identification, if it is made, will be carried in the next issue of the Bulletin.)

This item was given to me by my good friend, Myles Miller, who found it in Ohio. It was mentioned by the Editor, Malvin Ring, in the December, 1976, Newsletter. This one shouldn't be too hard to identify, since it probably dates back only to the early 1920's. The knurled knob on the mirror-like head controls a piece of lead such as is used in an automatic pencil. The whole item is about the size of our common, everyday mouth mirror, which it resembles. The name is no mystery. The question is: what was it supposed to do?
Accurate information about the historical background of a people is essential for self-esteem as well as a sense of responsibility. This is true in the case of all minority groups, and applies particularly to the black professional, for the black dentist constitutes an even smaller minority for whom the lack of such information has been unfortunate.

Dentistry as a profession has not been especially popular with members of the black race. The great popularity and prestige of medicine and the generally higher income of physicians were probably the most important reasons for this attitude. In spite of their small numbers, black dentists have made significant contributions to the dental profession, but these have been little known and less publicized.

To secure the necessary inspiration for achievement in the profession, black dentists, like any other group, must study the history and past accomplishments of their fellows. Some knowledge in this area is essential also to members of the majority group in order that they may appreciate the contributions which Afro-Americans have made, and are making, to scientific dentistry.

A study of the history of blacks in dentistry reveals that when the first dental educational institution in the world, the Baltimore College of Dental Surgery, was established in 1840, there were 120 blacks practicing dentistry in the United States. These were all men who had learned by serving as apprentices to dentists and in dental laboratories.

The first dental school established by a university was at Harvard in 1867. Among the six students accepted in the first class was a black American, Robert Tanner Freeman, who had worked with Dr. Noble, a white dentist, whose office was located in the 1500 block of Pennsylvania Avenue in the District of Columbia. (Fig 1)

Howard University and Meharry Medical College have been responsible for educating the overwhelming majority of black dentists in the United States. Although Howard University was founded in 1867, a dental department was not established until October 11, 1881 and James B.
Hodgkins, D.D.S., was appointed the first lecturer on practical dentistry to the medical class.

Black graduates of dental schools which came into existence after Harvard were very few indeed. One of these was Charles E. Bentley, who graduated from the Chicago College of Dental Surgery in 1887, and immediately was appointed oral surgeon in the outpatient dispensary of Rush Medical College. Later in his distinguished career, he was appointed to a full professorship of oral surgery at Harvey Medical College. (Fig. 2) Dr. Bentley is credited with being the first dentist in Chicago to use cocaine as a local anesthetic. In addition, he organized the Chicago Odontographic Society and served as its first president.

This industrious scholar, scientist and teacher contributed much to American dentistry, writing for national journals and lecturing to established associations and major conventions. His prolific contributions were recognized in 1921 when an honorary Doctor of Science degree was conferred upon him by Howard University.

**BLacks Enter Dentistry at a Slow Rate**

The number of black dentists increased slowly. The United States Census of 1910 gave the number as 478, and ten years later this number rose to 1019. This rise was due in some measure to the initiation of a program for the improvement of Negro health by Booker T. Washington in 1916. This program used public and private agencies to spread health information through the churches, schools and civic groups for a period of one week in April, the anniversary of the birth of Washington; this became known as "National Negro Health Week." A second factor of lesser importance was the organization of the dental department of the University of West Tennessee in 1917. This dental school existed only to 1923, when the department was closed. Contributing to its early demise was the dearth of applicants, probably the result of an unfavorable report in the 1922 survey by the Carnegie Foundation for the Advancement of Teaching.

**Progress and Growth of Black Institutions**

In the 1926 classification of the U.S. dental schools by the Dental Educational Council of America, Howard University Dental College and Meharry Dental College were among 13 schools rated as Class B. During this same year Dr. Mordecai W. Johnson was appointed president of Howard, and he insisted that a first rate dental college was a major objective of the University.

One year later, philanthropist Louise C. Ball, D.D.S., was appointed a member of the Board of Trustees of Howard. Dr. Ball was particularly interested in dentistry, having established the New York School of Dental Hygiene in 1916. The establishment of Howard's department of dental
hygiene eight years later was a result of the support and advice of Dr. Ball.

The number of black dentists continued to grow and the 1930 Census listed 1773 Afro-American dentists. Of these, 98.1% were male.

In 1929, the College of Dentistry of Howard University was organized as an independent unit of the School of Medicine with an autonomous dean and faculty. Dr. Arnold Donowa became the first black full-time dean. A native of Trinidad, Dr. Donowa had been an honor graduate of Howard University's 1922 dental class. His special interest was periodontics, and he had taken post-graduate training with Dr. H.K. Box, at the University of Toronto, and also at Columbia University. Dr. Donowa was a highly respected leader of the dental faculty during his deanship, but due to differences of opinion with the College of Medicine and University administrations, he was relieved of his duties in 1931.

In 1930, the first undergraduate clinic for the teaching of orthodontics at Howard had been established by Emmett J. Scott, D.M.D., an honor graduate of Harvard's School of Dental Medicine. Along with Dr. Scott, Drs. Percy A. Fitzgerald, Adolphus Walton, and John A. Turner were among those who formed the nucleus of an outstanding dental faculty which Dr. Donowa had been assembling at Howard.

Another dental educator whom Dean Donowa recruited for the faculty was Dr. Russell A. Dixon, a 1929 graduate of Northwestern University Dental School. He was eventually selected to succeed Dr. Donowa as dean in 1932. In the following year, Dr. Dixon became the first black dentist to acquire the M.S.D. degree in oral pathology from Northwestern University.

There were a few black dentists who took graduate education in dentistry, following the example of Dean Dixon. The relative unavailability of funds for graduate dental education was an important factor in this shortage of students. A financial boost was given to graduate dental education for black dentists when Dr. Louise C. Ball died in 1946. She willed the bulk of her estate, personal effects and property to Howard University's College of Dentistry. By means of this financial aid, faculty members were able to increase their capabilities through graduate study.

**MEHARRY COLLEGE COMES ON THE SCENE**

Meharry Medical College whose 100th anniversary was celebrated throughout 1976 was founded in 1876 as the result of a $20,000 gift from 5 Meharry brothers. The sensitive, dramatic story of Christian love, human concern, brotherhood and professional advancement has been graphically depicted in a famous painting. (Fig. 3)
In 1886 the dental department of Meharry Medical College was
organized as a unit of the medical school with J.P. Bailey from Vanderbilt
University in charge. He taught operative dentistry, and one of the
founders, W.H. Morgan, M.D., D.D.S., was demonstrator in clinical den-
tistry.

From the very beginning, Meharry was a school ostensibly for black
medical, dental, and nursing students, but it was financed and directed by
white administrators. The relations between nearby nationally-known
Vanderbilt University and Meharry were cordial and paternalistic, and
many white faculty members at the former institution came over to
Meharry and donated their time and expertise to train black medical, den-
tal and nursing students.

The interracial relations in the South at that time were such that it
was an accepted practice that Meharry’s directors of medical, dental and
nursing education be white. These directors were directly responsible for
all financial affairs and external relations. When appointed, the deans
were black, and they were responsible for the so called internal ad-
ministration of the specific schools.

The first black dentist to be named to a position of some respon-
sibility was Dr. J. B. Singleton, Sr., who in 1892 was appointed director
of the clinic, a position he held for some 25 years.

In 1933 an important step was taken in dental education at Meharry.
A new plant, including medical, dental and hospital buildings, was com-
pleted at a cost exceeding $2,000,000. These funds were donated by The
General Education Board, ($1,500,000); The Rosenwald Fund, ($250,000);
George Eastman (for the School of Dentistry), ($200,000); Nashville con-
tributors, ($35,000); and the alumni, ($18,000).

In 1934, the president of Meharry, Dr. John J. Mullowney, in
welcoming the National Dental Association, declared that opportunities
for black dentists were greater than for any other professional group. He
stated that there were not nearly enough black dentists to supply the pop-
ulation, and that the need was greatest in the Cotton States.

In 1938 Dr. Mullowney resigned, and Dr. Edward L. Turner was
named President of Meharry. He appointed Dr. Donley H. Turpin, a 1918
dental graduate of Meharry as Acting Dean. Dr. Turpin held this post
until 1942 when M. Don Clawson was named Director of Dental Educa-
tion. Dr. Clawson reorganized the dental school and was responsible for
updating the curriculum. Dr. Clawson recruited the author, a
Northwestern University dental alumnus, who became the first black
non-Meharry graduate appointed to the faculty. It was the author who
initiated the school’s departments of periodontics and endodontics.

In 1945, Meharry’s School of Dentistry was site-visited and granted
full approval by the Council on Dental Education of the American Dental
Association. The author had applied for a charter of Omicron Kappa Up-
silon, the national dental honor society in 1944. The application was sup-
ported by two of his former teachers at Northwestern, Dr. Robert
Blackwell, professor of operative dentistry, and Dr. George Teuscher,
professor of pedodontics. Although these sponsors were national officers
of the honor society, the initial application was denied. But following ap-
proval of Meharry by the ADA Council on Dental Education, a new
application was made, and a short time later Meharry was awarded
Omicron Omicron chapter, marking the first time in the history of the
organization, that a chapter had been granted to a school for minority
students. During this same year Dr. Clawson was named president of Meharry and became the first dentist to administer the affairs of the entire College: medicine, dentistry, nursing, and allied technology. The author became administrator of the dental school with the title Chairman of the Dental Administrative Committee. In 1947, following an educational leave of absence to the University of Michigan, he was appointed full-time dental dean at Meharry and became at age 28 the nation's youngest dental dean. In 1948 he was appointed Director of Dental Education, becoming the first black director of any of Meharry's colleges.

HORNER REPORT STIRS NATIONWIDE PROTEST

It is of interest to note the publication of a 1945 editorial, "Geographical and Racial Imbalance," by Dr. C.A. Wilkie in the Journal of the Dental Society of the State of New York. This editorial was critical of Dr. Harlan Horner, who, as secretary of the Council on Dental Education of the American Dental Association, made a report in 1944 to the Committee on Education of the House of Representatives. In the report, which created a national furore, reference was made to "the imbalance, racial and geographical, in the distribution of the students in 39 dental schools of the United States," and to the fact that "these students are largely of foreign extraction and belong mainly to one racial group." In the editorial Dr. Wilkie stated:

It is our profound conviction that entrance to any dental college in the United States of America must be open at all times to all citizens of the United States upon a basis of absolute equality, without any qualification of race or creed. There can be no such thing as a "racial imbalance" in the student body of an American College, so long as the students are all American citizens. If in educational fields, freedom of opportunity ever be restricted in the slightest degree, it will be the beginning of the end. In a democratic society, such as that for which our boys are now fighting, a college must exist for education alone.

INCREASING OPPORTUNITIES FOR BLACKS IN DENTAL EDUCATION

In 1946 Dr. Daniel A. Collins, Meharry Medical College graduate was appointed Senior Research Assistant and instructor in dentistry at the University of California Medical Center, San Francisco. He was the first Afro-American to be appointed to the faculty of the school.

In 1946, the author surveyed black faculty members in dental schools in the United States. Out of twenty-nine replies, only three schools showed one black teacher each. Fifteen Southern schools stated that there were no minorities employed and that none, regardless of qualifications, would be considered in any teaching capacity. Black dentists on faculties of dental schools other than Howard and Meharry included E.W. Renfroe, who for many years had been at the University of Illinois College of Dentistry. Dr. Renfroe was the first black dentist to present postgraduate courses in Orthodontics at that University and to appear on the University's series of television courses. Dr. T. P. Bundrantd was on the faculty of Columbia University in New York, and Dr.
R.E.R. Lovell was the first of his race to be appointed in 1950 to the faculty of Tufts, in the department of operative dentistry.

In 1948, the College of Dentistry at Howard was granted full approval by the Council on Dental Education of the American Dental Association, and subsequently, the college was also granted a charter for Pi Pi Chapter of Omicron Kappa Upsilon fraternity.

MORE DOORS OPEN TO BLACK STUDENTS, BUT WITH SOME SET-BACKS

In 1948 there occurred two important events in the matter of undergraduate dental education for minorities. First, the Dental Health Section of the National Health Assembly, meeting in Washington, D.C., urged that all dental schools be encouraged to admit qualified black students, and that opportunities should be increased for blacks to secure a dental education. The second event, more far-reaching, was a compact on regional education entered into by the Southern states at Tallahassee, Florida. Meharry was designated as the regional institution for the training of black dentists and physicians. A resolution to this effect was introduced and approved by the United States House of Representatives; but in May of the same year, the United States Senate voted to recommit to committee this joint resolution. The next year, however, Meharry agreed to participate in the Southern Regional Plan for segregated education, an event which precipitated the resignation of the author as Dean and Director of Dental Education at Meharry.

Nevertheless, gradual improvements in dental education for black students continued. A new building to house the College of Dentistry of Howard was constructed at a cost of more than two million dollars, and the imposing edifice was dedicated on May 8, 1955.

It is of interest to note that for many years Howard had been admitting small numbers of white students to its undergraduate classes as well as a relatively large number of white foreign-born graduate dentists. In 1958, Meharry admitted two white students, a Philadelphian to the medical class and a Floridian to the dental class.

Up to 1952, the number of dental institutions in the South admitting qualified black applicants was still limited. However, the admission of two black dental students at the University of Texas Dental College in 1953 was another milestone along the road to equal opportunity.

OPPORTUNITIES FOR ADVANCED TRAINING FOR BLACKS

The examination and standardization of dental facilities in hospitals and clinics has been the responsibility of the Council on Hospital Dental Service of the American Dental Association. This is a requisite for the establishment of internship and residency programs. In 1948, Harlem Hospital of New York City, the first municipal hospital designed primarily for the medical care of Afro-Americans and administered by blacks, was approved by the Council on Hospital Dental Service and became the first predominantly black hospital to win approval.

Federal hospitals have played an important part in furnishing educational opportunities and jobs for black Americans, but this did not
always come easy. A case in point is the furor which arose in 1933 concerning the Veterans Hospital at Tuskegee, Alabama. Members of the Ku Klux Klan maintained that there were not enough competent black physicians and other personnel to administer the affairs of USVA #91 and, in protest over the appointment of John C. Calhoun as a personnel clerk, the Klan marched through the town and campus of Tuskegee Institute in an effort to intimidate the residents of the town. (Fig. 4)

The dental clinic of the hospital was initiated when Dr. Thomas B. Davis was appointed, the first black Chief dentist in any of the nation’s VA installations. Dr. Davis was a 1910 graduate of Meharry Medical College, and was actually the first black doctor appointed to the staff. In 1924, the hospital was placed under complete black administration, with Lt. Colonel Joseph H. Ward as medical officer in charge. The dental clinic consisted of two dentists, Dr. Davis and Dr. Benjamin J. Boyd, a 1907 graduate of Howard University. In 1939, history was made with the visit to Tuskegee of U.S. President Franklin D. Roosevelt. (Fig. 5)

**PROFESSIONAL ORGANIZATION AMONG BLACK DENTISTS**

Important educational media which dentists have utilized through the years for self-development and interprofessional exchange are clinics and society meetings. These media have also been utilized by black dental societies, organizations which were made necessary by restrictive membership clauses in “white” dental associations.

In the past, there had been sporadic efforts on the part of some of these societies to emphasize dental education at their meetings. At an early meeting in 1906 of the Washington Society of Colored Dentists, (later the Robert T. Freeman Dental Society of the District of Columbia,) Dr. J.R. Francis presented a paper on “Salivary Calculus.”

The Dental Study Club of New York was another society which
emphasized dental education. It was organized by Dr. Leon Scott in 1922 to increase the knowledge and to improve the competence of its 23 members. The club attracted men from Brooklyn and Manhattan to Wednesday afternoon meetings with clinics at members' offices. Dr. Minor Terry, at that time Secretary of the Dental Board of New York was one of its first speakers.

In 1921, there was established for the benefit of the senior classes of Howard and Meharry dental colleges the Interstate Dental Association Free Lecture Course, with Dr. S. J. Lewis as author and sponsor. The Interstate Dental Association was the predecessor of the National Dental Association.

The meetings of the societies were heavily weighted with social activities, but this condition was not unusual since emphasis upon continued professional growth had not yet become universal. As time passed, however, changes occurred; former policies were revamped with black dental societies including lectures, debates, symposia, forums and seminars in their meetings.

Because dental societies have played such an important part in the education of black American dentists, it should be noted that in 1913 the first meeting of the Tri-State Dental Association (VA,DC,MD) was held at Buckroe Beach, Virginia. (Fig. 6) The NDA dates its beginning from that time. In 1918 the Tri State Dental Association changed its name to the Interstate Dental Association. During the same year, Dr. D.A. Ferguson of Richmond, Virginia, a prime organizer of black dentists, became the first dentist to serve as president of the NMA which at that time had medical, dental, and pharmaceutical components. (Fig. 7) In 1932, all rights to the title 'National Dental Association' were released by the American Dental Association. This organization was founded at Bordentown, N.J. with Dr. Ferguson as president, Dr. E. W. Taggart, Birmingham, as chairman of the Executive Board, and Dr. R. H. Thompson, N.J. as secretary-treasurer. At this 1932 meeting 122 practitioners were registered. The meeting was endorsed by the American Dental Trades Association and contracts for exhibit space were received from a large number of leading dental manufacturers.

Structurally patterned after the American Dental Association, the NDA has a number of affiliated state and local dental societies which
hold annual meetings and in general are concerned with the welfare and advancement of local dentists.

One of the more recent outstanding personalities to whom the Association will always be indebted is the late Dr. James C. Wallace who was responsible for making contacts with the leading manufacturers of dental products and enlisting their support of NDA activities. (Fig. 8)

Strong action against discrimination has always been part of the philosophy of these societies. When members of the Robert T. Freeman Society were barred from attending a clinic given by a supply house in Washington, D.C., a vigorous protest and boycott were launched, and there was an immediate change in policy allowing all dentists to attend without embarrassment.

The North Georgia Dental Society is another of the components of NDA. In the social unrest of the Sixties, as black dentists began to push for more rapid integration within the mainstream of American dentistry, this society received national publicity in March, 1961, when several of its members led by Dr. Roy Bell of Atlanta, picketed the Hinman Dental Clinic meeting in Atlanta. There is also an active National Dental Association Ladies Auxiliary which has met annually along with NDA, and has presented entertainment such as lectures, fashion shows and educational workshops for its members.

The National Dental Hygienists Association and the National Dental Assistants Association are also affiliated with NDA and have been a strong force in the advancement of their members.

The annual meetings have traditionally devoted a major portion of time to scientific lectures, clinical demonstrations, projected clinics, table clinics and seminars. But in addition, there have been special activities such as Civil Rights luncheons and sports activities.

One of the outstanding accomplishments of the NDA was the publication of the book *The Growth and Development of the Negro in Dentistry in the United States*, described by ADA librarian Dr. Don Washburn as "... an historical event in ... dental literature and the first book devoted exclusively to the status and achievements of the Negro in American dentistry." Other NDA projects included motion-pictures, underwritten by the Wrigley and Colgate-Palmolive Companies and produced by Wexler; a National Research Conference underwritten by Procter and Gamble and sponsored jointly by the NDA, the American Association of Dental Schools and the ADA; organization of an NDA-ADA Liaison Committee whose initial session took place in 1963 during the ADA meeting at Miami Beach's Hotel Fontainebleu.

During the 60's, the Liaison Committee met alternately at the NDA and ADA annual meetings, and accomplished a significant service in the promotion of intraprofessional and inter-association understanding. (Fig. 9) It was directly responsible for the increased contacts with white State
dental Associations, which led to the admit-
tance of black dentists
into every State dental
Association.

CONCLUSION

During the last 15
years, most of the white
dental associations have
quietly removed their
restrictive policies, en-
couraged black dentists
to participate, and have
sponsored representa-
tion on committees and
policy-making bodies.

Black American dentists must be made more fully aware of their
responsibilities to American dentistry and to the public, and education
continues to be the most effective and far-reaching means of ac-
complishing this task. An insistence upon graduate and postgraduate
education appears to be a sound philosophy regardless of the future.
Steady progress and improvement must result from better trained black
dentists graduating from all dental schools of the country, enrolling for
more internships, residencies, and postgraduate courses, and becoming
qualified in all of the specialties. They must encourage and insist upon
competence and scientific productivity from those to whom are entrusted
the serious responsibility of dental education.

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(This paper, in a modified form was presented at the annual meeting of the National Dental Association, Nashville, Tennessee, August 4, 1976.)

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The new officers of the American Academy of the History of Dentistry, installed at the Academy's 25th annual meeting in Las Vegas, November 12, 1976. Left to right: Dr. Frank J. Orland, President; Dr. Milton B. Asbell, Vice-president; Dr. Robert Sproull, immediate Past-president; Dr. Charles Vacanti, Historian; Dr. Malvin E. Ring, Editor; Dr. Ernest Beerstecher, Secretary-treasurer; Dr. Kenneth Randolph, President-elect.
Obstacles to Medical Progress

—WOODROW S. MONICA, D.D.S.
Orange, New Jersey

The quantity and complexity of advances in present-day medicine may cause us to forget how much we have changed in a relatively short period of man’s history. Where we are now is not Utopia, but it certainly is better than where we have been. Our development is intimately related to all aspects, cultural, philosophical and sociological, of man’s progress.

The three principal obstacles to medical development were belief in divine origin of disease, lack of human dissection, and belief in abiogenesis (spontaneous generation).

