BULLETIN OF THE HISTORY OF DENTISTRY

Official Publication of the
American Academy of the History of Dentistry

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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.

SUBSCRIPTIONS AND OTHER BUSINESS MATTERS

Active and honorary members of the American Academy of the History of Dentistry receive the Bulletin as a consequence of their membership. The subscription price for all others, domestic and foreign, is $25.00 per year. Foreign subscriptions must be paid for in United States funds. All copies sent to foreign countries by surface mail only. No arrangements can be made for air-mail delivery. Second class postage paid at Chicago, Illinois, and at additional mailing offices.

POSTMASTER: Send address changes to: Hannelore T. Loevy, CD, PhD, Bulletin of the History of Dentistry, 801 South Paulina St., M/C 850, Chicago, IL 60612.

All correspondence pertaining to subscriptions, rates, servicing of existing subscriptions should be addressed to the Circulation Director: Aletha Kowitz, 2400 Lake View Avenue #406, Chicago, IL 60614.

The Bulletin is published semi-annually in April and October

ISSN: 0007-5132
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The AMERICAN DENTIST

A Pictorial History with a Presentation of Early Dental Photography in America

Successful dentists have always recognized the physical, mental and emotional responses of their patients and found ways to meet these needs. Dentists have shared their thoughts on the complexities of dentist-patient relationships, as well as dentist qua technologist and practitioner in articles, books, correspondence and photographs.

Through interviews with dentists, who began their careers in the 1920s and later we have obtained information that enriches the printed material and allows us to understand some of the components of life as an American dentist over the past centuries.

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Our new president:
Wilma E. Motley

Our president for 1989-1990, a native of Iowa, graduated from the University of Southern California Dental Hygiene Program in 1933. She began the clinical practice of dental hygiene in Hollywood, California, raised two children, and then returned to dental hygiene, working with her husband for the last 27 years of his dental practice in Sherman Oaks, California.

The second time around saw the beginning of Wilma Motley's organizational activities which included part-time instruction in clinical dental hygiene and lecturer on ethics at USC; president of the Southern California Dental Hygienists' Association; twice elected president of the American Dental Hygienists' Association, editor of its Journal for 11 years and at retirement was made Editor Emeritus; president of the American Association of Dental Editors; Trustee Advisor of the AFDH; member of the Advisory Committee, Experimental Program in Dental Hygiene, University of Iowa; Advisory Committee on Utilization and Education of Dental Auxiliaries, California; Committee on Accreditation, ADA CDE; a founder of the International Dental Hygienists' Federation and its Immediate Past President.

Mrs. Motley is an Honorary Member of the American Dental Association; Honorary Member of Sigma Phi Alpha, National Dental Hygiene Honor Society; recipient of the Distinguished Service Award of the AADE and the William J. Gies Editorial Award. She is the author of “Ethics, Jurisprudence and History for the Dental Hygienist,” and “History of the ADHA: 1923-1986,” and has written many articles for dental and dental hygiene publications. She was honored for her achievements by the USC Dental Alumni Association at its November 1989 meeting.

Her participation in community affairs include PTA President; leader of Campfire Girls and Girl Scouts; speaker on Career Day programs and for service organizations, international and national professional groups and student dental hygienists. She is the mother of a son and a daughter, has 7 grandchildren and 4 great grandchildren.

Dr. William G. Motley and Mrs. Motley are now retired from active clinical practice but retain their interest in the profession, especially the history of dentistry. She anticipates a year of progress for the AAHD and its cooperative project with the Baltimore College of Dental Surgery Dental School in establishing a National Museum of Dentistry.
Memo from the president,
Wilma E. Motley, RDH

Communication may have begun with primitive signals from eye or body movements and/or grunts. We have become much more sophisticated and today, skilled communication is imperative. Better communication within the American Academy of the History of Dentistry should encourage its growth and its potential influence.

A brief, formal report once a year, heard only by those attending the meeting, hardly seems to be adequate communication between officers and members. It seems logical to me that if members regularly learn what their organization, through its officers, is thinking and doing, the group should prosper in leaps and bounds.

It has been said that this is the best time of all to be alive; there is more to think about and more challenges to be met than ever before. This can be applied to the AAHD and with a collaborative partnership which includes all of us, we can take advantage of the phenomenal opportunities for advancement available to us.

I believe one of my important functions this year is to establish a line of communication with you, the member, hoping to stimulate your interest and enthusiasm so that you can enjoy your membership as much as I do mine. Are you with me?

Do you know:
—The AAHD actively promotes the teaching of dental history through sessions at the American Association of Dental Schools and individually.
—Expenditures have exceeded income the last two years due to loss of membership, low dues and low Bulletin subscription rates.
—A proposed increase of dues, effective in 1991, will be considered at the 1990 meeting.
—A revised Constitution and Bylaws will be presented to you before the 1990 meeting so they can be voted on in Boston.
—Last year the Academy made a commitment to raise $100,000 for the National Museum of Dentistry and, since $75,000 had already been raised, the commitment was increased to $250,000. You will be hearing more about this exciting project.
—Committees for 1989-1990 were approved by the Board and all personnel have been notified.
—Committees on Program, Teaching Dental History, Constitution and Bylaws and Bremner Awards are already at work. Perhaps others are, too, but I have not yet been advised.
—An audit of Academy books will be made.
—After lively discussion of the options offered, the Bulletin will keep its name, there will be two issues a year in a slightly larger page size, and the Newsletter will be discontinued. These are money saving, efficiency changes. A goal is quarterly publication. You will see design upgrades in this current issue.
—Dr. Leonard F. Menczer, Chairman, Joint Committee, has again asked our cooperation in securing a commemorative stamp recognizing Dr. Horace Wells’ discovery of nitrous oxide. He says, “If you have not written, please do. If you have, then a second letter is certainly in order to demonstrate continuing interest.” A petition was handed around and signed during our November meeting, and I have now written and sent my letter. The address is: The Citizens Stamp Advisory Committee The United States Postal Service Philatelic Branch 475 L’Enfant Plaza, SW Washington, DC 20260-6700
Themistocles Gluck, Berlin 1890: a pioneer of multidisciplinary applied research into biomaterials for endoprostheses

D. Muster, MD

In recent years, fascinating results have been obtained in reconstructive surgery through use of high tech biomaterials and sophisticated surgical techniques reinforced by pharmacology, anesthesiology and intensive care.

It is regrettable that inflation of information and overloading of professional life often prevent us from reading old publications relating to the remarkable and richly informative work which was carried out by our forerunners whose genius revealed them as precursors of up-to-date concepts, despite the poor technology of their day.

Such a person is Th. Gluck, surgeon in Berlin over a hundred years ago, who developed pioneering osteoarticular and arterial endoprostheses, osteosynthesis plates, ligament substitutes, dental implants, biodegradable materials, bioadhesives for soft tissues...