BELIEF IN DIVINE ORIGIN OF DISEASE

Primitive man believed in animism — spirits in trees, rocks, and rivers — and that disease resulted from offending one of the spirits. Centuries later, believers in Aesculapius, the ancient Greco-Roman god of medicine, reasoned that it was he who healed the sick. In the fifth century B.C., Hippocrates dissociated the theurgic approach to disease from the natural approach. Yet the theurgic approach persisted for almost 2,000 years.

Galen, a Greek physician and writer of about AD 130-200, considered function a design of the Creator. Why, and not how, was the question he asked.

Physicians, like the laity, were influenced by superstition and belief in the supernatural. Such beliefs reached a frightful state in 1560 “...when the whole countryside around Cologne was covered with fires in which young people were burned as witches.” One eminent physician of that period refused to treat a patient because he thought her a witch. Thomas Bartholin, a well-known anatomist of the 17th century, claimed to have seen a man in Padua with an iron tooth, and Bartholin reasoned that it was possible to be born with one.

In another celebrated incident, a 7-year-old boy in Silesia supposedly had a naturally erupted gold, permanent, first molar. Dr. Horstius, a professor of medicine at the University of Helmstedt, published a full account of the tooth and insisted that it partook of the natural and supernatural. Other learned men agreed in substance only to be embarrassed when a goldsmith revealed that the molar was covered adroitly with gold leaf.

In the 17th century, the Irish Archbishop Ussher proclaimed that the world was created at 9 AM October 26, 4004 BC., and a 19th century scientist proposed a similar myth. In 1857 Dr. Groose, a leading marine biologist, declared that all fossil and extinct life were created on the same day.

No wonder the theory of natural selection proposed by Charles Darwin in 1859 angered believers. Yet it has had one of the most profound influences on our intellectual history. It broadened man’s outlook on nature and deemphasized the divine origin of disease.
One 19th century dentist who was angered by Darwin's work was Dr. William Bonwill. In 1887 he attempted to disprove the theory by stating that the equilateral triangle was made by the Creator, and his "perfect laboratory instrument" — the dental articulator — reproduced it mechanically. One of Dr. Bonwill's contemporaries, a prominent New Jersey dentist, thought decay in an individual's teeth resulted from the sins of his parents.

After anesthesia was introduced in 1844, some pious physicians regarded it as the antithesis of the divine. When Sir Robert Peel, the famous English statesman, fell from his horse in 1850, several noted surgeons could not bandage the wounds nor set his fractures because of the intense pain. Yet, they adamantly refused to use anesthesia for moral and religious reasons. Sir Robert died after three days of frightful agony.

LACK OF HUMAN DISSECTION

Hippocrates did no human dissections; he obtained his anatomic knowledge from topical examinations and from studying fractures and war injuries. In the third century BC, two Egyptians, Herophilus and Erasistratus, dissected human bodies — even criminals while still alive — who were consigned for this purpose by the Pharoah. Unfortunately, the knowledge obtained by these anatomists was not widely disseminated. Galen dissected only pigs and apes and studied the dried bones of a long-dead robber. From these studies he contributed some information about the nervous and respiratory systems.

When dissection was finally permitted, about the 13th century, physicians looked upon it as demeaning and it took the form of a ritual. The professor, draped in his official black robe, sat in an elevated chair with Galen's book before him, and instructed a menial who actually did the dissection. Nevertheless, it was a step forward.

A greater advancement occurred in 1543 when Vesalius, a Flemish anatomist, published his findings with exquisitely accurate drawings. His work brought medicine from the medieval to the modern, and negated much of Galen's orthodoxy.

The splendid Renaissance studies of Da Vinci, Michelangelo, Servetus, Colombo, Cesalpino, Fabricius, and Vesalius, did not change the belief of physicians that blood was formed in the liver and passed from the right side to the left side by invisible pores. It wasn't until 75 years later that William Harvey demonstrated the circulation of the blood. He insisted that contrary to popularly held belief, it "... couldn't possibly be supplied by the ingesta (food)" and there is "... a motion, as it were, in a circle." In 1661 Malpighi extended the understanding of circulation by showing the anastomosis of capillaries.

Horace Wells, the discoverer of anesthesia in 1844, contributed to anatomic knowledge by making it possible to study painlessly the functions of the various internal organs, either by dissecting laboratory animals while they slept, or during the course of surgical procedures.

ABIOPGENESIS

As late as 1867, physicians believed in the production of living matter from non-living matter. In the 17th century, Jan van Helmont, a
learned Flemish scientist, offered a recipe for making mice: place a soiled shirt in a dark, quiet corner, sprinkle it with wheat kernels, and in 21 days one will have mice.

Francesco Redi in 1668 disputed the theory by placing meat in a jar and covering it with gauze. The meat putrified without evidence of maggots or flies. This seemed to be a convincing experiment until the work of van Leeuwenhoek, the Dutch naturalist (1632-1723), seemingly bolstered the abiogenesist's position. For he found minute organisms that seemed to spring from nowhere.

And so the argument continued for another century. About 1765, the Italian anatomist, Spallanzani, further disproved the theory of abiogenesis. When he boiled soup in a flask and sealed it, the soup did not spoil and no organisms were revealed under the microscope. Later, Voltaire (1694-1778) wrote of the "... ridiculous mistakes, the unfortunate experiments of Needham, so triumphantly refuted by M. Spallanzani and rejected by whoever has studied nature at all."

However, many who studied nature disagreed, for a century later, Pouchet, director of the Natural History Museum of Rouen, sent a paper to the Academy of Science in which he tried to prove abiogenesis. He found that he had many sympathetic listeners, but the great French chemist Louis Pasteur (1822-1895), was determined to disprove for all time that life did not form spontaneously. After many experiments, including some conducted in the Swiss Alps, Pasteur showed that life does not arise spontaneously and that "... the septic properties of the air depended not on oxygen or any gaseous constituent, but to minute organisms suspended in it."

In one fell swoop, Pasteur disproved abiogenesis and the divine origin of disease. From that point on, medicine advanced without these obstacles in its search for explanations of the biochemical nature of organisms and disease.

Thus the laying to rest of these fallacious beliefs in the divine origin of disease, the opposition to human dissection and the disproving of the theory of spontaneous generation, has dramatically altered the progress of the medical sciences in the last century. The great advances that have occurred in this short time attest to this. And now medicine can continue to confront problems and seek solutions unhampered by basic superstition.

REFERENCES


DR. MONICA is on the faculty of the School of Dentistry, Fairleigh Dickinson University, 110 Fuller Place, Hackensack, New Jersey, 07601. Requests for reprints should be made directly to the author.
A New Method of Using Gold Foil

—PROFESSOR ROBERT ARTHUR
Philadelphia, Pennsylvania

Editor’s note: When the earliest dental practitioners viewed the disastrous results of decay of teeth, they sought for a substance with which to repair the ravages of the carious process. Hampered as they were by the lack of an efficient drilling apparatus, which denied them adequate access to the decay, they were limited to stuffing assorted materials into the hole. Medieval practitioners used a variety of materials: flour of wild poppyseed; radish root; ground up dog’s teeth. More rational, but probably equally ineffectual, was the use of various gums and mastic, as well as waxes and resins. Those seeking a more exotic filling used salt mixed with cobwebs.

In the early Renaissance a major advance was made with the introduction of gold as a filling material. There is disagreement among dental historians as to who was the first to mention the use of gold for fillings. Joannes Arculanus, professor of medicine and surgery at the University of Padua authored a treatise on surgery in 1483 in which he made passing mention of the use of gold in filling teeth. However, this was brought more to the fore in the work of Giovanni da Vigo, personal surgeon to Pope Julius II. His magnum opus Practica Copiosa in Arte Chirurgica (Exaustive Treatise upon the Art of Surgery) published in 1514 was the definitive text on surgery for over two hundred years and had this to say:

Corrosion chanceth in the great teeth through rottenness with sharp and evil moisture which groweth and biteth them. Ye may remove the said corrosion with trepanes, files and other convenient instruments, filling the concavities afterward with leaves of gold.

For the next three hundred and some years dentists were still using “leaves of gold” to fill cavities, but with only a modest degree of success. The material was difficult to work with and required almost super-human endurance to laboriously pack a cavity. Retention of the gold in the cavity was strictly mechanical; undercuts were prepared and the gold stuffed in, with enough hanging out of the cavity so that it could be tucked under superimposed layers. If by chance enough could be wedged into the cavity and the whole burnished smooth, then there was a chance of the filling serving satisfactorily. But the lack of cohesiveness of the gold frequently caused part of the filling to come loose from the rest and no amount of pressure could get new gold to attach itself to the base. No wonder, then, that dentists in the early 19th century sought materials easier to work with, turning to the crude forms of amalgam then being introduced, or to
the "plastics" such as Hill's Stopping and other forms of gutta percha.

Those dentists who sought to perform the best dentistry of which they were capable tried modifying the gold, using a crystalline form known as "sponge gold", (somewhat similar to the mat gold in use today.) But this was also difficult to handle and was not much improvement over the plain sheets of gold.

A revolution occurred in 1855 when Robert Arthur introduced to the profession the technique of using "annealed" gold foil, which was welded in the cavity through the use of instruments with fine serrated points. His method was adopted by the most painstaking operators and the resulting restorations stood the test of time, with many of them lasting half a century or more.

But there are always those who would deny a discoverer the recognition which is rightfully his. In the same way that Crawford Long came forth years after Horace Wells had demonstrated surgical anesthesia, claiming that he had used it first but had neglected to announce his "discovery" to the world because he thought it of little importance, so, too, were those who attempted to deny Arthur the credit for his great new discovery. It is clear to us today that without disclosure there is no true discovery. And this was clear to Dr. Arthur, too, for he successfully (and tactfully) put in their place his disclaimers in a second paper published just a year after the initial description of his discovery.

It was immediately declared by a number of members of the profession, that there was nothing new in the method proposed, that it had been adopted and followed by them years before the appearance of my article. Now, I do not mean to question the sincerity of these gentlemen, some of whom occupy high places as operators of skill and integrity, but I am, nevertheless, convinced that I could not have been fully understood by them, for I am well satisfied, from the known character for liberality of some of the gentlemen referred to, that if they had used gold foil in this way with the same advantageous results that I have found, they would, long ago, have communicated it to the profession. I could not, of course, suspect them of having availed themselves of its great advantages, and of designedly, during a period when there was the freest interchange of ideas between liberal members of the profession, withholding this valuable mode of operating from their fellow practitioners.

Robert Arthur entered into the study of dentistry upon the urging of Chapin Harris. He was a member of the first class of the first dental school in the world, the Baltimore College of Dental Surgery. Because of alphabetical reasons his name led the list of the two graduates, and thus he was the first person in the world to receive a degree from a dental school.

He established private practice in a succession of cities, and in 1852 helped establish the Philadelphia College of Dental Surgery, serving as professor of the Principles and Practices of Dental Surgery, and in 1855, the year in which he announced his discovery, was made Dean of the school. However, he left in 1856 to help found the Pennsylvania College of Dental Surgery, becoming the first Dean of that institution. In 1867 he returned to private practice in Baltimore.

Arthur achieved world renown as a skillful operator and outstanding teacher and lecturer, as well as an important contributor to the dental literature with over forty articles and five books to his name. He died on June 22, 1880 having made his imprint upon the practice of dentistry for all time to come by his meticulous care with which he approached his tasks and the innovative improvements he gave freely to the world. Standing foremost among these discoveries is this paper, here reprinted from the Dental News Letter for April, 1855.
A NEW METHOD OF USING GOLD FOIL

Some few months since a short article on "sponge gold," written by me, was published in the "News Letter." It was simply intended for the purpose of doing my part in calling the attention of the profession to it as a desirable improvement, and to express my confidence in it as a reliable material for filling teeth. I did not pretend to go at any length into the subject, but made some simple general statements, promising to prepare a detailed account, at some future time, of methods of using it which had enabled me to employ it with success. I had very soon found, after beginning to use the "sponge gold," that it could not be relied upon if the directions by which it had been accompanied, when sold, were followed; and I was not at all surprised that disappointment in the expected result occurred as a consequence of its use in this way. Heavy demands upon my time, however, have prevented me from preparing such an article as I intended, and it will now be rendered unnecessary, I presume, by a publication in preparation by Messrs. Watts & Co., of which I have seen a part of the proof-sheets. I have, indeed, within a short time past, fallen upon a new field of experiment, and find that by using gold foil in a way somewhat differing from that in which it is ordinarily used, it can be worked precisely like "sponge" or "crystallized" gold.

I have never regarded gold foil, as ordinarily used, as a perfect article for the purpose intended. There are very few members of our profession, I presume, who are not aware of its defects. That it has answered the purpose of filling teeth better than any substance brought before the profession, until lately, am well aware, but still it has always been my desire, as know it has been that of many others in the profession, to find something free from its defects.

It is well known that no adhesion takes place between the layers of gold foil, as ordinarily used, and the retention of the whole mass of a filling depends upon the form of the cavity, or upon the lateral force it is made to exert upon the walls. The manner in which most good operators proceed to fill a cavity with foil, no matter how they may prepare it, is to begin at one side and condense the filling toward that side, making sure to allow some of the gold to extend above the mouth of the cavity, far enough to make it level with it after it is condensed at the surface and properly burnished.

Now, it is impossible, if the filling is well condensed, to add more gold directly to the surface. The layers of foil, as ordinarily used, will not adhere to that portion which is previously condensed. It becomes necessary, in such case, to remove the whole filling, or to cut away so much of it, if it be large enough, as to furnish a reliable hold for the additional gold. This is a defect in foil for which I have always been anxious to find a remedy.

I found, by experiment, some few years ago, that by using heavy numbers of gold, a result might be obtained approximating, at least, what was desired in this way. I proposed to employ No. 30 gold foil, with sharp pointed instruments, as I found that by forcing the single strip of heavy gold into contact with portions previously introduced into the cavity, a kind of union between the different portions might be effected. In this way I found myself enabled to add strip after strip of gold to a filling, until I had accomplished the object in view. I made use of this form of gold foil, in this way for nearly two years, exclusively, and only abandoned it in consequence of the difficulty of keeping myself supplied with suitable instruments, which it is impossible to have properly made by an instrument maker. The points required are necessarily very hard, and easily broken. Still I accomplished with this form of gold all I expected from it, and abandoned its use for the reason stated alone. It is not improbable that gold in this form may still be found desirable, if used as I am about to propose.

I again went back to gold foil as I had formerly used it, and employed
it in this way until my attention was called to the article introduced to the profession under the name of "sponge gold." The first I used was made by White, of Utica, and it at once struck me as being a most desirable improvement, in many respects, upon gold foil. A specimen of Watts & Co.'s gold was then put into my hands by the inventor, and I found it free from the objection of great friability, one of the most defective features of White's preparation. It was a beautiful specimen of this material, and I have never since found any which in all respects satisfied me so well. I took hold of the new form of gold eagerly, and soon found that by using it (very differently, however, from the manner described) I could obtain better results in my operations than I had ever been able to reach before. I used the "sponge gold" with greater satisfaction, for more than a year, than any other material I had ever taken hold of. I have seen my operations repeatedly, and at long periods of time, after they have been performed, and I have never in a single instance observed any change in its appearance or consistency, except when from unfavorable circumstances the operation was imperfectly performed. I feel no hesitation, therefore, in saying, that the confidence I have expressed in it, in the article alluded to, I still retain.

But "sponge gold" has unquestionably, with all its advantages, its own defects, which have interfered with and must prevent its general adoption. Its friability leads, in many cases, to more or less waste. As far as my experience goes, it is exceedingly difficult to work, if it gets at all wet during the performance of an operation, and it certainly consumes more time to perform reliable operations with it, in the great majority of cases, than gold foil. Still its advantages, with all these defects, as I have said, were so great in bringing about desirable results, that I have been willing to devote the additional time for the sake of making more perfect operations when completed. If these difficulties can be overcome, and an article found free from the defects of "sponge gold," which can be worked in the same way as this material, that is, if adhesion can be obtained between the portions placed in a cavity, a further advance unquestionably is made.

In making some experiments for the purpose of testing the relative solidity, when condensed in a cavity, of gold foil and "sponge gold," I found the foil may be made to work in precisely the same way as the sponge gold, and as perfect adhesion obtained between the different portions of gold put into a cavity as with this material. Nothing more is necessary than to cut the sheets of the ordinary numbers of foil into two or three pieces, roll up very loosely, and hold it in the flame of a spirit lamp until it reaches a red head. It will at once be found to have become so adhesive that, with small and sharply serrated instruments, it may be made to adhere as readily as the best specimens of "sponge gold." It is necessary, however, when gold foil is used in this way, that it should be cut into small portions, for the very adhesiveness which it acquires when treated as I have proposed, prevents it from working well if an attempt is made to use it in the ordinary manner.

The instruments which I have found best adapted to the use of gold in this way, are small flattened pluggers, with two sharp points cut at the end, and made so hard that they will not turn. The gold may be picked up with such instruments, carried to the desired place, and condensed precisely as "sponge gold." It is well to go over each piece added, with a single sharp point.

Although I have been making use of gold foil in this way for only about a month, I am exceedingly gratified at the results I have obtained, and am urged to call attention to it.

It seems very strange that so desirable an improvement as this should have been in our hands for so long a time, and yet not discovered. I presume many operators have attempted to restore gold foil, which had become impaired, by reheating it. I did so myself years ago, but found that
the very adhesiveness it acquired by this process, interfered seriously with its use in the ordinary way.

I have felt it necessary to make this long statement in order to protect myself against the charge of vacillation, as I have at various times earnestly advocated several different methods of filling teeth. My strong desire has always been to improve for my own benefit and that of others, the methods of performing the operations of our profession. I always have been, and always shall be, ready to take hold of any new thing which promises advantages, and to test it as thoroughly as I am capable of doing. I have not changed my ground in relation to any of the forms of gold I have advised to be used. Each has certainly the advantages, which I attributed to them. I do not now take the ground that I have been mistaken in my views of "sponge gold;" I still regard it as perfectly reliable, when properly used. But for ordinary use, I am convinced that gold in the form I am now recommending it, is a decided improvement upon any method of using gold hitherto known. Whether it will be regarded as superior to "sponge gold," in the hands of those who have successfully used this material, is a question which time and trial can alone decide.

I have no idea that gold will be used generally in the manner I now recommend. It is exceedingly difficult to induce men to change a course which they have successfully pursued for years, and the difficulties of which they have learned to encounter and overcome, for any new thing. And, even if they are disposed to make trial of a new process, it is often so imperfect a trial, that it is unsatisfactory. With regard to the matter in hand, simple as it is, I confidently say to every operator in the profession, that if fairly tried it will afford advantages in the use of gold foil of which few have dreamed.

I may say that the foil of different manufacturers present a remarkable difference in regard to this quality of adhesiveness. It is certainly advisable to try several kinds, if that in hand does not work well. The profession may rely upon the full truth of the statements I have made. I have never, in the course of practice of fifteen years, made use of any material for filling teeth which has so fully satisfied me as foil used in the manner I have described.
The Hayden-Harris Award of The American Academy of the History of Dentistry was established in 1967 to pay tribute to those individuals who had contributed significantly to the study and dissemination of the history of the dental profession. The first recipient was the Academy's founding president, Dr. J. Ben Robinson, one of the all-time greats in dentistry. Succeeding designees were Drs. Harold Hillenbrand, Curt Proskauer, Bernhard Weinberger and George Denton, (the latter two awarded posthumously), Gardner Foley, Alfred Asgis, Neil Macauley, Alfred Chandler and Milton Asbell. The 1976 award was presented to Dr. W. Harry Archer. The presentation address which follows was made by Past-president of the Academy, Professor Gardner P.H. Foley on November 12, 1976.

I feel very pleasantly honored in having been asked to present the 1976 Hayden-Harris Award of this Academy to Dr. W. Harry Archer. His deservance of the Award will be made abundantly clear by the citation of his qualifications.

Dr. Archer was born in Ambridge, Pa., in 1905. In 1927 he received his D.D.S. degree from the School of Dentistry, University of Pittsburgh. He also received the B.S. and M.A. degrees from Pittsburgh. In 1975 he was made University Professor Emeritus.

Following his graduation Dr. Archer was appointed as a full-time demonstrator in the Department of Exodontia. He progressed through the academic ranks till he became Head of the Department of Oral Surgery and Anesthesia. In 1929 he began giving the first course in general anesthesia ever given to Pittsburgh's dental students. For many years he taught anesthesia and oral surgery. During that long period of valuable activity he was an active participant in anesthesia organizations and lectured before a large number of anesthesia and dental societies.

Dr. Archer was the first to insist that patients being considered for a general anesthetic should have a history taken and a physical survey. He was the first to point out that dentists who administered general anesthesia should be trained to perform an emergency tracheostomy. Dr. Archer was the first dentist to hold the Chairmanship of the Executive Committee of the Eastern Society of Anesthetists. He also has held membership in other associations of anesthetists. In 1948 he successfully advocated the creation at Pittsburgh of a separate Department of Anesthesiology, then and now the only such department in the dental schools of the world.

Original research, significant attainments, and dedication in the field of anesthesiology have made Harry Archer an outstanding figure in American dentistry. However, I purpose to raise him even higher in your estimation.

In 1968 the Oral Surgery Department of his alma mater was dedicated as the
W. Harry Archer Oral Surgery Clinic. A bust of Dr. Archer was presented to the School by an alumni group.

Besides his teaching and lecturing, Dr. Archer has made a strong reputation in dental literature. He is the author of Oral Surgery (1952); a Manual of Anesthesia and Oral Surgery (several editions), and of chapters or sections in four other books plus seventy-five articles.

Dr. Archer has given several hundred lectures in the United States and in thirty-one other countries. He is a Fellow of four organizations; he holds eight honorary memberships, four honorary professorships, thirteen visiting professorships, and has held two Fulbright professorships. He is a member of twenty dental societies and holds many honorary memberships. Today he will be receiving his fifth award.

Dr. Archer has also rendered valiant service to the cause of dental history. While a dental student he became intensely interested in anesthesia. This interest led him to do the exhaustive research that culminated in his Life and Letters of Horace Wells, Discoverer of Anesthesia. In Howard Raper's Man Against Pain (1945) there is this tribute to Dr. Archer's biography of Wells: "Thanks mainly to the published work of Dr. W. Harry Archer, more of a reliable nature is known about the life and personality of Horace Wells than any other 'discoverer'." Besides the Wells book, Dr. Archer has published twenty-four articles on Wells, Morton and the history of anesthesia. In the Wells' Discovery Centennial year of 1944 he gave lectures on Wells and the discovery of anesthesia before dental societies all over the country. In 1940 Dr. Archer wrote a memorable paper on "The History of Anesthesia" that was published in the Proceedings of the Dental Centenary Celebration. He is the chief author of the History of Anesthesia, Oral Surgery and Hospital Dental Service (1971). He is also the author of the "Historical Sketch of Anesthesia" in Lufkin's History of Dentistry (1948).

There is another facet to his valuable contributions to dental history. Early in his professional career, Dr. Archer began to search for and collect early anesthetic machines and syringes. Eventually he gathered the largest collection of its kind in the world. The collection is now housed in the Smithsonian Institution. He also gave or loaned to the Smithsonian many priceless items that had once belonged to Horace Wells.

Dr. Archer, throughout your career you have demonstrated actively your belief that a knowledge of dental history is a part of the whole duty of the dentist. Your fellow members of the American Academy of the History of Dentistry proudly present to you the Hayden-Harris Award of 1976.

A unique undertaking was initiated at the 1976 annual session of the American Dental Association in Las Vegas. Dr. H. Martin Deranian, Past-president of the American Academy of the History of Dentistry and lecturer on dental history at Tufts University School of Dental Medicine, had an exhibit booth on the convention floor illustrating dentistry in Colonial America. In addition to many interesting photographs, early dental books and newspaper advertisements, there was also a display of antique dental instruments of the type used by the Colonial practitioner.
A great many dentists who had never before been exposed to dental history and who were fascinated by it, stopped to chat with Dr. Deranian who also acquainted them with the Academy and the *Bulletin of the History of Dentistry*. The Exhibits Committee of the ADA awarded a special certificate to Dr. Deranian, judging his exhibit the best of its class. Dr. Deranian was assisted in the preparation of his display by Dr. Gerald Shklar.

**WANTED:** Unusual tooth-paste containers, advertising pieces, tokens, labels, etc. from around the world. Preferably old, but modern examples of foreign items are equally of interest. Dr. Ben Z. Swanson, Box 679, Carswell A.F.B., Fort Worth, Texas 76127. (817-732-3440)

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**Founding president of the American Academy of the History of Dentistry, Dr. J. Ben Robinson, being awarded an honorary Doctor of Science degree at the commencement exercises of the University of Maryland on June 4, 1976.** Dr. Robinson was the former Dean of that university’s Baltimore College of Dental Surgery as well as the first dean of the West Virginia School of Dentistry.

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Dental schools in Scandinavian countries have, since 1907, required the writing and defending of dissertations of all candidates for the degree Doctor of Odontology. In Sweden, for example, at an annual solemn ceremony, and according to old Swedish academic traditions, the doctorate is conferred by one of the professors with a Latin oration. Then the Diploma is handed over, along with the special insignia: the Doctor’s Hat and the Doctor’s Ring.

Dr. Ake B. Lofgren, one of Sweden’s foremost dental historians and an honorary member of the American Academy of the History of Dentistry, is the author of a recently issued, but long needed, bibliography of these academic theses.

He has dealt with each of the four Scandinavian countries in turn, beginning each section with a history of the dental schools of that country, followed by the history of the awarding of these special degrees. This is followed by a complete listing of all of the Doctor of Odontology dissertations, as well as pertinent facts relating to the author and the work.

It is Dr. Lofgren’s intention to follow up the bibliography with annually published addenda in the journal *Acta Odontologica Scandinavica*. Because of the fact that printing costs are so high in Scandinavia, the
work has been issued as a supplement to the Acta. Therefore orders for
the book should be directed to

Acta Odontologica Scandinavica
Professor Arje Scheinin, Editor
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SF-20520 TURKU 52
Finland
To the Editor

Thanks for sending me copies of the October issue of the Bulletin. I was very pleased with the layout and format of my article.

If you have available an additional two or three copies of the Bulletin, I would like to receive them. I will, of course, be happy to pay for them.

Again, I want to express my appreciation. You are to be congratulated for the appearance and contents of the Bulletin.

Sincerely,
Anthony D. Branch, Ph.D.

(DR. BRANCH, whose article "Dr. Evans and the American Dentists in Paris" appeared in the October, 1976, issue of the Bulletin, is Associate Dean of the College of Special Programs of Golden Gate University, San Francisco.)

To the Editor:

We would appreciate being put on the mailing list of the Bulletin of the History of Dentistry. To my knowledge, I have never received it but would be most interested in reading it for future reference.

Sincerely yours,
Bernard P. Tillis, D.D.S.

(DR. TILLIS is the Editor of the New York State Dental Journal, the official publication of the Dental Society of the State of New York.)

To the Editor:

I have been retired for the last three years, and our address had been changed.

It is very generous of you to continue to send me the Bulletin of the
History of Dentistry. I am sure that I will continue to enjoy it as much as ever. Thank you very kindly.

Most sincerely,
Isidore Teich, D.D.S.

(DR. TEICH was formerly Executive Director of the First District (N.Y.) Dental Society, and it was through his influence that the Bulletin received a financial-aid grant from the Henry Spenadel Fund for 5 years.)

To the Editor:

You continue to do an excellent work with the Bulletin and the News Letter. All persons interested in dental history ought to be very grateful to you.

Sincerely,
Abe B. Lofgren, Tandlaekere

(DR. LOFGREN is Curator of the dental history museum of the dental society of Goteborg, Sweden and one of the world's leading dental historians. His latest work is discussed in the Notes and Queries section of this issue of the Bulletin.)

To the Editor:

I recently attended the A.D.A. convention in Las Vegas and secured your address from Dr. Deranian who had a booth on Colonial dentistry.

I'm writing for information concerning books and other sources from which I can learn more about the Greenwood family of dentists. Are there pictures of these men to be had?

I would appreciate any information you can supply on this score, as well as information about your organization.

Thanks,
John Greenwood, D.D.S.
Fremont, California

To the Editor:

Thank you so much for your review of the Academy history which appeared in the October issue of the Bulletin. The approach was unique and the narrative was not only very complimentary to the author (for which I especially thank you) and the Academy, but was very interestingly presented. I sent copies to Dr. Homer Vaughan and Dr. Sheldon Ross, editor of the Annals of Dentistry, our Academy's organ, for reprinting in a forthcoming issue of that journal. If you can conveniently send me two extra copies I shall send them to the Board of Directors for reading at its forthcoming meeting.

Sincerely yours,
Edgar S. Bacon, D.D.S.
Traverse City, Michigan

(DR. BACON is the author of the book The New York Academy of Dentistry: Its First Fifty Years, a review of which appeared in the last issue of the Bulletin.)

To the Editor:

We have written to Mr. Harry C. Hagman asking his permission to reprint his article "The Evolution of Metal Castings for Dentistry" which appeared in the October Bulletin. May we have your permission, con-
To the Editor:

This is just to thank you for your part in publishing my paper on Dubois de Chemant's LETTRE A M. ANDOUILLE. It certainly looks nice, and there are very few typos. I actually have an M.A. as well as the M.L.S., but that's an academic point!

Sincerely,

Ellen B. Wells

(Ms. WELLS is Associate Librarian of the History of Science Collections in the Cornell University Library. Her paper on de Chemant appeared in the October 1976 issue.)

To the Editor:

The profession should be thankful for all your work in assembling and editing the many articles on dental history in the Bulletin.

Your efforts in informing the profession reminds me of my personal friend, Dr. Paul H. Belding, editor of Dental Items of Interest who, in September and October of 1938 published anniversary issues commemorating the founding of the American Dental Association. He wrote a column called "Around the Table" and in it he made this statement: "The future is dependent on the present and, by the same token, the present is but a superstructure erected on the foundation of the past."

This is what has encouraged me to write my many articles and books on the origins of dental prosthetics.

Sincerely yours,

Harry C. Hagman, C.D.T.

(MR. HAGMAN authored the article on the evolution of castings which appeared in the Bulletin's October 1976 issue.)

While reading Professor Crosby's book, this reviewer recalled having been told as a child by a World War I veteran about the great influenza epidemic of 1918. What seemed most astonishing at the time was the old man's claim that it was far more deadly to Americans than our relatively brief but crucial participation in the War. It was difficult for a young suburban child in the 1950's to believe such tales of masses of unburied dead, near collapse of vital city services, omnipresent wearing of masks, etc. It sounded too much like the great plagues of the Middle Ages to have occurred during this century in the most advanced of nations. Besides, it was scarcely mentioned in history classes.

It is just this lack of recognition of the enormity of the 1918-1919 Spanish Influenza pandemic which Professor Crosby seeks to correct. Concentrating on its effects here in the United States, he shows clearly that it was a national catastrophe. The author suggests a number of reasons why relatively little attention was paid to it. To many people it seemed simply a "subdivision of the War" which was already bringing torment and death to millions. Like the War, influenza did not bring the same kind of permanent and lingering source of misery as did diseases such as cancer or smallpox. One of the strangest aspects of this pandemic was that it proved the most fatal to young adults, who were the healthiest and most vital portion of the population. Ironically, this helps to explain why the public seemed quickly to forget it and the 675,000 deaths it caused. As Professor Crosby points out, individuals in our society seldom are very famous or powerful before the age of forty. Because the Spanish Influenza killed none of the most influential leaders of the nation or world (though it did kill a number of their children), it occasioned much less attention than it might have.

Much of the book is devoted to the individual human costs of the
pandemic. The author skillfully uses autobiographies, collections of letters, and actual reminiscences of those who actually lived through the era to weave a dramatic story filled with human interest. It is indeed a beautiful example of petite histoire. His concentration on two cities — Philadelphia and San Francisco — enables him to illustrate effectively the enormous effects of the disease on the homefront. It is hard to forget his detailed descriptions of the gruesome voyages of American doughboys to Europe aboard ships infested with influenza.

At the same time Professor Crosby provides us with the more traditional grande histoire of the academician. World War I always lies close to the surface. As he points out about the influenza, "from the point of view of the generals it had a worse effect on the fighting qualities of an army than death itself." It proved more difficult to treat than all but the most fatal of battle wounds. Not only did it severely overtax the American Army hospitals in Europe, but it also laid low from one-fourth to one-half of the medical corpsmen! Fortunately, the Germans were having the same troubles.

As the title suggests, this book devotes much attention to the effects of the Spanish Influenza pandemic on the Paris peace negotiations. After repeating Harold Nicolson's famous dictum that good health is the first prerequisite of the ideal statesman at a major conference, Professor Crosby tells us that Wilson's chief aid, Colonel Edward House, as well as three of his major assistants were ill with the disease during the vital preparations in Paris. In Crosby's words, "At the climax of his life and power, when whole nations hung on his every word, House's body had failed him twice, and History swept on past his sickbed."

Woodrow Wilson, the puritan who never conceded on what he considered a moral question, would eventually compromise during the final negotiations in early April 1919 while weary and sick with the disease. It is Professor Crosby's intriguing and believable thesis that Wilson, the prophet of "peace without victory," allowed England and particularly France to inflict a harsher peace on Germany than had been planned because of the debilitating illness which caused a change in his physical and mental well-being.

Equally consequential was the fact that the United States, the most powerful nation in the world, never approved the Treaty of Versailles. Again, Professor Crosby points to the Spanish Influenza. Senator Albert Fall of New Mexico, who would become a leader of the Irreconcilable Republicans, was narrowly reelected when Wilson singled him out for personal attack in the autumn of 1918. Unfortunately for the President this happened at a time when Fall was grieving over the recent influenza deaths of two of his children. Public sympathy for Fall caused Wilson's attack to backfire. Fall's subsequent narrow victory cost the Democrats a majority vote in the Senate, and hence doomed the Treaty to eventual defeat.

There is much also in this work for those interested primarily in the history of medical science. It includes a wealth of statistics concerning the course of the pandemic which the author amassed from the U.S. Army Surgeon General Reports, Bureau of the Census mortality statistics, and such state and local health department data as are available. He discusses in some depth the research into the Spanish Influenza during the decades following World War I and the eventual isolation of the deadly virus.

Professor Crosby should be congratulated for his well-written, con-
cise, and carefully documented work which is all the more worthy for its 
human interest. He might have included a preface to explain his purposes 
and methods before plunging directly into the study. Perhaps the major 
weakness, however, is the lack of a bibliography. The ample use of foot-
notes for documentation partly makes up for this, but most scholars will 
miss an annotated bibliography in a work which so obviously involved a 
rich use of sources. Nevertheless, this is a fine addition to the literature on 
the history of medicine as well as the more general accounts of the World 
War One period.

Reviewed by Anthony D. Branch, Ph.D., a historian as well as 
Associate Dean of the College of Special Programs of Golden Gate 
University, San Francisco, California.

Adventures in Medical Research: A Century of Discovery at Johns 
Hopkins. By A. McGehee Harvey, 114 illustrations, 19 figures, 464 pages. 

One cannot help but read this book with interest. Although 
specifically unrelated to dentistry, it should be read by all who are in-
trigued by the struggle for discovery and excellence. We are all aware that 
scientific research in Medicine has developed into multiple disciplines, 
each part pursuing its own course of investigation rigorously. What we 
are not aware of is the intense human side of the investigators who were 
responsible for many of the initial medical discoveries and advances. Dr. 
Harvey, in his book, identifies members of the Johns Hopkins medical 
community and their contributions to some of the outstanding research 
accomplishments at Johns Hopkins University and its School of Medicine 
that occurred over the past century.

Dr. Harvey has made a prodigious effort in detailing the human ef-
fort in each of his twenty-six essays. He describes "creative scholarship" 
and "the heritage of excellence" as being the two qualities necessary for 
the men and women who have worked at Johns Hopkins. Research after 
1947, for the most part, was not included. The book contains numerous 
illustrations and photographs which provide a graphic relief for the im-
aginative.

I believe it is essential to review some of the important intellectual, 
political and moral perspectives of the late 1880's. The historical setting in 
the United States at that time should be understood in some respect 
before reading Dr. Harvey's book. The author has relied heavily on 
narrative accounts, diaries and memory. However, each chapter is 
referenced extensively at the end of the book, and gives the reader a 
chance to research some of the important and original articles associated 
with a discovery or advance.

Too numerous to list here, Dr. Harvey discusses the men and women 
who have not only given Johns Hopkins distinction and have pioneered 
original research, but have contributed widely to the advancement of 
clinical and laboratory medicine. He has selected such fields as Urology, 
Pathology, Tissue Culture, Neurosurgery, Hematology, Cardiovascular 
Research and Surgery of Cancer to name a few. Within the framework of 
each field he discusses what important work or contribution each person 
has made and interrelates his narrative with a discussion of the develop-
ment of Johns Hopkins School of Medicine.

After reading this book one should develop an appreciation and understanding for the adventures in medical research that have occurred in the past. Since Dr. Harvey’s book is very human in scope, one can sense the historical perspectives that surround them.

We take for granted such things as tissue culture, chemotherapy, catheterization, cardiovascular surgery and sterile techniques. We have a firm foundation in pharmacology, physiology, histology and microbiology. Many of the men and women Dr. Harvey discusses did not have our modern clinical and laboratory background. It is always of interest for us to look at the past to see where we are in the present.


As a recently graduated hygienist, I can see the great value and interest this book would have for the currently graduating hygienist as well as for one who has already entered the field. Never before has a text-book on the subject of ethics been written for this particular group.

Not only does Ms. Motley explain the nature, theory and philosophy of ethics but the Code of Professional Ethics and the interpretation of the ADHA’s principles of ethics as well. In this section of the book she shows how to generate public confidence in the dental health professions. She shows the importance of each dental member’s role and the effectiveness of the team working together. She stresses such things as maintenance of professional competence through continuing education; the exchange of knowledge with other health professions. The author cites examples of dilemmas which may arise in a dental office and describes practical, professional ways of handling the situation, thus giving the inexperienced hygienist a sound guide to follow in a situation never before encountered.

The chapter on Jurisprudence discusses the types of laws governing dental practice; legal actions; malpractice; safeguards and insurances, all of which are of benefit to the hygienist. All of this makes her more aware of the legal hazards in the practice of dentistry as well as dental hygiene. This knowledge may avert personal as well as professional tragedies.

In order to fully understand the profession of dental hygiene as it exists today, it is necessary to know its historical development and background. This section Ms. Motley has covered intensely. A startling thing which she has uncovered is that a formal course for Dental Nurses and Assistants was given in the Ohio College of Dental Surgery even prior to Dr. Fones’ course in Bridgeport, Connecticut. This was in the period from 1910 to 1914, and although the students weren’t called hygienists, the subjects they studied were nevertheless those of a dental hygiene curriculum.

Ms. Motley, who is the editor of Dental Hygiene, the journal of the American Dental Hygienists Association, brings to this work a vast background of knowledge and experience. And, in addition, she expresses
in vivid fashion the history and growth of the association and its functional importance today.

Reviewed by Mrs. Christine O'Geen, a Registered Dental Hygienist in Batavia, New York.


Since antiquity, the blood has been a major focus of medical theory and practice. From Harvey's theory of blood circulation stemmed a new understanding of a basic physiological process.

Audrey B. Davis has written a scholarly, well-documented book that explores the implications of Harvey's circulation doctrine for medical theory and practice in England during the first decades after its announcement. The major systems of 17th century physiology are compared, emphasizing their bearing on the adoption and extension of the circulation theory. The main question repeatedly asked about the circulation of the blood was "Is it real?". Harvey demonstrated that acceptance of the blood circulation depended upon the relationship between the blood and the heart. In so doing, he polarized the ideas of his contemporaries. The book consists of 8 chapters covering such subjects as Thomas Willis (the famous anatomist) and the Oxford Circle of Physiological Chemists, Mechanical Philosophy, Vitalizing, Concoction, Fermentation, Transfusion, Paracelsian Concept and Galenic Theory.

There is a very extensive and well organized bibliography and index plus easily readable footnotes.

The author, Audrey B. Davis, Ph.D. is the Curator, Division of Medical Sciences at the Smithsonian Institution. She has managed to capture the flavor and excitement of landmark physiological discoveries of the 17th century within a thoroughly scholarly context. It is well worth reading.

Reviewed by Henry T. Ellison, D.D.S., M.S.P.H., who is an orthodontist in North Miami, Florida.


Soldier in White the biography of General George Miller Sternberg, chronicles the exploits and contributions of one of the most competent and versatile physicians ever to don the uniform of the US Army. General Sternberg, in addition to his demonstrated military qualifications (he rose through the ranks to become Surgeon General, a position he held for almost ten years) was also an inventor, a prolific author, a self-trained microbiologist of international renown, a social reformer and a "Biopolitician" — he was elected president of the American Medical Association in 1897 — and also served as president of the American Public
Health Association. During his tour of duty with the Army, he was captured by the Confederate Forces at Bull Run when he remained behind to tend to the wounded left in his charge. He suffered through the unfortunate Indian Campaign against the Nez Perces a few years later; and, through personal experience (he barely survived a bout with the disease) and necessity, became an expert on yellow fever.

It was this latter qualification which stood General Sternberg in good stead when, as Surgeon General, he dispatched Major Walter Reed and a tiny retinue to Cuba, "... for the purpose of pursuing scientific investigations with reference to the infectious diseases prevalent on the island of Cuba and especially of yellow fever." The results of this remarkable venture are, of course legend, and require no further description. These are Mr. Gibson's best chapters, though the picayune point may be made that his account fails to mention among the martyrs, Nurse Clara Louise Maass, recently commemorated by the issue of a special US postage stamp, who died as a result of the experiments.

Nurse Maass, who died of Yellow Fever on 24 August 1901, was a former contract nurse who, though not connected with the activities of the Yellow Fever commission, volunteered as an experimental subject and succumbed to the effects of the disease. Commenting on the significance of her sacrifice, General William C. Gorgas stated "... Miss Maass' death was a contributing factor in convincing physicians and the public that yellow fever was in fact transmitted by a mosquito vector." (Quote from "Highlights in the History of the Army Nurse Corps", The Historical Unit, US Army Medical Department, 1975, p. 6.)

Sprinkled in among General Sternberg's previously mentioned accomplishments were excursions into photomicrography, malaria investigations, bacteriological studies (especially those involving pneumococci and the tubercle bacillus), typhoid research, a stint as White House physician, and the establishment of the Army Medical School.