It was he who first pointed to the need for collaboration between life sciences and exact sciences, clinicians and technicians as a means of improving public health through a multidisciplinary approach. The great strides made in recent years in producing and analyzing biomaterials, in developing biomedical engineering and in diagnostic imaging give the surgeon unrivaled methods of treating traumas and degenerative diseases. The use of sophisticated surgical techniques, backed by modern pharmacological resources and by efficient anesthesia and intensive care, has ultimately made organ and tissue replacement almost routine.

It is very much to be regretted, however, that the flood of information received and the extensive demands of the profession often prevent us from taking time to read older publications about frequently remarkable and highly informative work. This work was done with scrupulous care and with the limited resources of their day by persons whose genius made their work an extraordinary forerunner of today’s concepts. A case in point is that of Themistocles Gluck, a Berlin surgeon, who developed amazing surgical reconstruction techniques a century ago.

First, look at the man

Themistocles Gluck was born on 30 November 1853, at Jassy (in Romania); the son of a doctor, he
Second, his work

His major work was summarized in a presentation given at the fourth congress of the German Surgical Society, in Berlin, on 12 April 1890. This presentation was published in Langenbecks Archiv fur Klinische Chirurgie, and was used as the basis for this paper.

Dr. Gluck began by saying that the 19th Century was fascinated with three fundamental areas of progress in surgery: anesthesia, the control of bleeding, and asepsis. "Basing itself on the benefits of these methods, which are able to reduce to an ideal level, pain, fear, blood loss and the danger of shock and of wound infection, modern surgery has developed with youthful enthusiasm and daring. The masters of our art and their disciplines are filled with a noble spirit of competition, anxious to be capable of, and to achieve, the best results, and although our art will probably retain its destructive nature for the most part, trends toward conservation and repair have nevertheless been evolving during the last ten years."

He pointed out that innovative ideas and boldness in surgery were not always judged impartially or kindly. He went on to stress that, regardless of problems with the likes of the anti-vivisection league, experimental surgery on various species of animals was the only way to achieve decisive progress. On the basis of his last ten years' practice in this field, he regarded the second goal of the art of surgery as being of prime importance, namely, plastic surgery following resection, in order to replace lost tissue by means of transplantation and implantation. In passing, he made several attacks on physiologists, particularly Claude Bernard, who had stated that, however skillful a surgeon may be, he could not alter the laws of physiology, and on the Academie de Chirurgie Francaise, which had concluded that rhinoplasties were impossible.

Gluck referred to the replacement of lost muscle, tendon, and nerve tissue by resorbable material able to serve as a base for tissue build-up during cicatrization. He had done tests on both animals and man, using bundles of catgut, silk and rubber attached by ivory pins, taking care to control the tension.

On March 4, 1885, Gluck demonstrated to the Berlin Society of Medicine osseous preparations with lateral steel splints and screws enabling bone fragments to be fixed in place. During the Serbian/Bulgarian campaign of 1885-86 he had treated a fracture dislocation of the femur, caused by a bullet, by fixing the fragments of the bone in place according to his principles. As soon as these splints were in place the patient was able to lift his leg without pain, and the muscular spasms regressed. When carrying out a resection of the median part of the mandible for cancer, Gluck tried to fit a connecting "stirrup" with nickel-plated steel screws, to compensate for the loss of substance and fix the fragments in place, the results were excellent. He also inserted ivory pegs into the medullary canal of the fractured bones, and replaced resected fragments of animal bones by ivory and celluloid cylinders, all successfully. Gluck also referred to reimplantation after extraction of a tooth, replacing teeth by ox bone or ivory implants. He described a mandibuloplasty carried out with the help of ivory spindles stitched to the remaining bone with silver thread. The pieces of ivory could provide the basis for regeneration of central and peripheral bone masses, in the same way as bundles of catgut did for lost soft tissue. The ivory and bone clips inserted into the medullary canal first of all consisted a bridge where substance had been lost, and second made it possible, if they were used skillfully, to

...
set the fragments firmly in place, even without the use of screws or other means of fixation. The medullary canal was not blocked, but could be drained, and blockage due to secretions in the lumen of the ivory tube and its lateral openings could be avoided. As soon as the soft parts had cicatrized, the patient was able to walk on his reconstructed bone.

In passing, Gluck emphasized the usefulness of these techniques in veterinary medicine (particularly for osteosynthesis and osteoplasty in race horses).

He deeply regretted that the implantation of organic and inorganic foreign bodies had not yet been sufficiently applied in surgical practice.

He was himself carrying out osteosynthesis and centro-medullary nailing, reconstructing resected fragments of bone, treating pseudoarthrosis, carrying out arthroplasty and arthrodosis, placing of dental implants obturating cleft palates, using ivory supports for rhinoplasty, etc. Gluck stressed the need for these implants and prostheses to be biomechanically matched: “We must aim for smaller volume and lower weight, together with strength and the most efficient shape, basing our efforts on the structural principles of the human skeleton.” In addition he stressed the need for ease of application: “The devices must be easy to insert through small wounds. Even if the device is technically complicated, ingeniously made and movable in different directions, it must not give rise to operative difficulty.”

Third, his theories

Gluck had original ideas in the field of communication, being convinced that people had to be able to visualize things before they could be won over. So at the scientific exhibition at the 10th International Surgical Congress, he presented items which he had perfected, mounted on skeletons to show their suitability.

Gluck felt that it was of prime importance to reproduce not only function and shape, but also structure, and to do so in strictly aseptic conditions. He primarily recommended ivory. It should not be forgotten that the Ivory Coast — Elfenbeinkueste — was at that time a German colony. He also recommended, as filling material which would complement ivory, layers of parchment-paper, sheets of cork, stiff felt and decalcified ox bones (the latter being especially suitable as a compressive, elastic intermediate layer).

He pointed out that if the ivory became worn in time, this would be compensated by bone formation and the fixation would not deteriorate. Touching upon the subject of fixed prostheses using mastic, he described his tests of stone putty (rosin with pumice stone or gypsum) which hardens almost instantly. He found that this mineral could do an excellent job as a cement or filler, but he put forward the principle of osseointegration; the stability of the implant being guaranteed by the osseous invagination alone. In short, the question of prostheses “with or without cements” a question which is still debated, was already being raised at that time.

Use of biomaterials in vascular surgery also interested Gluck (small aluminum or ivory plates for suturing large arteries, replacement of large veins, sewn arterial tubes). He noted cicatrization by endothelial proliferation without thrombus, and with circulation in the area of the operation being maintained. He made plates to block the inguinal canal with organic implants, to treat hernias.

Finally, his faith in the future

Lastly, he had a great deal of faith in the future of resorbable materials, whether sutures (silk and catgut bundles and rolls), celluloid or ivory supports, perforated and surrounded or filled with catgut, decalcified bones, and new or dead tissues, disinfected (by sublimate, iodoform). He designed resorbable pads made of pitch, elder, sponge and cork.

He was an innovator of biological adhesives for soft tissues. For example, he noticed that hen’s blood yielded a gelatinous coagulum extraordinarily fast, enabling soft tissues to be joined together and giving strong adhesion. He mentioned the use of crusts of coagulated blood to cure certain bone or joint lesions, and the use of decalcified bone chips to fill cavities in bones.

Gluck was similarly aware of the economic problems of health care, recommending that less expensive materials for replacing lost tissue be studied: aluminum, wood, glass, celluloid and nickel steel which, within certain limits, could be successful from the point of view of tolerance and function.

A pioneer in osteoarticular and arterial endoprostheses, plates for osteosynthesis, ligament reconstruction, dental implants, biodegradable materials and biological adhesives, Gluck was the first to emphasize the need for the study of life sciences and the exact sciences, for clinicians and technicians, working together to improve public health through multidisciplinary approaches.

Concluding his presentation, he stressed that: “The fund of the theoretical studies of medicine encompasses a host of unused ideas which have been amassed during medical practice; these should be taken up
again, reconsidered, and put into effect. Theory and practice ought to go hand in hand. The most speculative research worker in the natural sciences ought, from time to time, to put his results to the test, to find out whether they may be of either direct or indirect use for the welfare of those who are suffering..."

Gluck went down original and important paths in almost all his specialist fields. His "Report on the positive results obtained through modern surgical experiments relating to the suturing and replacement of the higher tissues, and on the use of resorbable and living pads in surgery," which he presented while he was head of the Surgical Department at the Emperor Frederick Pediatric Hospital, remains exemplary. It concludes with a complete bibliography and some interesting illustrations.

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A brief history of the University of the Philippines, College of Dentistry

Fred Stewart Feld, DDS

The former Commonwealth of the Philippines once was very close to becoming a state of the United States. Republican presidents such as McKinley, Theodore Roosevelt, Taft, and Harding were for blocking its independence, and for eventual statehood, while Democrats such as Wilson and Franklin Roosevelt worked towards letting the Philippines have their long sought after independence.

It took the Democratic Presidents Franklin Roosevelt and Harry Truman to finally grant the close World War II ally its independence on July 4, 1946 to coincide with the US Independence Day.

As the political pendulum swayed back and forth, the Americans did not sit idle. Expecting statehood, they set up and developed infrastructures in the Philippines that can be seen even today . . . roads, telephones, water, sewer, and electric service were introduced. An American style political system was set up with a House of Representatives, Senate, Supreme Court, and Executive Branch. The legal system was based on California law, with precedents citing American legal cases, and many of these precedents are still present in Philippine law books. But of all the American accomplishments, free public education was the most important in helping the Philippines to develop.

Prior to 1521, when Spain's Magellan first landed in the Philippines, dentistry was performed by barbers, tribe chieftains, and herbolarios (herbmen). The treatment generally consisted of extraction and/or a ritual type of ceremony. I might add that Magellan's around-the-world voyage ended when he was killed by Lapu-Lapu, a Filipino chieftain.

The practice of dentistry during the Spanish times was not a legally established profession, and there were no laws or royal decrees governing dentistry. Anyone capable of extracting teeth could practice as a sacamuela or tooth puller. The University of Santo Tomas, set up by the Spanish, eventually began training cirujanos ministrantes (practitioners), and upon graduation they became cirujanos dentistas. Gradually, these dentists replaced the physicians (medicos) who were practicing dentistry on the side as needed.

Dentistry during the American occupation

On August 14, 1898, General Wesley Merritt of the United States Army established the military government in the Philippines after Manila was captured. On December 10, 1898, Spain approved independence for Cuba, and ceded Puerto Rico, Guam, and the Philippine Islands to the United States. The Spanish American War was now over, thus ending almost four centuries of Spanish rule. The United States suddenly had the Commonwealth of Puerto Rico, the Commonwealth of the Philippine Islands, and the Territory of Guam to protect and develop.

President McKinley appointed to the Philippine Commission (Schurman Commission): Jacob Schur-
man as Chairman, Rear Admiral Dewey, Major General Otis, Dean Worcester, and Charles Denby as members. The committee arrived in Manila in March, 1899.7

By August 2, 1899, the authorities required all unregistered dentist practitioners who desired to continue practicing dentistry to pass an examination.8

The Second Philippine Commission (Taft Commission) was established in April, 1900, with William Howard Taft as its chairman.9 On July 4, 1901, following the capture of the revolutionary leader and President of the Philippine Republic of 1899-1901, General Aguinaldo, the revolutionary army dispersed. A civil government was established with William Howard Taft as the first Governor-General.10

The first dental law in Philippine history, Act 593, was passed January 10, 1903. It provided for the 1) creation of a Board of Dental Examiners, and 2) examinations for licensure.11

The first Board of Dental Examiners in the Philippines had three members:

Dr. Robert T. Oliver, DDS, US Army and graduate of the Indiana Dental College on March 7, 1888, who served as President of the Board.

Dr. Wallace G. Skidmore, DDS, State University of Iowa, March 10, 1892, was the Secretary-Treasurer of the Board, and the first American dentist to open his office in Manila under American occupation.

Dr. Antonio Vergel de Dios, DDS, University of Pennsylvania, May 10, 1893, was the only Filipino member of the Board, and the first Filipino to earn a DDS.12

State University of the Philippines created

The University of the Philippines Bill, proposed by Morgan Schuster, the Secretary of Instruction, and approved by the United States Department of the Interior's Philippine Commission, and passed by the Philippine Legislature as Act 1870, established the first public university in the Islands.13,14 It was to be patterned after other American state universities, and Dr. Murray Bartlett was chosen as the first University President.15 The Governor-General signed the University Act on June 18, 1908, which is regarded today as the UP Foundation Day.

The Bureau of Health and the Bureau of Science established the Philippine medical school on December 1, 1905 which was authorized by Act 1415. The first medical classes began June 10, 1907.16 It was this Philippine medical school that was merged into the UP system as its first full school, the UP School of Medicine.17 The School of Medicine became the College of Medicine in 1910.18

Early, it was realized that the use of Philippine dialects in public instruction would result in practical difficulties and unnecessary expenditures. Each region of Islands has its own particular dialect, and the students from one region were offended when they were taught in another region's dialect. The large number of American teachers, called Thomasites because they came to the Philippines on the transport ship USS Thomas, was another factor in the decision to use English as the medium of instruction.19 The authorities felt they could attract qualified teachers more easily if English were the medium of instruction. The vernacular was prohibited, and those speaking native dialects were punished.20 Furthermore, government examinations were conducted in English which helped convert other private institutions to the use of English.21 To this day, English remains as the medium of instruction.