These achievements depict a veritable medical Renaissance man, and with such sweeping qualifications Sternberg deserves better than he receives from the pen of his biographer. Though for the most part the book is easy to read and pleasant enough, the writing is somewhat treacly, almost reminiscent of the breathless style immortalized by Horatio Alger, Jr., in his "rags to riches" tales. Moreover, Mr. Gibson's work is only scantily documented; he does not analyze his subject's remarkable contributions to the scientific literature, and dwells but briefly on the impact of General Sternberg's life's work on society. In short Soldier in White is more journalistic than scholarly. As a result, what emerges from the pages is a two dimensional man, all length and breadth but without depth. Poor Walter Reed almost fares worse; as described by the author he is "A man of charming manner, (who) caused anybody who knew him even slightly to become an ardent admirer." And that's about it for character analysis.

One minor inaccuracy (probably of significance only to an Army dentist) concerns the creation of the Army Dental Corps, which according to the author occurred in 1901. This is in error. The 1901 legislation permitted the hiring of contract dental surgeons (civilians) only and it was not until 1916 that the commissioned Dental Corps was authorized. (For those who are interested, the genesis of the Army Dental Corps is well described in A History of the United States Army Dental Service in World War II, by George F. Jeffcoat, Washington, DC: Department of the Army, 1955, pages 1-21). This is a trifling point, however, and should
not be construed as a major criticism.

Overall, for those who have an interest in one of the most stimulating times in the history of the Army Medical Department, the period from the end of the War between the States to the turn of the century, *Soldier in White* will provide some valuable information. The book is brief enough to be easily read in a few evenings; and, despite its shortcomings and a publication date of almost two decades past, is still the most comprehensive study published on General Sternberg, one of the real giants of military medicine. There is an adequate bibliography for anyone who wishes to increase his knowledge of the era.

Reviewed by Colonel Richard J. McConnell, Commanding Officer of the 768th Medical Detachment (Dental Service), APO New York, 09086.


The general quality of *Plant Medicine and Folklore* is unusually good. The paper, photography and line drawings are excellent. Particularly attractive are the drawings on the end papers. The subject of plant medicine has been of interest always but has had an important revival in the last ten years. The approach through the popular terms and symptoms make this monograph readable even though it is carefully documented and is in essence a reference book.

The author has tried many of the home remedies such as, "if you have been stung by a nettle, *Urtica* spp., you can cure it by rubbing the nettle's own root on the sting. We tried it, and there may be some truth to the old belief. Although the sting remained for a short time it faded very rapidly, whereas without the root treatment the nettle's sting had us ruefully regarding our fingers for half a day."

No attempt has been made to evaluate the healing properties of the plants included but the author has considered them with an open mind as a new approach to early frontier life. There are a number of toothache remedies listed such as gray-headed coneflower root, skunk cabbage rootlets and leaves of yarrow. "Ground chestnut, *Castanea dentata*, mixed with mutton tallow is said to be good for toothache if you have nothing better." "Dried hops, *Humulus lupulus*, were placed in a small bag and held against the jaw as another remedy. Flaxseed, *Linum lewisii*, could be substituted for hops."

Mildred Fielder is extremely well qualified to author this book through her talent and experience as a writer. She has published books and articles since 1955 and much poetry in periodicals and anthologies. She shows her familiarity with all the plants she lists and her photography is professional and lovely. Intense interest in and knowledge of folklore is demonstrated as well as knowledge of South Dakota history. She has written a number of books on this subject and authentic documentation has been woven into this monograph as well.

The bibliography and index both add to the value of this fine book which can be wholeheartedly recommended to libraries and readers alike.

Reviewed by Mrs. Sarah C. Brown, Director of the Lister Hill

This book is the story of man’s most precious metal in all its many roles. The author certainly seems to be quite an authority on the subject as he provides the reader with seemingly unlimited and unending facts about gold and accounts of its use. He relates one account of the scarcity of gold. “If you gathered together all of the gold that has been mined since the dawn of time, you would have about eighty thousand metric tons of it. Piled in gold bricks, this would make a cube with sides of a little over fifty feet square, and that cube would fit easily within lines of a baseball diamond.”

As dentists we are aware of the ductility and malleability of gold, but when I read that a little less than a dime’s worth of gold could be used to cover a “million dollar record,” or that an ounce can be drawn into a fine wire fifty miles long, I was again reminded of these unique qualities of gold.

The book is filled with stories of the notable gold strikes in California, South Dakota and South Africa, elaborate robberies and smugglings, deep sea searches for hidden treasure, trips down into actual gold mines, a tour of Italy’s largest jewelry manufacturing plant and a host of other most interesting places the author has been.

Mr. Vicker also examines the monetary use of gold from the coins of Alexander the Great to early American gold pieces. Many gold coins such as the Dutch guilder and Mexican 50 peso can be held not only for their numismatic value but also for their intrinsic gold worth, a difference the author emphasizes when comparing gold and paper money. His analysis of gold as an investment and store of value asset would be most valuable to anyone holding or considering buying gold or gold shares. After reading the book I came away with the distinct feeling that owning gold or shares in these days of galloping inflation and deficit government spending may not be an entirely bad idea.

Overall I thought the book was very well written and gave me a much better understanding of the history, versatility, manufacture and use of this precious metal.


Within the past decade, an increasing number of people whose professions bring them in close contact with the aged, severely debilitated and terminally ill persons and their families, have been confronted with unique and exceedingly difficult situations. These problems are the result of modern medical and surgical advances in the fields of life-sustaining-apparatus, transplants, pharmacotherapeutics and related developments.
Although physicians play the primary role in administering to this category of patients, psychiatrists, social workers, ministers and other medico-auxiliaries play an ever expanding role in dealing with the dying patient. Anyone who has been following the recent news accounts involving the tragic case of Karen Anne Quinlan over the last year realizes the implications and moral questions left unanswered regarding the new emphasis on death with dignity. Consequently, these problems have given birth to a new discipline, thanatology, which relates to the study and science of death.

David Dempsey is a member of the professional advisory board of the Foundation of Thanatology. His book is not to be regarded as merely another treatise on mercy killing or the like. Rather, it is the result of several years of first hand investigation into the treatment of dying patients. His efforts have culminated in a well documented, comprehensive account of the experience of dying.

Today medical technology has the capability to keep dying people alive longer than ever before. But the quality of that life and the cost of prolonging it presents a most difficult question. In his book, Mr. Dempsey examines the science of thanatology and its approach to dying and death that seeks to make the terminal stages of life as rewarding and meaningful as those that preceded. The book also discusses the immediate everyday decisions that now surround the dying experience: to die in a hospital or at home; connected to life sustaining machines, sedated, unconscious or without the modern medical wonders; in complete ignorance or fully realizing that death is about to overcome; and finally, with or without euthanasia.

But the book doesn’t end with the final heartbeat or squiggly line on an EEG. For Dempsey also deals with the lost art of grieving and the psychological implications that may result from not knowing how or refusing to mourn; the evidence of survival after death; the efforts of psychologists and scientists to communicate with the dead; and the mortuary industry and recent attempts to reform the funeral.

Although the topic matter bears no direct relationship with dentistry or the subject of history, the text would certainly prove worthwhile for those practitioners who routinely treat many elderly and/or terminally ill patients. It would certainly also be of interest to anyone who wishes to expand his knowledge of this intriguing subject of thanatology.


By the author’s own admission, Victorian society was never really measured by its response to medical issues of the day. Nonetheless, the reader of this text is left with the feeling that the most important sources, namely popular pamphlets and newspaper accounts of that era, were accurately reviewed and summarized. In doing so, Mr. French has recreated the structure, ideology and personalities of the early antivivisection movement in a most readable manner. Since the study was carried out under
support of a Rhodes Scholarship and other prestigious grants, and was criticized in manuscript by several experts, its validity is easily accepted.

Believers in the theory that history periodically repeats itself will be gratified by a particular conclusion of the author: that the society of Victorian England permitted the organized medical profession of the day to eventually overcome the restricting power of the antivivisectionists simply because that society came to believe that animal experimentation would result in a higher level of medical care. While the book's title suggests merely an analysis of a limited time period, the text in fact carefully analyzes relationships between the population-at-large, lay and professional special interest groups, volunteer agencies, governmental agencies and intraprofessional factions, in a fashion that leads to emerging principles that have application in the present and future.

The 412 page text is divided into two main sections. The first, chapters two through seven, is an analytical narrative of the formal institutional consequences of the development of experimental medicine and the opposition to it by the antivivisection movement. Most of the pages deal with political, institutional and administrative history between 1870 and 1880. Chapter Two also summarizes the pre-history leading to this period. The second section deals with antivivisection as a social, intellectual and cultural phenomenon from 1875 to 1895. The reader is free to choose either or both sections and glean what he wishes from either without fear of losing the trend. Those interested in the behavior and mentality of the movement itself need not be burdened with its political and administrative implications, and vice-versa.

High points of interest include the rise and fall of the Victoria Street Society and related antivivisectionist groups; the emergence of the Royal Society of the Prevention of Cruelty to Animals; The Act of 1876 that severely restricted animal experimentation and the medical profession's response to the Act. The latter point demonstrates a fascinating dependency of an elite, yet politically unsophisticated research group, The Physiological Society, upon the more sophisticated medical practitioners group of the day, The Association for the Advancement of Medicine by Research. By unifying forces, they learned to operate on two levels: within their own ranks, and before the public and its governmental agencies. The power that they developed permitted a continuous upswing in animal experimentation from the mid-1880's to the present at a rate which continues to increase even today.

This book should be of interest to several groups: students of social and political history; elected leaders of professional and governmental bodies; and volunteer groups seeking an answer to why their cause is failing.

Reviewed by E. David Appelbaum, D.M.D., who is a Periodontist in Rochester, New York.
Scenes at the 25th Anniversary Meeting,
American Academy of the History of Dentistry, Las Vegas, Nevada,
November 12, 1976.

The distinguished recipient of the 1976 Hayden-Harris Award, Dr. W. Harry Archer, flanked by Past-presidents Henry Swanson (left) and Alfred W. Chandler.

Dr. Asbell arranging his interesting display of advertisements of Colonial dentists. Other members from left are Dr. Jerry Herschfeld, Dr. Fastlicht and Dr. Ben Swanson.

Dr. Samuel Fastlicht (l.) of Mexico City being shown some of the extraordinary dentifrice-jar lids collected by Dr. Ben Z. Swanson.

From left: Dr. Henry Swanson, Dr. Henry Green and Dr. Kenneth Randolph.

Dr. Beerstecher and his unique exhibit of dental money.

Dr. Kenneth J. Randolph and Dr. Milton B. Asbell.
Dr. Orland (l.) and Dr. Ring trying to fathom the operation of one of the devices in the “What Is It” exhibit.

Dr. Sproull (r.) displaying one of the strange pieces of dental equipment in his fascinating exhibit “What Is It?” to Dr. Edward J. Leone.

One of the priceless sets of early hand instruments being examined by Dr. Olson.

Three of the wives who enjoyed the meeting. From left: Mesdames Maslansky, Ring and Sproull.

Drs. Ring, Asbell and Sproull.

Friends get together during a break in the meeting. From left: Dr. Beerstecher, Dr. Olson and Dr. Vacanti.
NOTICE TO CONTRIBUTORS

Contributions, which may deal with any aspect of dental history or bibliography, are invited. The maximum length for original articles is about 5000 words. Manuscripts should be typewritten with double spacing and wide margins. Only one copy need be submitted. Please consult former issues as to both literary style preferred as well as method of listing references. All references should be as complete as possible and contain the name(s) and initial(s) of the author(s) and the full title of the paper or book. Citations of periodical articles should include name of journal, year, volume number and complete pagination, in that order. For books cited, the city of publication, publisher, date and full pagination are to be given. All photographs which are intended to accompany articles must be black-and-white glossy prints no smaller than 3x5 inches. Photographs will be returned only if so requested.

Manuscripts, as well as all correspondence relating to the publication of papers, news-items and so forth should be addressed to the Editor, Bulletin of the History of Dentistry, 216 East Main Street, Batavia, New York 14020.

SUBSCRIPTIONS AND OTHER BUSINESS MATTERS

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All correspondence pertaining to subscription rates, service of existing subscriptions, advertising rates, etc. should be directed to

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The American Academy of the History of Dentistry, a not-for-profit organization founded in 1951, has as its goals the following:

Increasing interest among dentists in dental history.

Encouraging dental schools to develop historical collections on dentistry, and to offer adequate instruction in dental history.

Developing a broader understanding of the facts of dental history among the leaders in dentistry in order to aid them in their attempts in solving important problems in dental education and practice.

Stimulating more thorough and comprehensive research in dental history, thereby extending the boundaries of dental knowledge, giving substantial support to growing professional culture.

Creating an authoritative body to which important questions relating to dental history could be referred for factual verification.
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BOOK REVIEWS
A Short History of the Treatment of Cleft Lip And Cleft Palate

HYMAN J. V. GOLDBERG, D.M.D.
THERESA M. PINSKY, B.A., M.A.
NORINE E. JONES, B.A.
Rochester, New York

The improvement of surgical and prosthetic techniques to treat cleft lip and palate anomalies may be largely attributed to the impetus supplied by war-related wounds to this anatomical area as well as the ravages of venereal disease. With the exception of an early Chinese manuscript, no medical documents indicate that physicians recognized the existence of congenital cleft lip until Franco described it thus in 1556. Prior to this time, repair techniques for the face and palate were limited to acquired injuries to these areas, usually resulting from arrow or gunshot wounds, or disintegration of the orofacial region caused by syphilis. For centuries, such treatment was the province of military surgeons in the employ of various rulers.

Although medical acceptance was long in coming, evidence indicates that congenital cleft palate and cleft lip have plagued mankind for centuries. The skull of an Egyptian mummy, dating from the period 2445 to 1331 B.C., manifests cleft palate. An unearthed Peruvian skull from the first century A.D. suggests the presence of a bilateral cleft lip and palate. No respector of cultures, this anomaly has also been manifested by the American Indians for years. Although evidence suggests that some primitive Indian tribes (i.e., Flatheads, Apache, Pima, Mohave, Cayenne, Navaho, Zuni, Tepicano and Gumilla) practiced infanticide on defective babies, there is evidence that a relatively high incidence of cleft palate and cleft lip existed among these people.*

NEGLECT OF CLEFT PALATE REPAIR

The first mention of surgical cleft lip repair appears in the Chin Annals, an official history of the Chin dynasty period (317 to 420 A.D.). The Annals refer to Weig Yang-Chi, an individual who had surgical repair of an apparently congenital cleft lip around 390 A.D. Treatment consisted of “cutting and stitching” the edges of the cleft together and 100 days of complete bed rest during which time the patient could eat only thin gruel and was not allowed to smile or talk. The Annals also describe surgical techniques employed for repair of battlefield cleft lip cases.

Despite this early evidence of congenital cleft lip repair, such treatment was neglected until the 16th century, and surgical repair of both

*See also in this regard Skoog, T. "A Head From Ancient Corinth," Bulletin of the History of Dentistry, 19(2): 50-54, December 1971, which describes a case of cleft-lip in Greece in the 4th century, B.C.
acquired and congenital cleft palate was considered impossible until the
18th century. Several factors contribute to this neglect of cleft palate repair and earlier concentration on labial repair. Facial appearance was a
prime motivation for patients to seek remedial treatment of cleft lip, while the less obvious palatal deformity was more easily ignored. The
easier accessibility of the lip for treatment was an added inducement for
early surgeons to operate first in this area. Also, the pressure for
successful treatment of cleft lip was less demanding than in cleft palate surgery, and the patient's welfare was not in such jeopardy.

Most palatal clefts coming to the attention of early surgeons were
acquired rather than congenital. Few children born with cleft palate sur-
vived; they usually died in infancy from malnutrition since milk and
food passed out of the nasal cavity. In 1691, Fabricius of Aquapendente
was probably the first to report that many neonates with palatal clefts
often died as a result of inability to nurse. Thus, most palatal clefts re-
quiring attention from surgeons resulted from battle wounds or disease,
and these are the only palatal clefts cited in medical texts before the 17th
century.

THE CHURCH'S ATTITUDE—
A FACTOR IN NEGLECT

Contributing to the reluctance to treat congenital cleft palate was
the fact that the Church had decreed that physicians could not invade
body cavities or draw blood. Exemplifying the Church's opposition to
surgery was its reaction to Gaspare Tagliacozzi (1546-1599), who per-
formed rhinoplasty using a flap of skin from the arm to reconstruct the
nose (Fig. 1). Tagliacozzi's body was removed from its consecrated
burial space as punishment for his
defiance of ecclesiastical law. Thus,
surgical intervention for cleft palate
did not evolve until the edict was
relaxed in the 18th century.

It should be noted, too, that the
Church encouraged study of the
body only, and surgery was not in-
cluded in medical curricula until the
16th century. Up to this time, sur-
gery was performed by barber-
surgeons who practiced this art
from the Dark Ages through the
16th century.

Surgery prior to the early 19th
century was especially hindered by
lack of anesthesia and inability to
control infection. Most surgical
procedures were emergency
operations necessitated by disease
or acquired injury and were under-
taken only in the face of impending death. Ether anesthesia, introduced
by Morton in 1846, was a development which really made surgery for
cleft palate feasible, while Lister's concept of asepsis (1867) further
revolutionized surgical management.
FEAR OF SYphilIS A DETERRENT TO TREATMENT

Another sociological factor which further complicated treatment for cleft palate was the widespread belief that most congenital defects of the palate resulted from syphilis. Syphilis was not identified and named until the 15th century, but a treatise in the 4th century described the oral effects of venereal disease. During the Middle Ages and the Renaissance, the disease was so widespread that it reached epidemic proportions, and concern for treatment overshadowed consideration of congenital cleft palate. The syphilis of this period was acute, with the final tertiary stage often occurring very early. Buccopharyngeal syphilis, which caused ulcers of the mouth and perforations of the palate, was described in the late 1400's by Leonicenus and Jacob of Catania. Jacques Houiller, in 1522, was probably the first to propose suturing of palatal perforations caused by syphilis. However, many surgeons avoided such operations for fear that they would contract the infection through direct contact with the patient.

It took until 1819 when Dr. Philibert Roux examined the cleft palate of one of his students, John Stevenson, for the profession to realize that isolated cleft palate existed. Prior to this time, individuals presenting congenital palatal clefts without labial clefts were suspected of having contracted syphilis and its accompanying oral lesions.

A variety of techniques have emerged in the attempt to remedy cleft palates and cleft lips. These include plastic surgery, obturators, cautery, excision and suturing, and the applications of salves and plasters.

DEVELOPMENT OF PLASTIC SURGERY

The practice of plastic surgery began during the 6th century B.C. when the Hindus employed rhinoplasty to mend disfigured noses resulting from war wounds or from the common practice of cutting off the nose as punishment for adultery. The Greeks (in the period 460-355 B.C.) were noted proponents of plastic surgery, as were the Romans during the 1st century A.D. and the Chinese during the Chin Dynasty. Surgeons in the Middle Ages frequently used rhinoplasty to remedy battle wounds, as witness the fame achieved by Tagliacozzi for his plastic surgery techniques in the 16th century.

Rhinoplasty received new impetus during World War I when thousands of soldiers sustained disfiguring facial injuries. After the war, plastic surgeons were active in seeking new methods of cleft palate closure. Concern expanded beyond simple closure of the cleft to include attainment of good function and satisfactory speech patterns. By the time of World War II, the number of plastic surgeons had increased substantially. After the war there were enough plastic surgeons for the first time to handle community needs adequately. At this point, cleft palate surgery had evolved to the point where the medical profession realized that closure represented only one part of patient rehabilitation, and the current trend toward team treatment of cleft palate by several specialists originated.

THE OBTURATOR AS A TREATMENT MODALITY

Obturators appeared in the 1500's. Today they are commonly associated with prosthetic treatment of congenital cleft palate patients,
but obturators were originally introduced to close openings in the hard palate caused by bullets. Although the date has not been precisely established, Alexander Petronius is often credited with first attempting, around 1530, to use wax, cotton-wool or oakum to plug such perforations. During this period obturators were also developed for patients whose palates had been attacked by syphilis.

Ambroise Pare probably made the most significant early progress in the development of obturators. His first appliances of silver and gold were held in place by a sponge (Fig. 2). However, these early obturators were unstable and had a foul odor, making them uncomfortable for the patient. Pare’s later device was cleaner and constructed like a cuff button. Similar designs were used until 1756 when Fauchard developed five obturators. These resembled Pare’s devices in that they were anchored in the cleft itself, but they utilized wing-like projections to hold the appliance in place. These projections tended to create pressure against the fissure edges and were criticized for widening the cleft. Later obturators were secured to the dentition with silk cords by Bourdet (1756) and metal bands by Delabarre (1820). This latter method is still used today (Fig. 3).

Up to the 19th century, obturators had not been developed for congenital cleft palate cases. In 1823, Snell distinguished between treatment of congenital and acquired cleft palate, and he constructed an artificial velum of gold and India rubber. However, his attempt to restore the soft palate did not include the pharyngeal space. The artificial velum concept was further developed by Stearn who designed a more satisfactory prosthesis from gold and vulcanized rubber in 1841. Kingsley and Suersen refined Stearn’s device. Suersen’s obturator, which is the basis for many modern devices, covered the hard palate and extended into the pharyngeal opening. The device achieved closure by contraction of the super constrictor muscle of the pharynx around an obturator bulb constructed of hard rubber.

(Fig. 2) Pare’s gold and sponge obturators.