Leonard Wood, Governor-General from 1921-1927, pointed out the necessity of obtaining the best possible teaching force, wherever it could be found, and of avoiding the deterioration and narrowing influences which result from an institution attempting to appoint only its own graduates to the faculty and staff. Wood said, "The best which can be obtained" should be the university policy, "for the people of these islands are going to look to its graduates for leadership."22

Dr. W. W. Marquardt was hired as the Philippine Educational Agent in Washington, DC. His job was to supervise pensionados sent to the United States to pursue advanced studies at American colleges, and return to UP to teach. He also helped select other Americans as professors, and was responsible for recruiting Dr. Guy Potter Benton as UP President, 1921-1923.23

As time went on, the University flourished. The Rockefeller Foundation helped fund a School of Hygiene and Public Health, and a School of Nursing in the early 1920's.24 Gradually, UP earned a good reputation. In a report of the Philippine Commission, 1913, (Washington, DC, US Govt. Pr. Off., 1914), Dr. Bartlett, the first University of the Philippines President, stated: "In various ways, the work of the University has become favorably known abroad, especially that of its oldest department, the College of Medicine and Surgery, which now has been admitted to the Association of American Medical Schools as a Class A College.25

The Department of Dentistry established in the UP College of Medicine

One of the final accomplishments of Dr. Bartlett before his resignation as the University President in 1915, was to propose in February 1915 that a Department of Dentistry be established in the College of Medicine, with Louis-Ottofy, DDS, as head and Professor of Dental Surgery.26
Also in 1915, the Board of Dental Examiners established a uniform plan of teaching and was given the power to accredit local dental colleges. The Liceo de Manila lost its accreditation at once, and the University of Santo Tomas and the Philippine Dental College were placed on probation and were given new standards with which to comply, while the UP Department of Dentistry was duly accredited for the first year dental course.

To further ensure the quality of its dental graduates, the University Council meeting of March 10, 1917 noted that "applicants for admission to the College of Medicine and Surgery, as candidates for the degree of Doctor of Dental Surgery must fulfill the admission requirements of the College of Medicine and Surgery." Therefore, the UP College of Dentistry was first established as a Department of Dentistry of the College of Medicine and Surgery as proposed by the Faculty Council and ratified by the Board of Regents of the University of the Philippines on February 8, 1915. Dr. Louis Ottofy was the first head of the Department, and later became the first director when the Department of Dentistry was organized into a School of Dentistry of the College of Medicine during the school year 1917-1918. At the end of the academic year 1931-1932, the school was temporarily closed, but re-opened in 1936. Immediately prior to the temporary closure of the school and when it was re-opened in 1936, Dr. Domiciano Sandoval was the director. The school ceased to function on February 3, 1945 due to extensive damage caused by war during the Battle of Manila. Dr. Sandoval resumed the directorship when the school was re-opened on August 6, 1945 to give completion courses to students whose studies were interrupted by World War II. Dr. Victorino G. Villa, who was then the secretary of the school, became the officer-in-charge upon the retirement of Dr. Sandoval in 1946. The Commonwealth of the Philippines became the Republic of the Philippines on July 4, 1946. Soon thereafter, Dr. Villa was appointed director, when the school offered the regular four-year course in dentistry in October, 1946.

**Dentistry after the Republic of the Philippines created**

On October 21, 1948, upon the recommendation of the late Dean Antonio G. Sison of the College of Medicine, the Board of Regents of the University passed a resolution changing the status of the School of Dentistry to an independent unit, the College of Dentistry, with Dr. Victorino G. Villa as its first dean. The resolution reads:

That the status of the School of Dentistry be now formally changed to an independent unit as the College of Dentistry, to be directly administered by a Dean, and Dr. Victorino G. Villa, at present Director of the School of Dentistry, be appointed Dean of the College of Dentistry effective on the first day of the second semester of the academic year 1948-1949, specifically on November 8, 1948.

The College of Dentistry was one of the pioneer units that moved its campus to Diliman, Quezon City, when the late President Bienvenido M. Gonzales effected the transfer of the University from Padre Faura Street in Manila to Quezon City on December 15, 1948. In Diliman, it occupied a quonset barracks on top of a hill vacated by the US Armed Forces where the student union building, Vinzon's Hall, now stands. Due to a lack of patients, the Dental Clinic was transferred back to Manila during the school year 1949-1950. Lectures were, however, conducted both in Manila and Diliman. In 1951, the preclinical classes and lectures were moved from the quonset barracks to Malcolm Hall, together with the College of Law. In 1952, the college moved again, but this time the whole college moved to Rizal Hall, located on Padre Faura Street, Manila. The college remained there until the first semester of 1959-1960 when it again moved, this time across the street to its current location into what was once the UP Infirmary.

On June 1, 1960, Dr. Jose D. Rodriguez, on recommendation of then President Vicente Sinco, and upon approval of the Board of Regents, assumed the position of dean. During his tenure, an annex to the old building was built, new acquisitions for the library and improved facilities for it were effected and a faculty development program was realized.

After he retired on November 1, 1967, Dr. Andrea C. Reyes acted as officer-in-charge until University President Carlos P. Romulo, with the approval of the Board of Regents, appointed Dr. Celso A. Bunag as acting dean on December 6, 1967. On December 8, 1968 Dr. Bunag was appointed dean. During his tenure, Dr. Bunag undertook many innovations, including air conditioning of the oral surgery and operative dentistry areas. Dr. Bunag resigned May 31, 1974. On June 1, 1974, Dr. Nestor P. Perez was appointed acting dean, and on May 1, 1975 he was appointed dean for a five year term. Dr. Perez initiated a general renovation program of both the pre-clinical and clinical areas, as well as the basic sciences areas. A five year development program and a faculty development scheme got underway. These programs were all aimed at improving both the plant facilities and faculty resources to help cope with the envisioned increase in enrollment. The Hospital Dentistry Department at the Philippine General Hospital was strengthened to help provide the teaching, learning, training, and research experience of both the faculty and students.

On April 30, 1980, Dr. Avelino A. Macasaet became...
the dean. A new building, the Graduate-Postgraduate School was established across the street on Padre Faura. This building was intended to house the Graduate School in Orthodontics. It was contemplated that other specialty areas in dentistry would follow. The building is now equipped with dental chairs and units. During his term as dean, there was an increase in both enrollment and faculty teaching force. New dental equipment was acquired both through donations from alumni and purchase by the University. During his term, U.P. Manila became autonomous, and now consists of 13 academic units. Dr. Macasaet’s term as dean ended April 30, 1986.

In 1986 Dr. Aurelio Ramos became the dean and he will continue until his term expires in 1991. Dr. Ramos is a graduate of the University of the Philippines and did postgraduate work at the University of Illinois and the University of Toronto. He also earned a DPH at the University of Sydney. Dentistry in the Philippines recently has become very popular. In 1977, there were only seven dental schools, six of which were in the Metropolitan Manila area. As of January 1988, there were 19 dental schools throughout the archipelago.

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RECYCLE!
DO NOT TOSS THEM!

If you do not keep files of old issues of the Bulletin, our Secretary-Treasurer needs them to complete requests from libraries and new subscribers. Please mail the old issues you no longer need so that other members can complete their collections.
The Journal of Prosthetic Dentistry: the evolution of a dental periodical

Thomas J. Donahue, DDS

This article presents a history of the Journal of Prosthetic Dentistry from its inception to the present day. Particular emphasis is given to those people who worked towards its formation, and those changes that were made over the years in order to improve it as a medium for the exchange of ideas in prosthodontics.

One of the ways in which a profession grows is through the exchange of ideas, and a well-established medium for such an exchange is the periodical literature. A periodical is noteworthy if it not only becomes an eminent source of information in its own specific discipline but also sets standards which other related periodicals seek to emulate. The Journal of Prosthetic Dentistry is such a periodical. This article will present a history of the Journal.