(Fig. 3) Pare’s later obturators. The inner projection was turned and locked in place with the “crow’s beak” pliers.
TREATMENT BY CAUTERY

Although excision and suturing has become general practice in surgical repair of cleft lip and cleft palate, cautery also had its early proponents. The Roman, Celsus (25 B.C. to 50 A.D.), used cautery to treat skin wounds, making the margins raw and then letting them heal over the scarring. The Arab surgeons also used cauterization for many procedures, although specific mention of cleft lip has not been established.

Cautery gradually lost popularity, but as late as 1766, Le Monnier successfully used cautery to cure a child with cleft palate extending from the velum to the incisors. He first sutured along the cleft margins to approximate them and then freshened them with cautery. The resulting inflammation terminated in suppuration, which was followed by a union of the edges of the cleft. In addition, Le Monnier closed palatal holes usually treated with obturators by irritating the area to stimulate inflammation. Velpeau, Dupuytren and Delpech in the 18th century also cauterized small holes in the velum.

EXCISION FOR CLEFT LIP

Saxon surgeons (called “leeches”) were the first to describe cleft lip repair in Europe in the Leech-book of Bald (950 A.D.). The outlined procedure involved cutting the edges of the cleft lip with a knife, sewing with silk thread and applying salve at frequent intervals. Despite this reference, Saliceto of Bologna (1201 to 1277) is usually given credit for reintroduction of the knife into Western procedures.

Johann Yperman (1295-1351) a Flemish surgeon, is credited with the first description of unilateral and bilateral cleft lip and its surgical repair. Yperman used a bistouri, a narrow-bladed knife, to freshen the margins of the cleft. He sutured the margins with a triangular needle and twisted wax suture, then reinforced the suture with a long needle passed through the lips at some distance from the cleft. A figure-8 suture held this needle in place (Fig. 4). Yperman observed that some of his contemporaries only used long needles to bring together the edges of the cleft lip while others made disfiguring, relaxing incisions in the cheeks.

Fifteenth century surgeons such as Heinrich von Pfolsprundt, a Bavarian army surgeon, and Hieronymus Brunschweig, an Alsatian army surgeon, used scissors to freshen the wound or cleft edges. The wound was then sutured and plasters and salves applied. During the 17th century, tissue was usually excised with a hot iron, caustics or blister plaster, but excision with sharp instruments gradually returned. During the 18th and early 19th centuries, thick-bladed scissors were used with the rationale that tissue could be excised quickly, leaving a straight wound and shortening the patient’s pain.

(Fig. 4) Figure-8 suture for repair of cleft-lip.
The 19th century saw many new developments in cleft lip surgery, particularly the innovation of "skin flaps". In the 20th century, early maxillary orthopedic management and bone grafting have been added to the treatment spectrum for cleft lip patients. The principal surgical objectives are to achieve: a symmetric lip with a centered Cupid’s bow; a vermilion border bounded by a white line; a philtral ridge and dimple; and a symmetrical nose and eventual normal appearance.

AT WHAT AGE SHOULD SURGERY BE DONE?

A centuries-old controversy has centered on the proper age for unilateral lip surgery. Many surgeons have maintained that the operation should take place in infancy. Heindrick Van Roonhuyzen of Amsterdam (1622 - 1672) recommended performing the operation when the child was three to four months old, for he felt earlier operations jeopardized chances for success. James Cooke (1614 - 1688), in an early textbook on surgery, advised that the operation be performed on infants as early as possible. He further noted that the child should be kept from sleep afterwards. Others such as Heister in 1739 were also proponents of early operations, claiming that crying and movement could be controlled by interrupting the child’s sleep for several days prior to the operation and administering an opium preparation to ensure sleep after the operation. Those who favored early operations also maintained that infants were easier to restrain, that incisions healed better at this age, and that early operations increased the child’s chance for satisfactory physical and mental health (Fig. 5).

Opponents such as LeClerc (1701) contended that the cleft lip operation should be postponed until the child was four or five years old, maintaining that the child’s crying and agitation would hinder the procedure. Others maintained that older children would become emaciated from several days on a liquid diet and develop flabby cheeks, thus causing relaxation of the sutures. Opponents such as LeClerc (1701) contended that the cleft lip operation should be postponed until the child was four or five years old, maintaining that the child’s crying and agitation would hinder the procedure. Others maintained that older children would become emaciated from several days on a liquid diet and develop flabby cheeks, thus causing relaxation of the sutures.

Although there is still some controversy over optimum timing for the operation, cleft lip surgery usually is done two to six weeks after birth, providing the baby weighs at least seven to ten pounds. Many surgeons agree that nutrition is enhanced when nursing is facilitated, and the improved appearance of the child diminishes the negative impact of the deformity on his family. Others believe early operations prevent drying of the nasal mucosa and encourage molding of the cleft maxilla. New techniques of presurgical maxillary orthopedics sometimes entail postponement of labial closure until the child is several months old, but surgeons generally perform cleft lip surgery during infancy.
Cleft palate surgery, as stated earlier, was not common until the advent of anesthesia and asepsis made such treatment more feasible. There are early references which indicate that Yperman in the 14th century and Franco in the 15th century sutured cases of congenital cleft palate. Jacques Houllier attempted this procedure on a traumatically split palate in the 16th century. However, such cures were rare. Even as late as 1856, James Symes in his Principles of Surgery observed that there was no remedy for cleft palate except the use of obturators.

The 19th century saw a revolution in surgical treatment of congenital cleft palate. Philibert Roux in 1819 and Karl Ferdinand von Graefe in 1916 were the first to concern themselves with palatal repair to achieve closure of the soft palate. Von Graefe used doubly knotted twine sutures, after denuding the cleft edges with a uranotome. Roux simplified staphylorrhaphy by passing three sutures across the opening, denuding the margins with a knife and tying the sutures.

As medical societies and medical publications began to proliferate, surgeons from various countries began to publicize their repair techniques and tools. Wound tension was reportedly the principal problem in these closure cases, and surgeons made liberal use of relaxing muscle-dividing incisions until this procedure was condemned by Billroth in 1889.

Dieffenbach (1828) was the first to report closure of the hard palate (uranoplasty), achieved by dissecting off the mucosa. Variations of this technique were attempted by Jonathan Mason Warren (1843) and John Avery (1854). However, the procedure still presented many problems. Von Langenbeck reported a successful operation, achieved by elevating the periosteum with the mucosa while the patient was under an ice anesthetic (1881).

Many different operations for cleft palate were developed during the second half of the 19th century, including forceful compression of the maxillary segments, several mucoperiosteal flap techniques and flap eversion. However, the most significant development was Passavant's effort in 1865 to develop surgical methods designed to improve the nasal speech of cleft palate patients. Other methods to overcome velopharyngeal insufficiency were also introduced, but usually these efforts were secondary to palatal closure. In the early 1900's Roberts attempted to establish adequate speech production with the primary operation, but most surgeons continued to concern themselves with functional methods of palatal repair and only secondary speech correction procedures. By the beginning of World War II, cleft palate surgery reached the point where a limited number of basic repair techniques had been developed. Roentgenography and growth-pattern studies were illuminating the etiology of the deformity and improving the scope of patient care.

After World War II, treatment of the cleft palate patient changed radically. The medical profession acknowledged the multifactorial nature of treating the cleft palate deformity, and expanded its view of proper habilitation. Instead of sole reliance upon the surgeon, the cleft palate patient is now treated by a team of specialists, including plastic surgeons, audiologists, speech pathologists, orthodontists, prosthodontists and social workers.
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On the History of the Suture

—CLIFFORD C. SNYDER, M.D.
Salt Lake City, Utah

In compliance with a custom as old as our American Association of Plastic Surgeons itself, I appear before you to thank you for your contributions, your confidence, and your devotion during this past year.

I would like to share with you one of my personal treasures in surgery. It is from my collection of treatises and texts relating to the history of the stitch. The stitch and its application are an inherent part of the surgeon’s life. What greater elation is there for a surgeon than a colleague’s praise for an elegant wound closure and the delightful result? And who else devotes as much interest to the healing wound, its chemistry, and its generative phases as the plastic surgeon?

Stitching is not new, for it was known the second week of creation. If you will open the Holy Bible to the book of Genesis, chapter 3, verse 7, you may read “And the eyes of them both (Adam and his transplanted rib) were opened, and they knew that they were naked; and they sewed fig leaves together, and made themselves aprons.”

A review of another authentic source, the Edwin Smith Surgical Papyrus (circa 3,500 B.C.) alludes to sutures and the suturing of the wounds. This ancient Egyptian scroll is acknowledged as the oldest existing surgical treatise. About 1,000 years before Christ, Charaka’s Samhita, which is a medical treatise, described many techniques of suturing, including the closing of wounds by ant pincers. (Incidentally, this is not all legend; it was proven to be possible in our research laboratory.) In Susruta’s Samhita, a compilation of plastic surgery and ophthalmology completed about 600 B.C., there is mention of sutures made from animal sinews, from braided horsehair, from leather strips, from cotton, and from fibers made from the bark of the Ashniantaka tree. Egyptian mummies from 100 B.C. have showed evidences of sutured wounds.

Suture means to sew or seam—and Hippocrates (Fig. 1) used the word in this sense, circa 400 B.C. Cornelius Celsus, a learned Roman, used the word in 100 B.C. as a noun (the suture), and as a verb (to suture); he also named the skull sutures coronal, sagittal, and lambdoidal.

(Fig. 1) Hippocrates, the Father of Medicine, introduced rational diagnosis and practical therapy in the fifth century B.C. He detested mysticism and was the first to describe healing by first and second intention.
Claudius Galen (129-200 A.D.), Roman surgeon, anatomist, and writer. He was the personal physician to two emperors (one being Marcus Aurelius). Galen wrote more than 400 treatises and his teachings were followed by physicians for about 1500 years.

It was not long before sutures were used to tie off tissues, and in Latin this was termed ligature. Galen, who was physician to the Roman gladiators in 165 A.D., recommended the use of the ligature to stop their bleeding. Ambroise Pare, the French military surgeon, in 1555 changed his treatment of bleeding vessels in amputations from hot irons and boiling oil to ligation. He also introduced the use of stitched linen adhesives to close saber wounds (Fig. 3) and to inhibit scar formation.

Andreas Vesalius, the greatest anatomist of the Renaissance, was one of the first to advocate the suturing of all fresh wounds, as well as severed tendons and nerves. Gaspar Tagliacozzi, the "maker of noses," attached his skin flaps in 1586 with threads and cords of linen.

KINDS OF SUTURE MATERIAL

Man's ingenuity has never waned in trying every available material to close an open wound. Suture material has been taken from every source imaginable—from ores, plants, fowl, animals, plastics, and humans. Surgical catgut, history tells us, was one of the first materials used to coapt severed tissues. This material, controversial as to its reaction and its absorption, continues to be the favorite of many surgeons and is condemned by others. For healing wounds and tying tissues, catgut has been medicated by various means; it has been carbolized, tanned, iodized, chronicized, thymolized, etherized, and alcoholized.
Horsehair was the favorite of Rhazes, the frivolous playboy surgeon of Baghdad in 860 A.D. It remained popular for centuries, was widely used in the U.S. by plastic surgeons until about 1940, and is currently used in Russia to close cleft lips.

The use of metal hooks to hold skin wounds together appeared in 1500 A.D. From this ingenious use of metal came the hooks and clips of Wachenfeldt, Michel, Cushing, Frazier, von Petz, and many other types.

Silkworm gut enjoyed an era of popularity, but lately the fisherman's enthusiasm for it has decreased the surgeon's supply.

Sutures of tendon have been fancied by some surgeons through the years. Animal tendons used to mend wounds include those from the falcon, kangaroo, deer, whale, buffalo, moose, caribou, steer, and jackrabbit.

Human and bovine fascia has been used for facial slings, for kidney lacerations, and for hernia repairs.

McArthur, in 1870, published his method of using strips of human fascia to close hernias. Gallie devised a special needle in 1921 to use with the fascia strips.

Among the metals used to close wounds were the gold wires of Fabricius in 1550, the silver wires of Marion Sims in 1850 (the American who became the first physician to successfully close vesicovaginal fistulas), the silver sutures of Reid in 1933 the steel wires of Babcock in 1934, and tantalum (mentioned by McCall and Schuessler in 1944).

INFECTIONS—STITCH ABSCESSES AND WORSE

During the 18th and 19th centuries, surgeons carried their surgical kits and suture cases from one operation to another in their vest pockets, cleaning the items with their handkerchiefs after an operation (or sometimes immediately before the next procedure). Bacteria native to the suture strand, or acquired from a scalpel, caused more deaths from anthrax, gas gangrene, or tetanus than did the patient's initial disease.

A great benefactor to the progress of surgery was Lord Joseph Lister, who proved that wounds would heal better if infection could be controlled. He demonstrated this on August 12, 1865, when he healed a compound fracture with osteomyelitis in little James Greenlees' leg—a disease which usually terminated in death or at least in severe crippling. His therapy was cleanliness and the use of carbolic acid in poultices and sprays. Lister then carbolized all his patients' wounds, as well as his instruments and his sutures.

TISSUE DAMAGE AND SUSCEPTIBILITY TO INFECTION

The problem of infection was partly solved by the teachings of the Johns Hopkins staff and especially those of the surgical professor, William S. Halstead. The techniques of surgical procedures were likewise advanced tremendously by the Mayo family. These surgeons knew that "many times a life hung by a single thread," and they taught that large caliber suture material produced more inflammatory response and slower healing than did finer materials.

We were to learn soon that needles with eyes were more damaging to tissues than were swaged-on (atraumatic) needles, that needle points and needle shapes could be designed to produce minimal trauma in
specific tissues and for selected operative procedures.\textsuperscript{23} (In passing, one might note that the first swaged-on suture needle was patented in 1874, and that its hollow base was treadered to receive the thread.)

**THE ELUSIVE PERFECT SUTURE**

We must remember that the first intention of a suture is to heal the wound by first intention. And the faults in making a suture belong to the suture manufacturers, but the errors in using them belong to the surgeons.\textsuperscript{24}

My concept of a perfect suture would be one with the strength of Achilles, endowed with knotting security,\textsuperscript{38, 67} one made in a minimal size, one responsive to the slightest digital guidance, one which passes through tissues without disturbance, one which absorbs when this is desirable, one which does not cause a foreign body reaction (or an infection), and one which is readily available at a reasonable price. The dream is, of course, easier than the reality.

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DR. SNYDER is Professor and Chairman of the Division of Plastic Surgery at the University of Utah and Chief of Surgical Services at the Veterans Administration Hospital in Salt Lake City, Utah. This paper was his Presidential Address at the annual meeting of the American Association of Plastic Surgeons on May 10, 1976 in Atlanta, Georgia. Requests for reprints should be made directly to the author.

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Tribute from the President
Of the United States to
Dr. Homer C. Vaughan and the
American Prosthodontic Society

—EDGAR S. BACON, D.D.S.
Traverse City, Michigan

On November 11, 1976, a distinguished American dentist and the
American Prosthodontic Society received a message of congratulations
which was without precedent, a distinctive tribute to the dentist and the
American Prosthodontic Society, and an unique, historical “first” for
American dentistry.

The dentist-recipient of the message was Dr. Homer C. Vaughan of
New York City, founder and the director of the International Circuit
Courses of the American Prosthodontic Society and holder of numerous
other positions of high professional trust. The message was directed to
Dr. Vaughan, and sent in care of the President of the Society, Dr. Day-
ton D. Krajicek, at the MGM Grand Hotel in Las Vegas, Nevada, where
the Society was holding its Forty-Eighth Annual Meeting. The author
of the message was the President of the United States, the Honorable
Gerald R. Ford.

As our nation enters the last quarter of the 20th century, faced with
potentially cataclysmic events and crowded by complex circumstances—
economical, political, and environmental—it was a message which
pointed out that dental science as taught and practiced in the United
States had achieved a goal of dignity and respect second to none among
global health-service professions. And perhaps of greater significance, it
was a goal which gave indisputable proof that American dentists are
continuing to pursue their inalienable and constitutional right to
freedom of thought and action in spite of a growing encroachment upon
their professional liberties by bureaucratic interference; liberties which
at the close of the Bicentennial are shared by fewer than 20 per cent of the world’s four billion people.

When Dr. Vaughan received the President’s message as quoted here in its entirety, the International Circuit Courses, a remarkably successful venture in dental health service education since it was established by Dr. Vaughan and sponsored by the American Prosthodontic Society in 1962, reached its highest plateau of recognition. It was indeed a citation of esteem which in a very real sense acknowledged a whole new concept of American teaching methods whose participating dentists in future years will be encouraged to act as ambassadors of good will and purveyors of dental health education to more and more of the less fortunate peoples of the world regardless of race, creed, or color.

THE WHITE HOUSE
WASHINGTON
November 11, 1976

My warmest greetings to the members of the American Prosthodontic Society as you hold your Forty-Eighth Annual Meeting. For almost half a century your organization has been a leader in the art and science of Prosthodontics. Much of the progress we have realized in this field is due to your persevering efforts. Your distinguished series of International Circuit Courses have been invaluable in the useful sharing of professional expertise with dentists of other countries. These courses have significantly advanced the quality of international health and the measure of effective international cooperation in this field.

I commend your past achievements and wish you a most productive and rewarding future.

[Signature]

The International Circuit Courses presently have a total faculty of sixty lecturers and clinicians who have shared professional knowledge with dentists in 44 foreign countries. As a result of the I.C.C. continuing educational programs, foreign dentists play a vitally important role in maintaining and enhancing the lives and health of the citizens of the countries they represent.

Although 44 countries are listed, I.C.C. faculty members have taken many more trips than the number of countries would suggest: i.e. 14 trips to Japan; 7 to Bangkok; 9 to South Africa. During the twelve month period, February 1976 to February 1977, eighteen dentists, chosen for their talent, knowledge, and expertise, have lectured in the countries here indicated.
Those persons who have traveled in foreign countries will realize and perhaps marvel at the cost and the tremendous amount of voluntary personal effort and time-consuming preparation and planning that is required before sending even one representative abroad. To assure the success of each projected trip and to maintain the high standard of performance, the I.C.C. screens its faculty with great care. Election to this faculty is indeed a great honor. It is the first and only national-international faculty in existence.

Among some of the important factors to be considered are: 1 — The interchange of communication between I.C.C. directors and officials of foreign dental schools and societies who have requested presentations from the International Circuit Courses. 2 — Obtaining permission from the State Department when necessary for foreign travel. 3 — Selecting and critically appraising the merits of the subject matter to be presented. 4 — Obtaining funds to finance trips. 5 — Determining itineraries, and calculating rates of foreign money exchange. 6 — Arranging for the services of knowledgeable interpreters to assure fluent and correct translations of essays. 7 — And, finally, anticipating those numerous little nuances which if not preconsidered can make foreign travel a distressing experience.

THE GENESIS OF THE INTERNATIONAL CIRCUIT COURSES

Dr. Homer Vaughan founded the International Circuit Courses in 1962 “to promote dentistry’s highest professional standards throughout the world and to strengthen the ties of friendship and close communication among dentists everywhere through the use of prosthodontic disciplines.” He has generously provided his own funds to its welfare and assiduously devoted his professional knowledge, philosophical outlook, and understanding of organizational procedures to the guidance of this enterprise. It has continued to grow and progress until today because its functions, accomplishments, and high professional standing have a singularity of purpose and a meaningful popularity which is superior to any other organization of a similar character, whether it be national or international. This outstanding leadership is all to the good, for it is a fundamental concept that no organization, especially if it is newly-

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formed, can hope to survive if its founder and high-level personnel are not so motivated.

FIRST COURSES IN SOUTH AMERICA

The first team of distinguished clinicians to take part in the International Circuit Courses, sponsored by the American Prosthodontic Society consisted of Drs. Charles C. Berger, Carl O. Boucher, Clyde H. Schuyler, and Victor Steffel. After arriving in South America on March 30, 1964, they demonstrated their advanced technical and biological skills before the Dental Society of Paraguay in Asuncion, the capital city of Paraguay; the Argentina Dental Association; the College of Dentistry, Argentina University; the Somo-Prosthetic Society; the Brazilian Dental Academy and the Prosthetic Section of the Dental College of the University of Sao Paulo, Brazil; and concluding their program, they presented a three-day series of clinics before the Brazilian Dental Association of Rio de Janeiro.

A CONTINUING STREAM OF COMMENDATIONS

Six years after the first series of instructional clinics were presented in South America, the American Dental Association honored Dr. Vaughan, as well as the American Prosthodontic Society, "for furthering better health among the people of the world and for truly promoting dentistry's highest professional standards through its International Circuit Courses." Harry A. Klenda, president of the A.D.A. presented the A.D.A. citation in 1970.

On February 10, 1973 the I.C.C. was cited again by Dr. Louis A. Saporito, president of the American Dental Association and guest speaker at the Tenth Anniversary Dinner. Dr. Saporito commended Dr. Vaughan in these words: "Dr. Vaughan is the one man without whom all this would not have been possible... It has been his inspiration, and, yes, his blood and sweat that have made this International Circuit Courses program the success that it has proved to be... We salute you and the American Prosthodontic Society for having had the vision and, indeed, the fortitude to undertake a program of this type where you send eminent teachers to teach the latest techniques in prosthodontics in foreign dental schools all over the world."

On February 17, 18, 19, 1977, the American Prosthodontic Society celebrated the 15th Anniversary of the founding of the International Circuit Courses, a program which no longer is "a new teaching and educational venture," but a tradition, well-founded, respected, and durable. Held at the Hyatt Regency Hotel in Chicago, the three-day meeting was dedicated to Dr. Homer Cree Vaughan, and on February 18th, a special luncheon meeting in his honor was attended by the entire assemblage.

This most recent acclamation is indeed a fitting, well-deserved tribute to the man who has given so much of himself, his knowledge, and understanding to the welfare of mankind and to his profession. Climaxed by Presidential recognition, it is a tribute in which all American dentists can share with justifiable pride.

DR. BACON is the author of The New York Academy of Dentistry: Its First Fifty Years. His address is 2877 Old Mission Road, Traverse City, Michigan, 49684. Requests for reprints should be made directly to the author.
J. Ben Robinson: In Memoriam

PROFESSOR GARDNER P. H. FOLEY
Baltimore, Maryland

This memorial tribute is intended to measure the status of J. Ben Robinson's place in the history of American dentistry and to reflect the pride of the members of the American Academy of the History of Dentistry in the remarkable career of its Founding Father.

From his entrance to the Dental Department of the University of Maryland in 1911 until his death on June 15, 1977, Dr. Robinson maintained a devoted interest in his profession. In practice, teaching, school administration, and the various levels and areas of organization, he achieved ready recognition for his exceptional qualities of leadership and the incentive influence of his addresses and writings.

Born near Clarksburg, W. Va., on April 16, 1883, Dr. Robinson prepared for a teaching career at Marshall College. After several years of teaching in schools of his native state, he made the profoundly important decision to study dentistry. On his graduation from Maryland in 1914 he was awarded the traditional gold medal as the top ranking senior. Beginning in 1914 with the rank of Instructor in Operative Dentistry, Dr. Robinson progressed to the rank of Professor. In 1924 he was called to the deanship of the year-old merger of two former Baltimore dental schools: the Baltimore College of Dental Surgery, Dental School, University of Maryland. As dean of that successor to the world’s first dental college, J. Ben Robinson served from 1924 till his retirement in 1953. Returning to his native state in 1953 as the first dean of the School of Dentistry, West Virginia University, he devoted five years to the establishment of a strongly organized and solidly growing school. The dentists of Maryland honored him in 1950 by selecting him as Maryland’s outstanding contributor to dentistry 1900-1950; in 1959 he was cited by the Maryland State Dental Association as the state’s "Dentist of the Century — 1859-1959"; and in 1976 he was selected for membership in the Hall of Fame of Great Maryland Dentists.

In estimating the worth of J. Ben Robinson’s career in dentistry it is
important to consider his reputation as it is revealed by the host of national honors conferred upon him. The several presidential offices he held illuminate the breadth of his leadership: Maryland State Dental Association, 1922; Supreme Grand Master of Psi Omega, 1931-1948; American Association of Dental Schools, 1933; Kiwanis Club of Baltimore, 1934; American College of Dentists, 1935; American Dental Association, 1943; American Academy of the History of Dentistry, 1952.

This famous representative of American dentistry was further notably honored by the presentation to him of many important awards: Alpha Omega Fraternity Medal, 1941; Alfred C. Fones Medal (Connecticut S.D.A.), 1952; John R. Callaghan Medal (Ohio S.D.A.), 1944; William John Gies Award of the American College of Dentists, 1957; Distinguished Alumnus Award (U. of Md.), 1959; Hayden-Harris Award of the American Academy of the History of Dentistry, 1967; American College of Dentists' Award for Excellence, 1970; and the A.D.A. Distinguished Service Award, 1972.

Dr. Robinson was the recipient of the honorary Doctor of Science degree from Temple University, 1943; Marshall College, 1952; and the University of Maryland, 1976.

Throughout his career Dr. Robinson skillfully used his penetrating insight and reflective mind to achieve an excellent reputation as a contributor to the dental literature. His intellectual vigor and indefatigable zeal were recognized by the civic leaders of his adopted city. He served on the Baltimore Board of School Commissioners, 1944-1953 and on the Board of Recreation and Parks, 1948-1952. There were several other important services contributed by Dr. Robinson: Maryland Board of Dental Examiners, 1922-1924; A.D.A. Council on Dental Education, 1938-1951; dental advisor to the Library of the Surgeon General, 1944-1977; and chairman of the Advisory Committee on Dental Education to the War Manpower Commission, duration of World War II.

One of the finest experiences in the long and fruitful career of Dr. J. Ben Robinson occurred on April 9, 1976 at Morgantown, W.Va. On that memorable occasion a bust of Dr. Robinson sculptured by Reuben Kramer was presented to the School of Dentistry, West Virginia University by the West Virginia Alumni of Dr. Robinson's Baltimore school and the alumni of the Morgantown school of which he was the founding dean.

As an *ave atque vale* tribute to Dr. Robinson I regard it as very appropriate to the present purpose to repeat the toast I gave at the dinner in honor of his eighty-fifty birthday. — In grateful recognition of his half century of eminently valuable service to dentistry, his sagacious and dedicated administration of the many important offices he has held, his devotion to the honor and character of his profession, his superior resources as an inspirational force, his intellectual strength, his rare gift of lucid and penetrating exposition, his extraordinary aptitude for dental statesmanship, and, above all, his raising of Maryland's school of dentistry into an institution of pridelful excellence and worldwide recognition: qualities and accomplishments that have made him a famous and revered figure in the history of American dentistry.

**DR. ROBINSON AND DENTAL HISTORY**

Particularly pertinent to this tribute to Dr. J. Ben Robinson are the
major features of his association with the founding of the American Academy of the History of Dentistry.

During the A.D.A. meeting of 1950 the House of Delegates voted to discontinue the Council on Dental History. As a member of the Council Dr. Robinson was keenly disappointed by the House's abrogative action. Feeling the need for a responsible representation of dental history in the organizational structure of the profession, he began a campaign to sound out a selected group of dentists regarding their interest in dental history.

As a beginning of this dedicated effort Dr. Robinson secured the solid support of four fellow founders. The group of five met in Baltimore and Philadelphia for the purpose of writing the Constitution and Bylaws for the proposed Academy. As the leader of the promotional endeavor Dr. Robinson sent a letter of announcement to seventy potential members, including all the teachers of dental history. The first and last paragraphs of this overture form a significant part of the history of the Academy:

The purpose of this letter is to invite you to join in a movement looking toward the creation of a keener interest in the history of dentistry among the members of the dental profession, and of placing greater emphasis on the study and teaching of dental history in the dental schools.

I invite you to meet in Washington, D.C., with a representative group of students of dental history during the 1951 session of the A.D.A. for the purpose of organizing an American Academy of the History of Dentistry.

There were twenty-one present at the charter meeting in Washington. Dr. Robinson was chosen to chair the meeting and during the legislative session was elected the first president of the Academy. At the first annual meeting of the new organization held in St. Louis on September 6, 1952, the presidential address and the excellent quality of the three essays on the program, plus the fact of a membership of forty-nine, established the Academy as a basically important element in organized dentistry.

Another significant contribution made by Dr. Robinson to the cause of dental history as a subject in dental school curricula was his organization of the first Conference Session on Dental History sponsored by the American Association of Dental Schools at its 1958 meeting. Dr. Robinson presided at the conference during which five papers were presented, which were subsequently published in the Journal of Dental Education.

On November 4, 1976 the Maryland Section of the American College of Dentists presented the first J. Ben Robinson Lecture in Baltimore, with the author being selected for the honor of delivering this first lecture. Most appropriately the subject was “The Discovery of Dental History as the Recorder of a Usable Past,” since the lecturer was also an associate founder of the Academy.

During the last quarter of a century of his lifetime Dr. Robinson was delighted to witness the many achievements of his Academy: well attended annual meetings, the creation of the Bremner Award in 1960, the steadily improving publication effort that has culminated in the very worthy Bulletin of the History of Dentistry, and the origination of the
Hayden-Harris Award in 1967, of which J. Ben Robinson was the first recipient.

We members of the Academy, the beneficiaries of his practical wisdom as the Founding Father, pay this heartily felt tribute to J. Ben Robinson, a man of resolute and clear-sighted sagacity, an abounding zeal, a quality of leadership that energized all who came within reach of his influence, a conspicuous embodiment of the thinker and doer, as well as a profoundly influential student and writer of dental history. He entered into rest after a happy fulfillment of those ambitions and hopes that governed his career in dentistry.
Oddments in Dental History:
The Toothpullers of Petticoat Lane

--MALVIN E. RING, D.D.S., M.L.S.
Batavia, New York

Tooth extractions have been performed by barbers since the Council of Tours, in 1163 A.D., forbade any sort of surgical operations being undertaken by the clergy. It is probable that millions of people have been relieved of the tortures of toothache through the ministrations of these "shearers of the locks" who plied their trade in fixed abodes as well as country fairs.

Petticoat Lane in London is a modern counterpart of a country fair. Every Sunday morning from eight to noon the year round, thousands trek to this colorful array of pushcarts in the Whitechapel district where one can purchase anything from a pair of pants to a luxury fur coat; from a smoked eel to a whole cooked dinner; from old ironware to precious gold and silver jewelry. Legend has it that the name derives from a time when Queen Victoria needed a petticoat on a Sunday morning, and all the other purveyors being closed, a courtier was dispatched to buy one at the only place open for business, the stalls on Middlesex Street, and the name has stuck ever since.

One of the more curious services which could have been secured at the market about three-quarters of a century ago was extraction of teeth. And if this newspaper item from a February, 1909, issue of the Buffalo Express can be believed, a husband and wife team of barbers relieved some poor souls of the agony of toothache just "for the pleasure" of it. However, it was most probably done as a kindness to the hapless sufferers. The account is here reprinted word-for-word:
Helped to Pull 100,000 Teeth

It is said that Mrs. Dalmain of London is the World's champion Woman Dentist.

Works Just For Delight

If you doubt the Greatness of her Harvest, go and count the Grinders in her Row of Jars.

London, Feb. 28.—"Five teeth pulled per minute, while you wait," is the enticing advertisement of the Dalmains, who might be called official tooth-pullers to the London East End. To see this couple at work in Petticoat Lane on Sunday morning is one of the queer sights of the metropolis. Mrs. Dalmain, besides helping her husband in their outdoor work, has a permanent establishment in Pimlico Row, not far from Whitechapel, where she carries on the business of barber and tooth-extractor to the general public.

In the course of their long and successful tooth-pulling career, Mr. and Mrs. Dalmain have pulled, with more or less painlessness, upwards of 100,000 molars. If you doubt this fact, you can go to their shop when you have a few weeks to spare and count these teeth, to the uttermost toothlet, for the Dalmains never let go of a molar once they have captured it. They deposit the refractory organs of torture in a glass jar. These jars are ranged all in a row, and probably represent one of the greatest monuments to human pain now in existence. It gives you a toothache to look at them.

Strange to say, for all of their thousands of operations on the human jawbone, the Dalmains have never charged a cent. They pull teeth just for the delight of the thing. Anyone with an aching molar can go to Mrs. Dalmain, or her husband, and have the torturing member jerked out.

In accomplishing their philanthropic mission among the sufferers from toothache, the Dalmains divide their labors, the husband attending to the men, the wife plying her art among the gentler sex. Most of the trade of these peculiar philanthropists is done on Sunday mornings, at the entrance of famous Petticoat Lane. This street is thronged with people who pay two cents to enter an enclosure where clothing of every description is sold. Here you may have the opportunity of buying a good suit for 50 cents or a dress
worth $15—or less—for $1. Speaking of dollars, it is peculiar that English money to the value of five shillings ($1.24) is often termed a dollar, especially in the Whitechapel district. But this, of course, is neither here nor there, and has little to do with the teeth, except that it is the bargains of Petticoat Lane that bring the immense crowds to the spot.

Most of the bargain hunters usually attend on the Dalmains first and have their teeth out before making their purchases. They are thus able to think things over with more calmness. Every Sunday morning, you see long lines of people standing in the street leading into Petticoat Lane, waiting for their turn in the dentist's chair. The operations are conducted with celerity. One tooth every twelve seconds, or five teeth a minute, is the record established by Mr. Dalmain, while his wife is almost equally nimble with the forceps. Occasionally, husband and wife indulge in friendly rivalry and then the teeth simply fly about the place.
IN THE DENTIST'S OFFICE.—London Opinion.

Mr. Beefeater—Let’s have no gas or local anesthetic. Just yank it out.

Dentist—You are a plucky man.

Mr. B.—It’s not my tooth—it is the missis’s. She’s in the next room.

“DENTISTRY IN FOLK ART, II:” Humorous cartoon from British magazine, circa 1910.
An Historical Summary of American Pedodontics: A Personal Overview

—JOSEPH H. KAUFFMAN, D.D.S.
New York, New York

Let us first define the subject whose narrative we are about to depict. Pedodontics is the general practice of dentistry at a child age level, nothing more and nothing less. Its consummation fits well into attaining the supreme objective of the dental profession, which is to eliminate the necessity for its own existence. Such an ultimate ideal is applicable also to all the healing professions.

EARLIEST BACKGROUND OF CHILDREN'S DENTISTRY

The ideal of dentistry as a health service rather than a mechanistic and manual craft has been increasingly stressed since the origin of the first dental school, the Baltimore College of Dental Surgery in 1840. Broadly speaking, up to the days of Horace Hayden and Chapin A. Harris, two highly inspired visionaries, dental activities in our country were manually motivated rather than biologically oriented. In the early years of this country, itinerant practitioners initiated what was later to become a formally organized profession of higher learning. Those were the days of dexterous artisans who, though manually skilled, had no formal educational training. In those earlier days a number of practitioners in New York, such as Robert Woofendale, John Templeman and John Greenwood, gave us our first elemental glimpses of dental care for children. They advocated regular dental care for the child, and even advertised their interest in children by inserting notices in the newspapers of their communities. In general, however, early concern for pedodontics was merely incidental, and adult practice was heavily predominant. The chief activities of most dentists in the early 1800's were restoration of the mature dentition and more particularly the insertion of artificial substitutes for missing natural teeth. As a matter of fact that strong element of craftsmanship has had a powerful influence even to these days of preventive dentistry. A strong reason for this trend is the fact that up to 1840 any teaching of dentistry was carried out on a preceptor basis, and it was a case of the traditionally trained leading the traditionally trained.

CHANGES THAT COME WITH THE 20TH CENTURY

At the beginning of the present century certain events related to pedodontics happened which were striking in effect. In July 1911, Dr. William G. Ebersole, of Cleveland, Ohio, made a report to the National Dental Association, (predecessor of the American Dental Association), in which he reviewed an initial experimental program whose purpose was to prove the value of oral health for children. This work was done at the Marion School in Cleveland, and it became a classic undertaking of
major significance. It was a sound projection of the importance of early preventive oral care for every child.

In November 1914, the Forsyth Dental Infirmary, the first dental infirmary in the world primarily for the treatment of children, was opened in Boston, Massachusetts. Prior to that, in February 1910, the first American public school free dental infirmary was instituted in Rochester, N.Y., the home city of George Eastman, a noted dental philanthropist. Other names associated with large financial gifts to advance pedodontics are Bausch, Lomb, Couzens, Guggenheim, Kellogg, Rosenwald, Samuels and Ward. The Forsyth family was an especially magnanimous contributor of funds, and children's dental infirmaries were established in several cities throughout the world.

In 1913, Dr. Alfred C. Fones, of Bridgeport, Connecticut, organized a school for dental hygienists. Its purpose was to train young women to do prophylactic treatment for children in public schools. Massachusetts, in 1915, was the first state to legally allow dental hygienists to practice under the supervision of dentists and New York followed in 1916. That same year a school for dental hygienists was opened at Hunter College in New York City, later moving to Columbia University. The latter institution was thus the first university in our country to give special training to dental hygienists and to stress its program as a means of helping establish good oral health for children.

While early American dentistry was becoming formalized into a profession, Virchow, Pasteur, Lister and Koch in Europe made their monumental contributions to the war against disease. The practical application of their findings in pathology, bacteriology, antisepsis and diagnosis respectively served to tremendously advance the preservation of health and the prolongation of life. Toward the end of the last century and the beginning of this one, the more far-seeing individuals in the American dental profession began to think in terms of prevention. It marked the beginning of an especially promising era pointing toward better dental care for children. This was concomitant with the growing concern of people everywhere, following World War I, with the general welfare of all children throughout the world.

THE GENESIS OF FORMAL SOCIETIES FOR CHILDREN'S DENTISTRY

Here we come to the work of Dr. Samuel D. Harris, of Detroit, Michigan. In his erudite and determined manner, he was the father of the American Society for the Promotion of Dentistry for Children. That organization, whose name today is the American Society of Dentistry for Children, is about to celebrate its 50th Anniversary. The writer feels highly honored to have been one of its 56 founding members under the leadership of Harris when it was officially organized at Detroit on October 20, 1927.

In the area of periodical dental literature, the Review of Dentistry for Children was launched under the supervision of Harris in November 1933. He was succeeded by the gifted and highly dedicated Alfred E. Seyler, now Editor emeritus. It was the first pedodontic publication of its kind in the world. Today it is the Journal of Dentistry for Children, under the scholarly editorship of Dr. George W. Teuscher. This publication, issued every two months, is devoted exclusively to pedodontics,
and is one of which our profession can be proud. On the state level, the *Bulletin of the New York State Society of Dentistry for Children*, first issued in November 1949, has been under the continuing editorship of the author. It has the longest uninterrupted publication life of any periodical issued by a constituent of the national body and it appears twice a year.

In considering pedodontic literature, it should be noted that textbooks in the field have been available only since the founding of the American Society of Dentistry for Children. The first of these was written by Dr. M. Evangeline Jordan of California and entitled *Operative Dentistry for Children*. Dr. Jordan was a crusading pioneer in establishing the high value of dentistry for children. Since her publication there have been at least a dozen good texts on pedodontics in our country, in addition to those in other lands. Of course, in addition there have been many other texts on orthodontics, a subject which is expressly identified with the oral health of children. In the advancement of pedodontics, the significant matter of occlusion has been wisely stressed on a growing scale since the early part of this century. Before that, dental occlusion in children was seldom considered of importance in professional practice. But now an appreciation for orthodontics has been spreading widely to all segments of our populace during the past few decades.

**THE ORIGINS OF LIMITATIONS OF PRACTICE**

In his writing, Samuel D. Harris said that, at the time of the founding of the American Society for the Promotion of Dentistry for Children, there were only a handful of dentists rendering services exclusively to children. In fact, some offices even displayed plaques which read “Children under twelve are not accepted in this office.” Among the initial pedodontists Harris cites Ed Sullivan of Boston; Frank Lamons of Atlanta; Regina David of Cleveland; Tom Bartholomew and his partner Walter McBride of Detroit; Paul Barker of Denver; Claude Bierman of Minneapolis; F. Blaine Robotham and Corwin Stine of Chicago; Haidee Weeks of Louisiana and several, including M. Evangeline Jordan, Elsie Schildwachter, Floyd E. Hogeboom and Charlie Sweet of California. Dr. Hogeboom, still active today, wrote the second text on pedodontics *Practical Pedodontics*. In addition he established a pedodontic department at the University of Southern California. Another such department was opened at the University of Michigan in 1927 under the chairmanship of Dr. Kenneth A. Easlick, a strong contributor to the advancement of pedodontics. Those earliest pedodontic departments were the impetus of the subsequent drive to institute similar departments in all dental schools. By 1942 every dental school was required to teach pedodontics as a distinctive subject in order to hold a Class I rating at the national level. An interesting aside: in some pedodontic departments there are faculty leaders who are the sons of eminent early crusaders in pedodontics, for example Dr. Charles Sweet, head of the department at Columbia University.

The American Academy of Pedodontics, which was organized in 1948, consists of men and women who devote their efforts exclusively for children. Membership in the American Society of Dentistry for Children is a requirement for membership in the Academy. The
American Board of Pedodontics, established in 1943 in the State of Michigan, was one of the earliest specialty boards. Dr. John C. Brauer, a lifelong pedodontist, was the leader in establishing the pedodontic specialty board movement. This early board granted certificates to those fulfilling special educational requirements, certifying them as pedodontic diplomates. In 1950 the American Dental Association officially recognized pedodontics as a specialty. The author considers this a major error on the part of that world famous organization. Dr. Harris' original efforts did not include the concept of dentistry for children as a specialty, yet this designation was nevertheless adopted on the national level by the American Dental Association. That specialty demarcation is an organizational distinction, not a legal enactment. The important point is that, irrespective of the designation "specialty," every dentist knows that pedodontics is an imperative part of dental practice. In terms of optimal mouth health for the adult, it is too late to commence in later years after crucial damage has been done in childhood.

A NEED FOR A CHANGE IN EMPHASIS

Dental schools today throughout our country make every effort to assure good departments concerned with dentistry for children. In the State of New York the four undergraduate dental schools have excellent pedodontic sections which teach the future dentist the vital importance of dental care for every child. Dentistry for children is the responsibility of every dentist and every dentist must embrace this pertinent dictum. It applies especially to the general practitioner, who is the backbone of the dental profession. It is now generally accepted that the early care of the child's mouth, not later than the complete eruption of the twenty teeth of the foundation set, (a name given to the first dentition by this writer in 1938), can prevent, in most cases, the crippling of the adult mouth. Of course, this does not rule out the need for continuing professional care. In addition, individual chairside education as well as mass education of the general public are important factors in the maintenance of good dental health.