In the early part of the twentieth century, there were three prosthetic organizations in the United States: the Academy of Denture Prosthetics founded in 1918; the American Prosthodontic Society founded in 1928; and the Pacific Coast Society of Prosthodontists founded in 1929. By 1950, the members of these organizations saw a need for a journal devoted to prosthodontics, so that the papers presented at their meetings could be published. On 6 February 1950, the Publication Committee of the Academy of Denture Prosthetics met with the officers of the C. V. Mosby Company at the Stevens Hotel in Chicago, Illinois. The purpose of the meeting was to explain to the officials of Mosby the need for a periodical devoted exclusively to the subject of denture prosthesis. It was agreed that the three prosthodontic organizations would jointly sponsor the journal.

By March 1950, the societies had decided that there would be an Editor-in-Chief who would be appointed by a nine-member board of directors. The nine persons would consist of three persons from each of the three sponsoring societies. Each society would also appoint an associate editor who would be responsible for procuring and editing the material from its group, with the Editor-in-Chief empowered to render the final approval of the material. On 20 October 1950, a contract was signed with the C. V. Mosby Company to proceed with plans for publishing the Journal of Prosthetic Dentistry.

The first issue of the bimonthly Journal was printed in March 1951, and contained Numbers 1 and 2 of Volume 1 (January 1951 and March 1951). The Editor was Carl O. Boucher. The Editorial Council consisted of Claud J. Stansbery, Thomas E. J. Shanahan, and Raymond J. Nagle of the Academy of Denture Prosthetics; Louis S. Block, Emmett Beckley, and Emil H. Bollwerk of the American Denture Society; and W. Les Warbur-
ton, George Hughes, and Roland D. Fisher of the Pacific Coast Society of Prosthodontists. Louis S. Block was designated chairman of the Editorial Council, and Drs. Nagle, Boelwerk, and Fisher were appointed associate editors for their respective societies.

In the first issue, Carl Boucher wrote:

Leaders in the field of prosthetics have seen the need for a journal which would collect all the material related to this specialty. They have hoped for an outlet for all ideas, theories, and practices, which would develop a more thorough understanding of the problems of prosthetics. General practitioners of dentistry have looked for guidance from the specialists in the solution of their problems. Until today, there has been no adequate outlet for the specialist and his ideas. Until today, there has been no single source of information on the cross-section thinking in the field of prosthetics. The excellent papers which are read at the meetings of the prosthetic specialty groups, and at other dental meetings, need not be lost with their presentation.

The objective of the Journal of Prosthetic Dentistry is to provide a medium for the interchange of ideas between those who are interested in advancing the knowledge of prosthetic restorations. All ideas and viewpoints will be presented, so the reader can judge their relative merits for himself. It is through this fair and unbiased analysis that the truth is learned.

The inspiration for the founding of the Journal of Prosthetic Dentistry came from the patriarchs of dentistry who have also inspired the prosthetic leaders of today. It is impossible to name all of these early leaders here but the names of Bonwill, Snow, Gysi, Williams, Prothero, Wilson, Hight, Lane, Griffin, Price, Monson, and many others come to mind at once. Their unselfishness has set the pattern for those who follow them. John Geller, of the American Denture Society, Jack Werner, of the Academy of Denture Prosthetics, and Wilfred Terrell, of the Pacific Coast Society of Prosthodontists, had this inspiration. As Presidents of these respective organizations, last year, they urged their publication committees to found the Journal...

The appearance of the Journal in your hands is a tribute to these men and a recognition of their high ideals in and for dentistry. If you like the child, and the way it grows, credit should be given to its progenitors.

In the first year, the Journal published 79 articles within 764 pages. Starting in July 1951, Carl Boucher summarized and commented on the articles at the beginning of each issue under the title "Through the eyes of the editor." Far from being just abstracts, Boucher used these summaries to indicate noteworthy research, to show the areas where further study was needed, and to offer personal comments.

By 1967, a change in format was dictated by the amount of material being submitted for publication. The Journal then became a monthly publication, with two volume numbers per year. Sections were established within the Journal to organize the material: Complete Dentures, Removable Partial Dentures, Fixed Partial Dentures, and Operative Dentistry. However, even from the beginning there were articles dealing with maxillofacial prosthetics, the temporomandibular joint, research, and implants. In January 1969, a Dental Technology section was added, based on the results of a survey of 1000 subscribers. This section presented a "cook-book" style of writing to describe technical procedures, and it added sixteen pages of text material to the Journal. Daniel H. Gehl and S. Howard Payne served as co-editors of the section, with E. Severn Olsen Jr. and Kenneth D. Rudd as backup co-editors. Two more sections were added in April 1971: Implant Dentures, and Maxillofacial Prosthetics.

At about this time, the Editorial Council requested the formation of a committee to study and make recommendations concerning the restructuring of the editorship of the Journal. This restructuring was meant to distribute the work load of the editor, since Carl Boucher was an unusual man who thrived on work and spent many long hours editing and rewriting articles. The new editorial structure was approved in May 1974, and when Dr. Boucher died in 1975, the restructuring was in the process of being implemented. The October 1975 issue was the first with the new format. Judson C. Hickey became the editor, and various section editors were appointed:

- Removable Prosthodontics: Louis Blatterfein, Robert Morrow, S. Howard Payne
- Fixed Prosthodontics: Henry Ebel, Samuel Guyer, William Lefkowitz
- Maxillofacial Prosthetics: I. Kenneth Adisman
- Temporomandibular Joint, and Occlusion: John J. Sharry
- Research and Education: Daniel H. Gehl
- Dental Technology: S. Howard Payne

(The Fixed Prosthodontics section was renamed "Fixed Prosthodontics and Operative Dentistry" in February 1976.) In addition, Ralph W. Phillips served as advisor on dental materials, and Paul Barton as the editorial consultant. Under the new format, the Editor receives all manuscripts and distributes them to the Section Editors based on subject matter. Each manuscript is edited and rewritten by the Section Editor and the author, and is then returned to the Editor. The Associate Editors represent those societies which have the Journal as their official publication. Each Associate Editor relays materials from the society to the Journal. The advisors help to determine the advisability of publishing manuscripts.

In January 1978, the Journal's size was enlarged from 7" x 10" to 8¼" x 11¼" which allowed more material...
per page, more articles per issue, and a reduced backlog of articles waiting to be published. In January 1980, the availability of color illustrations was announced. A new section entitled, "Tips from our readers," which presented brief descriptions of procedures submitted by Journal subscribers was initiated in March 1981. Another section was added in September 1981: Temporomandibular Joint and Occlusion.

Several changes were announced in August 1984 which further increased the number of articles that could be published: deletion of the list of articles to appear in future issues; beginning each new article immediately after the preceding one; deleting "Through the eyes of the editor;" and other changes in layout and design of each text page to use space more effectively. At the same time, the Editorial Council agreed to the formation of an Editorial Review Board of 20 to 25 persons who would be willing to review manuscripts. The Council also placed Fixed Prosthodontics and Operative Dentistry as the lead section in the Journal since it was the section with the largest number of pages. Dr. P. Kenneth Morse was named statistical consultant.

In July 1985, the section, Temporomandibular Joint and Occlusion, was renamed Craniofacial Function and Dysfunction, with George Zarb continuing as section editor. Clinical Reports began in July 1988, and includes brief reports of clinical procedures in the treatment of individual patients.

In the year 1988, the Journal published 307 articles within 1548 pages. It is now the official journal of the following organizations:
- Federation of Prosthodontic Organizations
- The Academy of Denture Prosthetics
- The American Prosthodontic Society
- The Pacific Coast Society of Prosthodontists
- The American Academy of Restorative Dentistry
- The American Academy of Crown and Bridge Prosthodontics
- The Greater New York Academy of Prosthodontics
- The Southeastern Academy of Prosthodontics
- The American Academy of Maxillofacial Prosthetics
- The American Equilibration Society
- The American Academy of Implant Dentistry
- The Canadian Academy of Prosthodontics
- The American College of Prosthodontists

The Carl O. Boucher Prosthodontic Conference
Northeastern Gnathological Society
Mexican Prosthodontic Society
Midwest Academy of Prosthodontics
Northeastern Prosthodontic Society
Association of Prosthodontists of Canada
American Academy of Esthetic Dentistry
The Florida Prosthodontic Association

In addition to publishing articles, the Journal is also the vehicle for three significant publications: Principles, Concepts, and Practices in Prosthodontics, a consensus of the current thinking in the field, now in its sixth edition; the Glossary of Prosthodontic Terms, now in its fifth edition, which is an attempt to clarify and standardize nomenclature; and the annual Report of the Committee on Scientific Investigation of the American Academy of Restorative Dentistry, which is a comprehensive review of the previous year's literature in prosthetic dentistry.

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A regal celebration for the arrival of the first tooth! The parents of the child and the other attendants are trying to attract the attention of the child who is seated in a throne-like chair and wearing a large straw hat with flowers and feathers attached. The father is blowing a miniature bugle and holding a plaque of toy soldiers, while a drum and sticks rest at his feet. The mother, who is wearing a tiara, is pointing to the recently erupted lower incisor tooth and the other woman in attendance (probably a governess) competes for the eye of the infant with a puppet.

_Punch_ magazine, which first appeared in 1841, was the logical outgrowth of the satirical prints, political and social, which were a popular source of entertainment in 18th and early 19th century England. Caricature and satire was the language of that age, and _Punch_ was the conscience of the people as represented in illustrated journalism. Uninhibited ridicule in the form of prose, verse, art and theatre was tolerated and depicted the dramatic contrasts of life in those days. The above picture obviously satirizes the life of the idle rich of that epoch by exaggerating the festivities attending the eruption of the first deciduous tooth.

—Comments by, and from the collection of, Bernard S. Moskow, DDS, MScD, Clinical Professor of Dentistry, Columbia University School of Dental and Oral Surgery. Dr. Moskow is the author of the book, _Art and the Dentist._
Seven former orthodontic patients who were treated during the 1920s, '30s, and early '40s were questioned with respect to their perceptions of treatment. Two of the subjects were orthodontists and one was a general dentist, thus offering technological insights. Emphasis was placed on treatment acceptance, social and financial impact, pain, techniques, and overall result.

Replies indicate that, while technological improvements were yet to come, patients coped at least as well as do today’s counterparts. Orthodontic treatment in those days, like life in general, was simple and stern. Nevertheless, there was overall patient satisfaction with both the doctor and the result.

What was it like wearing braces 50 or 60 years ago? Did patients of those times have the same kind of problems as their modern counterparts? As an orthodontist, I wondered how their attitudes compared with patients from my own practice and whether there have been as many changes in the human factors as there have been in technological advances.

My subjects were friends, relatives, and fellow professionals. The only qualifications were that they had worn fixed appliances and were not adults at the time of treatment. Of the seven, three are now dentists, thus providing a perspective from both “sides” of the arch wire.

Major areas of interest were:
1. Patients’ attitudes toward treatment, including acceptance, cooperation, and embarrassment.
2. Treatment technique, with regard to extractions, headgear, and mechanics.
3. Discomfort.
7. Sequelae such as loose bands and cavities.

Although the effort started out as an informal investigation, I soon found that the responses were more interesting than the findings. Therefore, rather than tabulate the percentage of patients who were teased about their braces, for example, I decided to report an individual’s feelings about it. The conversations also tell us something not only about the times, but about the constancy of human nature.

**Early Twenties**

Dr. Fred A., treated in Los Angeles, tells how the experience influenced him to become an orthodontist.
Fred, who was your orthodontist?

I had my teeth straightened when I was 13, by Dr. Cecil Steiner [a prominent teacher, writer, and inventor], so I became very interested in the profession at that time. Steiner took an interest in me and put me to work in his office during summers doing laboratory work. So I decided that's what I wanted to do.

What appliance did he use?

The ribbon arch. I had a double protrusion. If we were to treat that condition today, it would be, without question, a four-bicuspid extraction case. But in those days, extractions were not an acceptable procedure. Dr. [Edward H.] Angle said that we were born with two eyes, a nose, and 32 teeth. That's the way it was supposed to be and that's the way I was treated.

How did the result hold up?

I had a little relapse after I'd gone into retainers, so Steiner strapped me up again with a different type of appliance using a different type of bracket, and I was treated a second time. I had still another relapse, so back into braces I went for a third time — this time in [Dr. Angle's] edgewise. And this time it held.

Did you notice any differences between the ribbon arch and the edgewise?

Oh yes, the ribbon arch was much more painful. There was a lot more pressure.

What do you suppose that was due to?

Probably the fact that the widest dimension of the ribbon arch was in the vertical plane, creating extrusive forces on the teeth.

Did you have any root resorption?

Very little.

Late Twenties

Mr. Edward W., treated in Chicago, had what we would now call a “laid back” attitude toward his treatment.

Ed, did you have “permanent” braces?

Yes. It had a continuous wire running around all the teeth, and I used to put rubber bands on the thing to give it the tension it needed to bring the teeth back into position.

Did you have any permanent teeth pulled?

No, I don’t believe that I did. The part that I remember as unpleasant was making the models — that kind of plaster of paris that they put in your mouth.

They had to chip it off?

Yeah, right.

Did you ever have sore teeth?

No, I don’t think so.

Did any of the bands ever come off or get loose?

No.

Did you feel embarrassed to wear them in front of your friends?

I don’t recall that I did.

How often were your appointments?

I used to go about once every two weeks, and that was just to see the progress and get new rubber bands, or something like that.

Did you wear retainers?

I don’t recall that I did, no.

Do you feel that your teeth have stayed in place?

Yes, they have.

When you were first told about it, were you against wearing braces?