It is of indisputable historical record that the major portion of our profession's attention has been devoted to adult prosthetic dentistry. Reliable estimates show that not less than 50 per cent of all undergraduate and post graduate education is directly or indirectly related to adult dental prosthesis. Many of our older dentists have done little to shift this emphasis. It is heartening to observe, however, that some of our younger men and women are trying to further concepts which will activate increased pedodontic practice. They realize that even the best artificial substitutes, and American prosthetic skills are unsurpassed, are never the equal of natural teeth in form and function. We must face the bald truth: it is a matter of projecting dentistry of the future either as a profession or as a craft. It is for us as doctors to determine the answer.

Some final questions are in order. Does not professionalism depend upon quality rather than quantity when rendering a health service? Do we reach the highest level of professionalism when financial considerations influence us to concentrate on treatment of adults instead of children? Can we continue to seek recognition in the future as a learned calling on the basis of skill in the insertion of artificial teeth? Don't we have an obligation to our public to refrain from commercialism, a failing
evident in too many dentists? All these queries have a definite relation to the recognition of the importance of pedodontics. For actions speak louder than words. We hopefully look forward to the day when history will show that the great majority of dentists will evidence by their deeds that there is nothing too good for the mouth of a child.

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(Presented at a meeting of the Tri-State Metropolitan Chapter of the American Academy of the History of Dentistry, New York, N.Y., April 13, 1977).
Well, we seemed to have generated quite a bit of comment, controversy and enthusiasm with this new feature in the Bulletin. We had some interesting letters concerning the "Damograph" which appeared in the last issue, and I'll tell you about them after this word: if any of our
readers know what this issue's item is, it would be appreciated if a note could be dropped to me, Dr. Robert Sproull, 2405 Gairloch Drive, El Paso, Texas, 79925.

The current item was found in a "trash and treasure" store of Leo Gouch in El Paso, Texas about ten years ago. Not much is known about it except that it was from the office of a physician who had died years ago. It is made of brass and has no identifying marks except for the number "13" stamped on the bottom, number "804" on the lateral side of the base and number "15" on the small cylinder and on the encircling band on the large cylinder. It has two separate "systems" for the gases involved. One involves the hollow base and large cylinder entering (or exiting) the base and exiting (or entering) the top of the large cylinder. The other involves the twin pipes lateral to the large cylinder leading to the small cylinder and then through it to the curved pipe that points toward what appears to be a candle holder. This "holder" can be raised or lowered by a worm gear driven by the small crank. An "on-off" type valve is located anterior to the large cylinder. The base measures 120mm x 160mm. The physician's family reportedly thought the device had "something to do with anesthesia." One person has "identified" it but what we would love to have is some sort of documentation.

Dr. E. Tom Carney of Nashville, Tennessee, wrote that his dental neighbor, Dr. William J. Sugg, Jr. thinks that the Damograph "... is a measuring device for the post of a Richmond Crown. The lead rod is placed over the opening of the root-canal and extended to the proper depth by turning the knurled knob." A good try, Dr. Carney, but that's, unfortunately, not what it was for. Mr. Clayton Miller of Houston, Texas, who formerly worked for Coe, and Dr. Jack Preston, Wadsworth Hospital Center in Los Angeles, California, both correctly identified it.

The Damograph was actually used to palpate the junction of the hard and soft palates in the making of full upper dentures. The mirror like end enabled the dentist to both palpate and visually observe the junction line. The location for the post-dam was then marked by extending the indelible lead with the knurled knob. Of course, those of us who use an ordinary indelible pencil to "graph" the "dam" accomplish the very same thing!
IN THE DENTIST'S OFFICE.—Pele Mele.

How M. Prothese, a dentist, gets his patients off without the unpleasant methods of anesthetics.

Incidentally, how M. Biron Apollo finds something he has long desired in vain—a listener to whom he can pour out his masterpiece without interruption.

DENTISTRY IN FOLK ART, III: Newspaper cartoon, *circa* 1900.
Dr. C. Edmund Kells—
Pioneer in the Field of
Dental Radiology

-JERRY J. HERSCHFELD, D.D.S.
Cornwell Heights, Pa.

With the beginning of the twentieth century, the practice of dentistry was finally emerging as a scientific discipline. Of the numerous innovations justifying this concept, the discovery of the X-ray and its adaptation to dentistry is a prime example. This discovery, by Roentgen in 1895, opened a gateway by which the services of the dental practitioner would eventually become among the most demanding of any medical specialty. Yet, as with many lesser breakthroughs, it was left to a select few, possessing visions of incomparable foresight, to fully realize this potential. One of these giants was C. Edmund Kells.

Born in 1856, a son of a dentist, he became interested in his father’s profession at an early age. He was graduated in 1876 from the New York Dental College with a D.D.S. degree. He subsequently opened an office in New Orleans where he practiced for over fifty years. He made countless contributions to dentistry as a writer, publishing over two hundred scientific articles, as well as an inventor. He was among the first to suggest sectioning impacted third molars for their removal. He developed innumerable devices utilizing electricity. Many of his instrument designs are being used to this day. However, it was his early appreciation of the true value of the X-ray in diagnosis that led him to spend much of his life in teaching and expounding on its tremendous significance.

It was at a meeting of the Southern Dental Association on July 28, 1896 that Dr. Kells gave the first dental X-ray clinic ever held, an account of which was written up as follows in the December, 1896, issue of Dental Cosmos:

After the close of the session Dr. C. Edmund Kells, Jr., New Orleans, La., gave an interesting demonstration of the Roentgen ray phenomena, having with him a Tesla coil for the purpose of this exhibition. Dr. Kells also exhibited his method of taking skiagrams of the roots of the teeth in situ in living subjects. These pictures being direct shadowgraphs he explained that it is essential that the object be as close as possible to the plate upon which it is to be produced, and at the same time that their plane surfaces should be parallel, to prevent distortion. Therefore, for taking skiagrams of the teeth, a plate-, or rather film-holder, is made, containing a pocket for holding the film as close to the bone as possible, and having articulating surfaces into which the teeth bite down, thus holding the film absolutely steady during the sitting. Hard rubber, gutta-percha, or any such material may be used, but aluminum is preferable, as it is the most
nearly transparent to the Roentgen rays. Dr. Kells was prepared with a subject and an aluminum and rubber combination plateholder to demonstrate his method of taking these skiagraphs, but there was no current available in the daytime, and at night the interest was so great in the fluroscoptic demonstration (showing the bones of the hands, forearms, etc., of all who desired to see this portion of their own anatomy) that it was impossible, owing to the crowded room, to take the skiagraph. He, however, presented skiagraphs, taken in from five to fifteen minutes, showing the perfect outlines of the roots of the teeth in bone, taken from living subjects.

This account appears to be a rather trite description of what later proved to be one of the most significant events in dentistry. True, a presentation of the efficacy of the X-ray and its application in dentistry had been made some three months earlier by William James Morton, M.D., at the meeting of the New York Odontological Society on April 24, 1896, which Cosmos also reported. Morton, however, had presented four intraoral films taken from dried skulls in addition to a plate of the head from a living subject. Yet Morton was a physician, not a dentist, and as a physician, his interest in dentistry was purely academic. It was principally through the work of Kells, therefore, that the X-ray finally became a practical reality in the field of dentistry. Morton did make the following rather interesting and prophetic remarks, remarks which Kells was later to elaborate on:

The application of the X-ray will, believe, greatly aid in the art of dental surgery. In general surgery it is difficult to over-estimate the importance of ascertaining the exact outlines of imbedded bones, of foreign bodies, to differentiate between a dislocation or a fracture, or to ascertain the co-existence of both. The X-ray already makes these cardinal issues an open book; it does more, it locates tuberculous deposits now known to frequently invade the osseous tissue and to be impossible of detection except by exploratory incisions; it locates also sarcoma and accompanying erosions of the bone within the marrow cavities, and it is more than possible that, thanks to the labors and the practical mind of Edison, these triumphs of localizing and diagnosticating records upon photographic plates will be supplanted at least for quick and ready examinations, by the new art of X-ray fluoroscopy. It was one thing to note that fluorescent substances outside of a tube were excited, it was quite another to find a working fluorescent substance and build it into a practical screen. This Edison did, and the efficacy of this screen and its revelations grow apace; its definition and degree of illumination increase week by week. Tesla already reports that he has seen through three men, that he has seen the great bones of the body, and seen the heart beat. Again and again I have looked through the human body and seen not only vertebrae, the ribs, the hip-joint, but also located larger and denser organs like the liver; nay, more, I have watched the heart in its beatings. Who can guess to what lengths the visual exploration of our interior organization may reach when so much is already possible?

This enumeration, brief as it is, is a great triumph for the X-ray, and these same questions of diagnosis and of localization are equally applicable to dental surgery.

The radiographs presented to you here to-night are but a first step toward taking pictures of the living teeth. They open out to your view a wondrous field for investigation and study and diagnosis. Each errant fang is distinctly placed, however deeply im-
bedded within its alveolar socket; teeth before their eruption stand forth in plain view; an unsuspected exostosis is revealed; a pocket of necrosis, of suppuration, or of tuberculosis is revealed in its exact outlines; the extent and area and location of metallic fillings are sharply delineated, whether above or below the alveolar line. Most interesting is the fact that the pulp-chamber is beautifully outlined, and that erosions and enlargements may be readily detected. A new method of studying pathology in the living subject is laid before you.

To what perfection, gentlemen, may not the science and art of dentistry reach if some of the new things which press upon your attention are fully realized. Already painless dentistry is within your grasp by aid of electricity and simple anesthetics, and now the X-ray more than rivals your exploring mirror, your probe, your most delicate sense of touch, and your keenest powers of hypothetical diagnosis.

Strange to say, both advances are poured forth to you from the fertile lap of electricity. It behooves you to be up and doing in this matter; and if the seed here sown to-night shall bear fruit, I shall be more than glad that it has been my good fortune to have called to your attention the new and wondrous field of investigation opened out to your view by the discovery of the X-ray.¹

Similarly, it is interesting to cite a portion of the Report of the Committee on Practice of the Dental Society of the State of New York, commenting on Morton's presentation:³

Before this demonstration, it was a question whether it was possible to obtain a picture of the roots of the teeth, locked as they are between the plates of the alveoli. He demonstrated however, that on account of the greater density of the roots it was possible to penetrate through the alveolar plates and obtain a perfect picture of the entire tooth from the crown to the end of the root.

All doubt of the practical adaptability of the X-ray for diagnosing hidden dental lesions around the outer periphery of the root have disappeared after this demonstration, and it opens another door by means of which the work of the dental specialist will become the most mathematically accurate of any branch of the art of medicine.³

Much of what was predicted that day would soon come to pass. Edmund Kells began a crusade that ultimately led to the universal recognition of the incomparable value of Roentgen's discovery. He wrote incessantly, teaching new techniques, improving methods of taking X-ray pictures, shortening the exposure time of his "skiagraphs" from between five to fifteen minutes, to between one and two minutes. He invented a holder for X-ray films, adjustable mouth props and numerous other innovations. In the words of Alfred Agsis, "...he achieved making factual an area where heretofore diagnosis had been traditionally guided by experience, folklore, and guesswork, and most often dominated by personal opinion." Unfortunately, at that time there was little anyone knew about the lethal effects of overexposure.* Edmund Kells would soon fall victim to lethal doses of radiation. In his autobiography he wrote:

... the condition of my hand continued to grow worse. The wrist became involved and finally, on May 3, 1926, conditions were such as to necessitate amputation about five inches below the elbow...``

The pain and the anguish proved to be too much. In 1928, affected so badly he could bear it no longer, Edmund Kells, the first American dentist employing X-rays, took his own life.

Edmund Kells was the personification of the very ideals he strove to pass on. Selflessly and unselfishly, he sought to procure the acceptance of the ideas of disease prevention, recognition of dentistry by the entire medical field, and ultimate realization that the dentist was a specialist in his own right, and as such should represent his field in the teachings of the medical profession. His gifts — his ideals, his teachings, his life, the legacy he left behind — all deserve to be cited as classics in the field of science that owes so much to him.

REFERENCES

1. Dental Cosmos, 38:1012, December, 1896.
JAPANESE "HAIKU" AND DENTISTRY

The only counterpart of our Bulletin anywhere in the world is Nihon Shikaishigakukai Kaishi, the journal of the Japan Society of Dental History. In the July 1976 issue there appeared an article "Hygiene Songs and Oral Hygiene by Tsuyo Mishima" written by Mitsuo Yatsu which contained a number of examples of the Japanese poetical form known as Haiku. Mrs. Tokuko Carli of Batavia, New York was kind enough to translate several of them and supply the following explanatory note:

Haiku is a Japanese lyric poem of a fixed, 17-syllable form. For many years Japanese people have expressed their joy, pathos and humor in this, perhaps the shortest, form of poetry. Here are some of them concerning teeth and dentistry.

Bankrupt,
Only the gold teeth glisten.

High noon. Nowhere to escape,
In the dentist's chair.

Lightning,
Dentist's drill once more.

Without false teeth, my grandmother's face,
In a mirror.

A new lower plate,
How long will the upper teeth last?

Spring day,
Nursing mother finds first baby tooth.

A child tries to take his teeth out,
Imitating his grandfather.

The friendly face of the dentist; my mad imagination,
A midnight toothache.
A unique addition to a well known and widely patronized amusement park in northern Ohio has recently opened an exhibit seldom found in such a setting. In the Frontier Town section of Cedar Point Park at Sandusky, Ohio, on the shores of Lake Erie, a Town Hall Museum was dedicated, its purpose - the exhibition of early Ohio items of interest to the public. One of the most popular parts of the museum is an early Ohio dental office and the material for it was gathered and arranged by two noted dental historians and members of the American Academy of the History of Dentistry, Dr. Thomas Marr and Dr. Jack Weinrich. These two are curators of the John Harris Dental Museum of Cambridge, Ohio, which is housed in the original home of the brother of Chapin A. Harris, and in which this luminary in dentistry learned his profession from his physician brother.

The project had its genesis when the Chairman of the Board of Cedar Point Park, Mr. George A. Roose visited his dentist, another Academy member, Dr. Howard Hartman of Cleveland, Ohio. They got to talking about early dental offices and Dr. Hartman introduced Mr. Roose to the curators of the Harris Museum. Not only were they able to mount a display of an entire dental office in this Disneyland-like setting, but also put out an array of early dental instruments, some dating back to the early years of the 17th century. The opening of the dental exhibit was attended with suitable fanfare, a number of leaders in the dental profession being in attendance. The ribbon-cutting ceremony was conducted by the then-president of the American Dental Association, Dr. Robert Shira, and dental tape appropriately was used in place of ribbon. Last year alone over three million visitors attended the park and a large number of them were fascinated by the display of early dentistry.
The dental exhibit at Cedar Point with the entrance and waiting room to the left and the operatory to the right, with additional historical material and instruments placed to the right and outside the operatory.
To the Editor:

Another issue of the Bulletin! You really do a very good job!

I would like to tell your readers a bit of what’s happening in Sweden. A little dental museum has been erected in the Great Entrance Hall of the Odontological Faculty of the University of Goteborg. During the last two years I have collected instruments and other items connected with the development of dentistry. This spring I received money from the Faculty for the construction of two dental offices — one from about 1890-1900 and the other from 1920-1930 — as well as a display of the history of roentgenology. Most of the material came from institutions and colleagues, some I purchased myself. Special thanks must go to the Dean, Professor Gunnar E. Carlson for his support.

An advantage of this little museum is that both patients to the clinic and students can look at the collections whenever they wish during the entire day. Perhaps after seeing what earlier dentists used, they will appreciate more our modern equipment and instruments. The students will surely derive some educational benefit from it.

Sincerely,

Dr. Ake B. Löfgren

(Besides being curator of this museum Dr. Löfgren is one of the world’s leading dental historians and the author of numerous works on dental history and bibliography as well a frequent contributor to the Bulletin.)

To the Editor:

This is to request an index or list of publications of the American Academy of the History of Dentistry as well as any other particulars about the Academy. Each year I teach an 11-week course in dental
history to dental laboratory technology students, and your Bulletin would be of tremendous value.

Yours truly,
Charles L. Power, Instructor
Dental Laboratory Technology
Greenville Technical College
Greenville, South Carolina

To the Editor:

I am writing to you seeking your cooperation and advice concerning a "Dental Chronology" I am about to prepare. I intend to revise and update all significant events of the historical evolution of dentistry around the world, with illustrations concerning discoveries and personalities.

I would like to ask you as Editor of the Bulletin your opinion as to its probable value and interest; it will hopefully be published in English and Spanish.

I would also appreciate information about libraries and institutions from which I might secure bibliographic data. I am already familiar with the works of Waite (1932); Anthony (1934); Amoedo (1940); Prinz (1945); and Weinberger (1948).

Hoping that I am not imposing unduly, I remain
Yours sincerely
Dr. Focion Febres-Cordero
Apartado Postal 1,888
Caracas, Venezuela

To the Editor:

I received the latest Bulletin and wish to commend you for it! I feel it a pity that the Academy's membership does not contain the names of more of the eminent dental practitioners and scientists. I know that there are quite a few now among the members and I am in no way detracting from their importance.

I would like to apprise you of a new development here in Australia. We are about to record a radio session on dental history on our national broadcasting company, a first, I think, at least here in this country. I am hopeful that it will lead to more interest on the part of the public and profession in our history.

All the best
Dr. Sydney Levine

(Dr. Levine was formerly the Chairman of the Department of Periodontics as well as Senior Lecturer in Dental History at the Dental School of the University of Sydney, Australia.)

To the Editor:

I am currently a graduate student in Historical Archaeology at the University of Idaho. My research concerns the history of dental equipment prior to mechanization.

Earlier this month I wrote a letter to the American Association of Dental Editors and they referred me to you.
For this research project I have been compiling as many references as possible, but there is still a shortage of certain information. Specifically, I need to acquire photographs, artifacts, slides and any other pertinent information to be used in a visual presentation. If you could recommend any avenues for obtaining information of this kind, or any other sources to add to my bibliography, I would be very appreciative.

Thank you for your time and consideration.

Allan M. Kittner
P.O. Box 8664
Moscow, ID 83843

To the Editor:

I just wanted to write that I have just received my copy of the April issue of the Bulletin. It is a truly great and outstanding issue. Congratulations!

With highest personal regards,
Rear Admiral Alfred W. Chandler
Dental Corps, USN (Ret.)

(Dr. Chandler, a past-president of our Academy is also a former Chief of the Navy’s dental corps.)
One of the best bargains available to those interested in the history of the health sciences is this handsome paperback, a generous 8x11 inches in size, containing 137 full page reproductions of works of art from the fifteenth century to the present.

The book is a revised third edition of a text which was originally issued as a catalog in 1959 to accompany a special exhibit on art and medicine organized by the Philadelphia Museum of Art. This edition is no catalog, however, but a sumptuously produced art volume.

The plates are arranged into 21 sections, such as “From Medicine Man to Doctor of Medicine”; “The Practice of Surgery”; “Satire and Caricature”; “Charlatans” and many more. Prints by some of the most illustrious names are included: Durer, Rembrandt, Holbein, Watteau, Hogarth, Goya, Daumier, Bellows and many others. There are satirical, humorous and sympathetic drawings. The artists examined all phases of life, illness and death and recorded in fashions unique to themselves what they observed.

Of special interest to dental historians are such prints as Lucas van Leyden’s 1523 portrayal of an early Flemish dentist at work while his wife (assistant?) picks the patient’s purse. Or Daumier’s classic “Let’s see, open your mouth”, addressed to the petrified patient who fearfully views the dentist who approaches with the wicked turn-key in hand. But more than these are the many, many fine pictures of all phases of early surgery, a branch of the healing arts from which dentistry had sprung.

At the end of the book are about 35 pages of notes on the plates. Their illuminating commentary enrich the whole work by giving the background of the subject, notes on the scene for both the medical and
artistic point of view, and some discussion of the artist as well. These were written by the editor, Carl Zigrosser, the former Curator of Prints at the Philadelphia Museum.

Dover books are exceptional values because they are produced in much the same fashion as are more expensive hard-covered ones. Their pages are sewn in signatures, rather than being glued in, as in cheap paper-backs, and thus will not fall out. And the cover, although made of paper, is of such quality that it is really permanent and won’t crack. So at the very reasonable price of $5.00 this book deserves a place in the library of everyone who delves into the background of our profession.

—Reviewed by Malvin E. Ring, D.D.S.
Batavia, N.Y.


This book is an enlarged and updated version of the original work which was first issued in 1959 and contains extensive additional knowledge as reflected in research writing during the past fifteen years. In all there are twenty well documented chapters. The author, in a unique way, utilizes the bible for information relating to the origin and certain customs and beliefs that were prevalent during the years. Jewish law is discussed with its relationship to life, health and pain and the contrast between the sick, the dying and the dead. Answers and suggestions on how to cope with these situations are provided as well.

Dr. Jakobovits does a very fine job of dealing with subject matter which for years has been taboo in our society. The subject of transplants is extremely interesting, especially in the light of the many opinions that differ today.

It is further pointed out that Rabbis, Priests and various religious cult leaders were the practicing physicians of their time and were looked to for not only healing the sick but also the performance of miracles. All of this makes Jewish Medical Ethics fascinating reading.

—Reviewed by Irving H. Goldstein, D.D.S.
Atlanta, Ga.


This translation of the works of Johann Peter Frank (1745-1821) relates to the thoughts and practicing approach of this forerunner in the field of public health medicine. Frank might be best viewed as a man ahead of his times. Because of the nature of the materials included, the biographical sketch of Frank, the index of personal names, and the index of subjects and places are helpful to the reader.