I didn’t have much input in the whole business. My mother felt it would give me a more generally acceptable appearance. She felt that was important. She didn’t ask me whether I wanted them or not, and, you know, you just did it. In those days, we obeyed our parents. Today, you invite the children in for their input in all these things. In those days it wasn’t done.

Dr. Harry C., as an orthodontist, offers some technical insights into his treatment, which was done with the McCoy open tube appliance. Like Dr. A., his treatment was a factor in choosing a career in orthodontics.

Where were you treated?

In 1928, I was treated at the USC orthodontic clinic by Dr. Alice Kinninger. Dr. James D. McCoy was head of the ortho department and had designed the appliance. Dr. Stenson Dillon was head of the clinic and Dr. Kinninger was what they called a “fellow.”

Was that before they had a graduate orthodontic program?

That didn’t start until 1934, when Spencer Atkinson took over.

Why did your parents choose the USC clinic?

In those days, the total cost of treatment in a private office was about what the down payment is today. I think it was $400. Whatever it was, it was too much for us, so we went to the clinic.

Do you remember what the payments were?

I think they were $10 a month.

What kind of malocclusion did you have?

I had an underdeveloped upper jaw as a result of the two upper laterals being lingual, and locked behind the lower teeth. In those days they took impressions in plaster of paris. That was even before the modeling compound came out. The bands were precious metal — white gold — which had to be soldered.

The attachment was the McCoy open tube, using an .025” round wire, which was a heavy arch. It had a snap bracket*, which you might think was great —
you didn't have to tie it or anything. But it was murder getting it out!

How many teeth were banded, usually?

I think it was just the anteriors and the molars. I had a rotated bicuspid, so they must have put a band on that. And, of course, the anterior bands were malleted into place.

How did they expand the arch, to get your laterals into position? Did they have a lingual arch?

I don't remember any lingual appliance. They did it all from the labial. They had coil springs or some other kind of spring in there. I never had a bite plate either, like I would use now. And the retainers, when used, were vulcanite.

Can you describe how they took the impressions?

It was a special kind of plaster. It has to be quick set. I remember it was pink. After the plaster set, you removed the tray, scored it, and broke it out of the mouth in — hopefully — four pieces. Then you put the pieces back into the tray, waxed them together, and poured it up.

Did it feel hot in the mouth?

As I remember, I think it did get a little warm.

How did Dr. Kinninger treat you?

She was very nice to me personally. She kind of adopted me, as a project of hers, because wanted to go to dental school. As a matter of fact, I had my braces on during my first year of dental school. I had to have them removed in order to have impressions taken. That was the first thing we did, as students.

Did any of your friends or relatives have braces at that time?

Very few. I think I was the only kid in my class that had them.

Did you get teased a lot?

Yes. Some of my friends asked me about that "horse's bit" in my mouth.

Did you ever have loose bands?

Occasionally, but not too often. I remember that the bands tasted terrible, because after they were soldered, they were put in the acid to get "pickled." Even after they were rinsed, there was always a sour taste to them.

Did you have any trouble with sharp objects sticking you?

I don't remember anything. You see, they didn't have any pins in that appliance. There was nothing to "tie in." Once the wire was in the bracket, the bracket didn't protrude at all.

Did you have any cavities or decalcification marks when they took the braces off?

I had one cavity. But after four years, that wasn't bad.

What do you think of the result?

In those days, they didn't do any extractions, so they accepted the lower arch as it was, and expanded the upper. As a result, my teeth are fanned out a little. Also, there wasn't much in the way of retainers, at least where I was having treatment, so I guess they figured once the laterals were in front, I wouldn't need a retainer.

I do have some crowding of the lower anteriors. If I were doing it now, and I had the profile x-rays and tracings, maybe I'd have taken out four teeth. You know, profile x-rays didn't come out until after World War II. But I think my occlusion is presentable. I look a little toothy, but at 72, I've got 'em all.

Mid-Thirties

Ms. Muriel S., a Chicagoan, was treated in her early teens. Typically, she viewed her braces as a stumbling block to social success.

What was your problem?

Overbite.

Did you have regular braces cemented on the teeth?

Yes, in fact, we also had rubber bands. You had a little hook, and you hooked the band from the top to the bottom. That was for pressure, I presume.

Did you have a headgear?

No. It probably wasn't even invented then.

Did you like your doctor?

Yes.

What instructions did he give you besides wearing your rubber bands?

Keep my teeth clean.

Did your teeth get sore?

At times they would be somewhat "achey."

Was there anything else you'd call unpleasant?

Well, the whole experience was unpleasant. It was something I'd rather I didn't have to do. But children are adaptable. I just figured this was something I had to go through.

Did your family consider it a financial sacrifice?

No. We apparently had the means at that time. My mother was very interested in cosmetic appearances and all the advantages for her children, whatever the price.

Were you dating at the time?

Trying, yes.

Do you feel they held you back?

Yes, I think so. Plus the fact that I was somewhat pimply and ugly.

How long did you wear the braces?

About two years.

Did the teeth stay pretty much in position?

They did. They were beautiful. I have a picture of me in my twenties, and, honestly, it looks almost "Hollywoodish."
Were there a lot of kids in the neighborhood wearing braces?
Only the rich ones!

Rosalie L., her sister, although treated about the same time, has a different attitude about the fee's financial impact.

What kind of problem did you have?
I had a lot of crooked teeth and an overbite.
Did they extract?
No, I don't believe there were extractions at that time.

Did you think that the result was good?
Yes, the result was excellent.

How did you feel about wearing braces? Was it embarrassing?
At that time, yes. Today, it's the "in" thing.

Was it looked on as a luxury in those days?
I think so. After all, we were depression children.

Five hundred dollars was a helluva lot of money.
Do you remember anything unpleasant, like taking impressions?
Yes, I hated that. It made me gag.
Do you remember anything pleasant?
No, nothing was pleasant. What was pleasant about it?

Did you have any pain during treatment?
Not that I can recall.
Were you a good patient?
I was an excellent patient, yes.

Do you remember anything about the doctor?
He was a very nice man, very much in demand.
How do you look back on that time of your life?
I found it really a drudge to go down there on the "L" [elevated train] and all. It was a hassle.

Late Thirties

Dr. Lester K. (a general dentist), who was treated in Brooklyn, tells how his pleas for pain relief went unheeded.

What kind of office did your orthodontist have?
He just had a one-chair office in his house. That was pretty common in the east.

Did he have any office help?
No. He did it all himself. He also did general dentistry.

What was your mouth like?
I had a severe Class II.

About how long did your treatment take?
I was over 16 when I finished, so it must have taken four-and-a-half years.

What do you remember about the appliance?
I had bands on my first molars and cuspids, with upper and lower arch wires.

Then, how did they control the other teeth?
They were tied to the arches with wire ligatures.

How did it feel when the teeth were tied in?
Terrible.

Did it hurt right away or after a while?
Right away.

Did you tell the doctor it hurt?
Of course.

And what did he do?
Nothing! That's the way they treated it. I used to go on Fridays, after school. I'd come home that evening and be in a lot of discomfort. I couldn't do anything. I could hardly eat.

What did your parents do?
What do you mean?