Rather than the usual chapter designations, each volume is arranged so that the materials relate more to original material presentation. Each volume thus deals with specific topics. The basic philosophy is that
man, by leaving nature and its rugged individualistic living for a more clustered existence, exposes himself to health hazards by the very nature of closeness and living style.

The term "Medical Police" may be defined generally as preventive medicine in the best interest of public survival. Emphasized are the precautions that must be taken when a society has gathered in segmented areas, thus implying more groups of people prone to communicable diseases and epidemics. But more important, the preventive aspect is considered, so that society may free itself of disease prior to its occurring. In reality this is our thinking of today, but it has not always been so.

One area of difference between Frank and some individuals today is his view that population should be encouraged to rise rather than be controlled. This is understandable in light of history and the times in which he lived.

Frank's views on marriage and sex, health habits, clothing, amusements, home environment, accidents and hospitals offer some excellent reading. His concern for signs and symptoms is most interesting. One point he makes which emphasizes this, was his concern over the possibility of burying someone alive by not being aware of the signs of life.

Frank speaks of quacks and charlatans. He describes hospitals, schools, formal education, educational systems, curricula and the good teacher. Perhaps, because he was a Ph.D. and a physician, he was more cognizant than the average person on his day. Sometimes, however, it becomes a question of whether many of his observations and suggestions are those of the past or the present.

While reading, it becomes even more apparent that Johann Peter Frank was great before his time. Except for the language, scientific advances unknown to him, and some aspects common to the times in which he lived, this book will offer much for the individual involved with public health or who has a definite public health interest. The book is easily read, hard to put down, and offers continuous reading enjoyment. I highly recommend it for those who enjoy knowing the past so that progress may be made in the future.

—Reviewed by Dr. Paul D. Arnold, D.D.S.
Middleburgh, N.Y.


The authors relate in a language that can be understood by everyone an extraordinary account of the advances of medical education and the prevention and treatment of disease that has taken place in the two centuries of this nation's independence.

One is definitely impressed by the sharp contrast between the first and second centuries. In the first century, the role of physician was primarily that of the good samaritan. His success depended on his sympathy, humanity and his art. He lacked a solid scientific base and his therapy for the most serious maladies was founded upon false hypotheses and fanciful systems that were usually ineffective. Progress
was barely detectable. Medical education worsened and medical research was minimal.

In the latter half of the first century, scientific methods began to influence the development of medicine in Europe. And although physicians in America were familiar with what was happening, medical education in this country was in such a poor state that the new developments had almost no effect on many doctors entering practice. The only truly American contribution to the advancement of medical science at this time was the introduction of surgical anesthesia. After that began a period of fruitful transition for both medical education and medical science.

One of the purposes of this book is to show how medical science has advanced in the past two centuries, and how an advanced science has been translated into the prevention and care of disease. The practitioner of medicine today is far more effective than he was in 1776 or 1876 because of the resources made available to him by medical research. One must remember, however, that many of the basic discoveries that have been responsible for the most far-reaching improvements in prevention and therapy have been made not by those engaged in the practice of medicine but by those either not possessing the M.D. degree or in laboratory rather than clinical practice. The sensational advances in surgery, though attributed in part to new technical skills of surgeons, would not have been possible without the basic discoveries in other fields: the development of anesthesia by the dentists Wells and Morton; the discovery of the relation of bacteria to infection by Pasteur, a chemist; the discovery of blood groups by Landsteiner, an immunologist; and the discovery of penicillin by Fleming, a bacteriologist. Without anesthesia, blood transfusions, and antibiotics, a surgeon would be little better off today than he would have been in 1825.

This book makes it very clear that our incomplete technologies and our extraordinary methods of administering medical care have come a long way, yet still have a long way to go. Though one can sympathize with the public demand of wider distribution of these technologies, the public should be made aware that its demands can only be met by greater cost. There is no evidence that the cost could be reduced by a National Health Insurance program without resorting to some sort of rationing of services.

Basic medical research in the past century has led to the development of simple and effective medicine in preventing and curing many diseases. Again, the public should know that the promotion of research of this basic non-categorical type offers the best promise of wider distribution of effective medical care at an affordable cost.

This book takes the reader on a trip from the beginning of American medicine right up to the present day. It includes all the ramifications of para-medical activities and is super-imposed upon the social history of this country, both political and economic. It is a must for any person interested in any phase of the history of medicine in this country. It should be made available to every historian, every school and every library as a basic source book for information on the history of medicine and medical technology in this country. It is extremely well written and very easy to read. The authors are to be congratulated for their efforts in producing such a text.

Also included in this book, as an appendix, is a chronological sum-
mary of major events in American medical history. The book is also extensively referenced and indexed.
—Reviewed by Lloyd E. Church, D.D.S., Ph.D.


This book is one of a highly controversial nature. The author aims to show that the vaccine used by Jenner and his contemporaries was not derived from cowpox, but was accidentally developed from an attenuated strain of small pox virus. It would seem that perhaps only a virologist would be competent to decide if the author has achieved his aim. The work has been thoroughly researched with detailed discussion of cases, using the vaccine both in England and the United States, and is fully documented.

From the title, one might suppose that the author wished to denigrate the work of Jenner, yet in his conclusion, states that if his case against Jenner is made out, Jenner's work still remains very important. In some ways this might remind dental historians of the controversy concerning Wells and Morton.

There is no doubt that Jenner became a sort of Medical Hero, and a book of this nature is an important part of the literature on vaccination. There will be a need for even more research in this matter to find its true place in medical history.

I am quite sure that anyone interested in Jenner, vaccination and virology will find this book fascinating.
—Reviewed by Dr. Sydney Levine
Northbridge, Australia
Former Senior Lecturer, School of Dentistry, University of Sydney,
Sydney, Australia


"Few more fundamental questions confront modern society than what should be the function of women in the work of the world. The answers vary according to the time, the place, the economic conditions, the religious and social convictions of the writer. The battle has raged furiously over these answers and although some aspects of the question now appear to be settled, practically if not theoretically, other aspects are as much the subject of controversy as ever."

"If the following pages succeed in some degree to show how some of our ancestors met the ever present problems of women's place in economic or social life of their time, it will have fulfilled its purpose. Should it fail in this undertaking, it may still perhaps help us to appreciate more fully the human qualities of the women of a bygone generation."

After reading these opening and closing lines of the author's introduction, one can only be stimulated to follow her pursuit of informa-
tion and documentation of women in business and the professions in America before 1776. The achievements of the women chronicled in this book rest on a substantial foundation of well documented sources of information and events. These were women of all kinds, and they were very human. Most showed courage beyond praise while others, though fewer in numbers, had such shortcomings, as for example, breaking agreements and overcharging that they had a difficult time getting along. Some were brought before the courts on more than one more occasion for the offenses committed. They were women far from the stereotyped image many of us have of the pilgrim wife and mother, or of the colonial dame in the fancy ball dress. The women of this period generally found themselves in business by inheritance from deceased husbands. A widow in colonial America almost always kept the business she inherited in order to support herself and her family. As a result, we find the business women of this period involved in a wide variety of occupations, such as innkeeping, printing, publishing, storekeeping, tanning, and horse-shoeing. For the most part they were well skilled in their occupations, having worked alongside their husbands. There is evidence in many cases that the husband would see that his wife learned the trade properly, so that she could be self-supporting should she become a widow. In a few instances women did create their own business. One of the more unusual ones was that of dressing the deceased in an appropriate and respectful manner.

Women engaged in their businesses and trades within what seemed to be a legal and social atmosphere of complete freedom. Their activities in political and church matters, however, were always questionable. Medical careers were kept within definite limits. The fourth chapter entitled, "The Ministering Angel," and the last chapter, "With Tongue, Pen and Printers' Ink" are most interesting from this point of view. It was an accepted fact during the colonial era that the mind of a woman was second to the mind of a man. Even Ann Bradstreet did not question the preeminent merits of men in all areas. She asked of men only "Some small acknowledgement of ours." For the most part, the women of colonial America did what they were called upon to do, and they did it well. It is also consoling to know that the men of this era, endowed as they were with the better minds, graciously acknowledged the achievements of their women.

This book was first published in 1931 and reissued in 1972. Within its 223 pages are included illustrations, references, glossary, notes and index, all of which enhance an already most engaging chronicle. This is a most interesting book, very easy to read and one that every person interested in the everyday happenings of the colonial period should have. We most certainly recommend it.

—Reviewed by Rita L. Pessotti
Executive Secretary and Scientific Information Officer, Food and Drug Administration, Washington, D.C.

In early 1920 four dentists who had been attending the Iowa State Dental Association meeting sat down to discuss the problems facing the dental profession. Dental educators were attempting to upgrade curricula for better training of new dentists; there was an attempt afoot to set higher standards for the profession, a need made all too clear by the Flexner report of 1910 which highlighted the shortcomings in the medical profession.

The four men, John V. Conzett, president of the National Dental Association (forerunner of the American Dental Association), H. Edmund Friesell, the NDA's president-elect, the NDA's secretary Otto U. King, and Arthur D. Black, president of the Dental Teachers Organization, envisioned the creation of a strong organization, patterned after the American College of Surgeons, which would be motivated by the highest ideals and which would use its influence for the betterment of the profession. They issued a call for an organizational meeting to be held at the Copley-Plaza in Boston on August 20, 1920. Of the sixty invited, a mere 14 were able to attend. Nevertheless these dedicated men launched what is today the most prestigious organization of dentists in the world, four thousand strong, the American College of Dentists.

They set as their objectives, which were incorporated into the by-laws ‘...the elevation of the standards of dentistry, the encouragement of graduate study, and the granting of Fellowships in the College to those who have done meritorious work.’

This excellently written history of the first 50 years of the A.C.D. testifies to the fact that the College has indeed met these objectives. The author, the late Dr. Otto W. Brandhorst, was for most of those fifty years the Secretary of the organization, a post now held by our Academy member Robert J. Nelsen.

The book is a veritable treasure house of memorabilia of dentistry: biographies of luminaries in the profession who were recipients of the College’s many awards; a list of all the books authored by Fellows of the College; research projects sponsored; the programs and speakers at all of the fifty annual meetings; a list of fellowships conferred year by year and much more. Capping all this is a long dissertation on “The Discovery and Introduction of General Anesthesia” written by Fellow W. Harry Archer, last year’s recipient of our Academy’s Hayden-Harris Award.

The book is a handsome volume, excellently crafted and bound in red vinyl, and with a wealth of photographs. It would be a fine addition to any dentist’s collection of the history of dentistry. But more than that, it is an indispensable reference tool for every health sciences library which serves the dental historian.

—Reviewed by Malvin E. Ring, D.D.S.


A Lehigh Valley committee was formed in 1969 to combat deception in the field of health. _The Health Robbers_ is a special publication sponsored by the committee and is written primarily for the lay individual in understandable language and covers a wide number of health areas of concern. There are a total of twenty-four chapters, each written
The prime objective of the book is to inform readers of deceptive practices in the health field and to point out the serious consequences of quackery on the life and financial resources of an ignorant consumer. The public is admonished to become aware of exaggerated health claims, encouraged to participate in public health education programs and urged to assist consumer oriented agencies. The portion of the book which deals with doctor-patient relationships, provides practical advice to aid the individual in choosing a health practitioner who will be compatible and competent to deal with one’s needs. This selection process can be aided by the medical society which often provides information concerning board qualifications, hospital and medical school affiliations, and local reputation of the practitioner.

This book is easily read because the style and language is clear and each chapter is reasonably short and focuses on a single area. A balance of viewpoint is attempted, but since the main point of the book is primarily to inform the public about health fraud, examples of quackery and deceptive practices are predominant. The average lay reader is not often able to make a sound judgment on the basis of a single presentation, and even with additional readings in controversial health topics, the individual must ultimately rely upon the advice of his or her physician or dentist when health problems arise. Books such as The Health Robbers can serve to alert the public to fraudulence. However, the public should also be provided with examples of the attempts by the majority of health professionals to provide the best care possible, especially at a time when public confidence in the health professions is not at its highest due to increased costs and an often perceived loss of personal attention and lack of concern on the part of the practitioner.

―Review by Larry J. Green, D.D.S.
Department of Orthodontics
State Univ. of New York at Buffalo

_The Professor, the Institute and DNA._ By Rene J. Dubos. 262 pages. $14.50. New York. Rockefeller Press. 1976

This book is well prepared, interesting and very human as are most of the books by Rene Dubos. It is a chronicle of the life and times of Oswald Theodore Avery, a personal friend and associate of Rene Dubos. Dr. Avery was a great experimental scientist who became a monumental force in the development of scientific, medical research in the United States and a foremost authority on the pneumococcus.

Dubos first describes in detail the development and growth of the Rockefeller Institute, as a great, privately financed, scientific institute. Its greatness lies in its ability to provide scientists not only with material facilities, but also leisure, peace of mind, and complete academic freedom. Dubos then describes Avery as one of the original great scientists of the institute and how the philosophy of both the institute and Avery were compatible. In discussing the humanistic nature of the institute, and one of its great scientists, Dubos also cleverly enlightens the
reader with the history of medicine of the last half of the 19th century and the first half of the 20th century, especially where it pertains to bacteriology and immunology and the increasing use of chemistry as a tool in biological research. The first 3 chapters deal primarily with the use of scientific medicine. Dubos then goes on to discuss Avery's personal life, his ups and downs, his family background, his education and research. He accomplishes this in a very warm human manner, depicting Avery as a charming, forceful, and enigmatic personality and finally shows how his character imposed a lasting influence on his associates, as well as the direction of scientific investigation throughout the world.

The last part of the book is devoted to science and scientific terminology. Avery's brilliance is shown by his research in identifying DNA (desoxyribonucleic acid) as the purveyor of genetic information. Avery published a highly significant paper on this matter in 1944. Dubos brings to light the diligent, determined, methodical, laborious efforts of Avery and his associates in their various research conquests, literally a step by step approach. Few books make an effort to show the reader the insight into scientific research; this one does.

In the last chapter, Dubos discusses Avery in a very personal way. He pictures Avery as a gentle man, conservative in dress, mannerism, and finances, but who is also tough minded, very sensitive and personal. His greatness is in his originality and creativity.

The book reads swiftly. It is written with warmth and affectionate feeling for a great institution, a great medical scientist, and a great discovery. — DNA — and its role as the bearer of hereditary characteristics. As such this is directly related to the growth and development of the head and neck. It is a book well worth reading.

—Reviewed by A. M. Hamparian, D.D.S., M.S. Dearborn, Michigan


From cow doctor in the colonies to the veterinarian of today has been a long journey and a great deal of the status presently enjoyed by this profession has come about following World War II. The competence of the veterinarian has paralleled that of the dental and medical professions. Today numerous veterinarians are competent to perform open-heart surgery and intra-articular surgery and intestinal resections. They employ inhalent anesthetics using sophisticated apparatus; contrast radiography; hyposensitizations for allergy and digitalization for heart disease. Today a person out of veterinary practice for any length of time would literally have to start all over again in order to be up to date.

In this book one is taken on a written and pictorial journey through the history of the veterinarian in the United States from the cow doctor in James City in 1625 to the Samarian astronaut. You will read of the introduction of domestic animals into the colonies and how they fared through war and peace, famine and every disease known to man. This is an absolutely fascinating book and is quite easy to read. The rise of the veterinarian in many ways resembles that of the dentist. Those in-
interested in a very excellent book on American history should not be without this edition in their libraries.

—Reviewed by Lloyd E. Church, D.D.S., Ph.D.


This is a most fascinating book concerning detection. It focuses on 16 doctors who used their scientific expertise to dispose of their many victims. Their reasons varied from greed and lust to satisfaction of perverse appetites. Forensic science is brought into play especially in the area of toxicology, but the scientific method had not yet developed to the extent that it is today.

The year 1823 was significant for the medical profession because it was in this year that a doctor was caught in a murder as a result of poison being detected inside his victim's body. At last, post mortems had begun to tell the lurid truth. Before this time, poisoners had a clear run. Arsenic had been the customary potion and it possessed many advantages. It was tasteless, colorless and odorless and it blended nicely with delicate broths and heavy stews. Its symptoms did not arouse suspicion because they were similar to cholera which was rampant across Europe at that time. But with the advent of toxicology and its concomitant ability to find the cause of death by making tests within the body, this irritant metallic poison became easy to spot. Doctors then turned to vegetable drugs and chemicals and there were hundreds to choose from, such as morphine, strychnine, and caffeine. Sometimes the drugs were blended with other drugs, thus making the range unlimited.

All but one of the doctors "starring" in the book were found guilty and were put to death by hanging, the electric chair or the guillotine. Starting with Dr. Knox and the notorious Burke and Hare, one is given a quick view of the body snatchers, the resurrectionists and "sack"em-up" men of the 1920's, and then carried forward into the 20th century. One of the interesting cases discussed is that of Dr. Palmer, who went on a mass murder rampage and who is best remembered for his mother's tearful lament "... they've hung my saintly Billy."

For the true-crime buff, this is a fascinating book and an absolute must for the library. However, more attention to correct grammar as well as illustrations and photographs would have made this book more interesting.

—Reviewed by Lloyd E. Church, D.D.S., Ph.D.

**An Historical Account of Pharmacology to the Twentieth Century.** By Chauncey D. Leake. 189 pages. $12.50 cloth; $8.95 soft-bound. Springfield, Ill. Charles C. Thomas. 1975

This is a very fascinating account of the history and development of pharmacology and toxicology up to the 20th century. The book will be of interest to both the professional and the layman. Dr. Chauncey D. Leake, a pharmacologist, is internationally known in his field. His knowledge of the history of drugs as well as their scientific study and
improvement have been put together under one cover, providing the reader with a fascinating and humanistic story of drugs.

It is very intriguing to learn how some drugs were discovered and how they were used. The book also provides a fascinating history of the many people involved in the discoveries along with their triumphs and tragedies. The author describes the application of chemistry and biology to the management of illnesses, and how these help in the diagnosis, prevention and cure of the many diseases that plague civilization today. This book contains many stories of interest about a variety of people including all those who have ever used alcoholic beverages, no matter what the amount, as well as vitamins. And for those who have wondered what (and why) their physicians have been prescribing for them, this book is a must. The references found throughout the text, however, are primarily for professional personnel in the biomedical field.

The book is very well written and is very interesting. Those who are interested in the history of medicine should have this book in their library. It is a great tribute to an old and noble profession and to the author, a most excellent professional man.

—Reviewed by Lloyd E. Church, D.D.S., Ph.D.


In 1960-61 a staff study by the Chief of Experimental Dentistry at the USAF School of Aerospace Medicine suggested that the position of Preventive Dentistry Officer for the Air Force be established. This proposal was adopted and the current dental officer holding that post is Col. Christen, the author of this short but fine book.

Dr. Christen who is a member of the American Academy of the History of Dentistry, has written an illuminating text which shows how an excellent preventive health program was formally instituted by the Air Force in 1952 and maintained and expanded over these past 25 years with fine results.

The program was developed because of the inavailability of adequate methods of treatment to meet the enormous dental workloads which existed in the military population, especially among new inductees. One of the innovative approaches was the training of 1,200 dental airmen to perform oral prophylaxes; by the mid-1950's a complete dental prevention program was in effect at 90% of all USAF bases.

Dental research was also a major part of the program with a number of important therapeutic aids being made available to the Air Force dentists to help their airmen patients protect themselves from the ravages of dental disease. Among these were new mouth rinses and prophylaxis pastes which utilized improved forms of stannous fluoride. A more glamorous spin-off of this research was the edible non-flouride toothpastes used by our Apollo astronauts in their moon flights.

Many other helpful programs were adopted, including training courses in preventive dentistry for all dental personnel in the Air Force, as well as workshops and overseas programs for military personnel and their dependents.

Although only a pamphlet in size, this book can serve as an ex-
excellent guide to a community or institution interested in establishing a preventive dentistry program of its own. In addition, the excellent bibliography of almost fifty citations which Col. Christen has provided will give those interested further reading leads.

Free copies of the booklet may be obtained by writing to Col. Arden G. Christen, USAF Dental Health Officer, 135 Vinsant, San Antonio, Texas, 78235.

—Reviewed by Malvin E. Ring, D.D.S.


One of the greatest bargains among research tools is the incomparable bibliography issued annually by the History of Medicine Division of the National Library of Medicine. It covers in detail all of the health sciences and adjunct fields such as pharmacology and biology. The current volume, No. 10, is the 5-year cumulation of those annual volumes. This massive, hard bound book is the second cumulation in the series; the period from 1964 through 1974 is thus covered, and in excellent fashion.

The bibliography is very easy to use. The work is divided into two parts: the first dealing with biographies of both famous persons as well as leading figures in the health sciences and the second a subject-matter compilation. To make the biographical section more usable, the material is further arranged by periods (e.g. Before 500 A.D., 500-1450 A.D.) and by country within those periods.

The subject section, which takes up the bulk of the book, is subdivided into approximately 150 subject headings ranging from Acupuncture through Zoology. These are further broken down within the body of the work by period as well as by country. Twelve pages, containing hundreds of citations from periodicals all over the world, are devoted to dentistry, and we are happy to report that our Bulletin is now excellently indexed.

This work is a must for anyone who is doing any research in the history of the medical sciences, for the vast amount of information it will allow one to uncover will flesh out any study.

—Reviewed by Malvin E. Ring, D.D.S.
This Publication is Available in MICROFORM

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