Didn't they give you aspirin, make you some soup . . . ?
Nothing, no special treatment. Then after a few days, the teeth would start feeling better. But then the wires would loosen, and they'd irritate the gums.

Did any of your bands ever come loose?
Not that I was aware of.

Were you told not to eat certain foods?
No.

Did you have candy and the things kids usually eat?
Yes. Of course, they didn't know then that sugar was the cause of decay.

Did he ever tell you that you were doing a good job?
I don't think so. I don't remember getting anything either positive or negative from him. I was a good kid, though. If they told me to do something, I'd do it.

Did you have any friends or relatives with braces?
No, it was a rarity in those days.

Did you feel that the braces interfered with your social life or sports?
Not at all. And I was into athletics up to here.

Was it considered a luxury then?
Of course.

Do you remember what your parents paid?
I think it was $5 a month. The initial fee was $35. And that was big bucks. You could feed a whole family for $5 a week.

Did you get a good result?
Considering the way I was treated, and the kind of case I had, he really got a good result. I went back to see him while I was in dental school, and he gave me my before-and-after models. I took them back to the orthodontic department [at the University of Illinois] and had them critiqued. I think [Dr. John R.] Thompson was there at the time. He said, "No way could he have accomplished that." It was just unbelievable.
Early Forties

Ms. Francine H., treated in Chicago, committed the ultimate act of defiance.

What do you remember about your orthodontist?
I only remember he had a mustache that’s all you see when you’re in the chair — and there were always a couple of hairs that were too long.

Were you reluctant to get your braces put on?
A little. At least I didn’t have them in front where they’d show. But toward the end, I was very rebellious about them.

You felt that they were on long enough?
Actually they weren’t, because my teeth weren’t straight.

Then why were you rebellious?
Because I felt I was too grown up to be wearing braces [15 or 16].

Did you feel that they interfered with your social life?
Yes, I was small for my age, and I felt that all I needed was to have braces in addition to that. I’d really look like a baby.

Did you have discomfort?
When he first tightened them, they were uncomfortable, but not hideously.

What happened at the end of treatment?
The dentist said I’d have to have them on longer, or the teeth wouldn’t stay in place. But I couldn’t stand it any longer, so I took my braces off and sent them back to him.

Conclusions

While the sampling was by no means adequate to support any scientific conclusions, certain tendencies emerged. Other comments are based on my 25 years of clinical experience.

Patients in this study had a more acceptable attitude toward treatment. While they were probably no less put off by the prospect of “getting braced” than are children of today, it was more common in those days to do what one was told.

There is today less stigma attached to the wearing of braces, since orthodontic patients are no longer a rarity. According to one of our participants, “It’s the ‘in’ thing.” Then, too, with today’s more esthetic appliances, patients can no longer be “seen coming a mile away.”

As expected, none of the subjects reported wearing headgear or having teeth extracted. Removal of teeth was frowned upon in the profession until the mid- to late thirties, while headgears did not become fashionable until the early fifties. For tooth movement, orthodontists relied on rubber bands and manipulation of the arch wires. It appears that practitioners of the day made their simple mechanisms do.

Overall, there doesn’t seem to be much difference in the amount of pain experienced. It may be that the intensity of pain was greater then, due to the relative rigidity of the appliances, but of shorter duration. Now, with more resilient arch wires and the use of elastic ligatures, pain is lower in intensity but of longer duration.

Paying for the treatment was more of a burden. This was due not only to hard times, but to the fees in relation to the cost of living. For example, in 1933, you could buy a four-door Plymouth for $575 — about the cost of treatment. Today, the cost of a comparable vehicle ($12,000) is four to five times that of a fully-banded case.

Less effort was made to motivate patients, although several subjects mentioned that tooth brushing was stressed. Nowadays we have pamphlets, patches, posters, decals, “diplomas,” T-shirts, videotapes, contests, ad infinitum, to get our message across. Orthodontists spend hours attending courses in “communication,” and some supply houses subsist entirely on their sales of behavioral-motivation aids.

Although some of the subjects saw themselves as a little toothy, there seems to be general satisfaction with the result. Stability was rated as good, in spite of obvious expansion. When bicuspid extraction came into vogue, faces started looking better, but relapses still occur. We are learning that long-term retention is the only reliable way to prevent re-crowding of anterior teeth.

The reported lack of enamel damage is not in keeping with my experience. De-banded teeth were more prone to exhibit decalcification (“stripes”) than are those (of today) which have had bonded brackets since loose bands more readily trap food debris and go undetected longer. Furthermore, fluoridation has played a big part in rendering the enamel more impervious today. Then, as now, the major trouble spot is the “food trap” of exposed enamel gingival to the attachment.

Today, with bonded metal and clear brackets, and lingual, or “invisible” braces, we have greatly improved the cosmetic aspect of treatment. More refined methods of diagnosis have facilitated treatment planning, while orthognathic surgery has virtually eliminated “untreatable” cases.

As far as patient acceptance is concerned, improvement still needs to be made in the areas of treatment time, hygiene, and the “unnaturalness” of having something attached to the teeth. Modern orthodontic braces are still essentially the same as Angle designed them in 1925.

But, for sure, they taste better.
LETTERS TO THE EDITOR

To the Editor:

In reply to Dr. Geshwind's letter asking for information about Johannes Oberndorferus in the Bulletin of October 1989, I quote from Lindentius Renovatus ... de Scriptis Medicis [with additions by] G.A. Mercklinus, Norimbergae, 1686:

De Febre Ungarica. Francofurti, 1607, in 4.

Without examining these works it is not possible to know if one contains the passages to which Dr. Geshwind refers, but it may well be the third on the list. This is of some interest since it appears from the title to refer to a dispute with Martinus Rulandus (1569-1611) who wrote two works on The Golden Tooth in 1595 and 1597. Rulandus continued the dispute in Alexicacus Chymiatricus . . . atque calumniis atrociissimis Johannis Oberndorferi . . . Francofurti, 1611.

Sincerely,
R.A. Cohen, MA, FFD
Leamington Spa,
Warwickshire

To the Editor:

I wish to commend Dr. Over on his article “The History of Maxillofacial Prosthetics” which appeared in the October, 1989, issue of the Bulletin. It is a fine, short, synopsis of this exciting field's history.

However, I would like to correct an error which is unfortunately widely held. He states that Ambrose Pare “... is considered the first to use a metallic obturator to close palatal perforations.”

This distinction is held by the Portuguese-Jewish surgeon, Amatus Lusitanus, who devised the first metal obturator some 30 years before Pare. Lusitanus, who fled his native Portugal because of the Inquisition, settled in Holland, where he practiced his craft. In 1564 he published a work on surgery in which he discussed the case of a Greek who had a large perforation of the palate which prevented him, in large measure, from eating. Lusitanus fashioned for him a convexly curved sheet of gold, somewhat larger than the palatal opening, and to the upper surface he soldered a gold nail, bent back upon itself. The nail carried a sponge which was introduced through the defect and, by absorbing nasal secretions and swelling, retained the gold palatal plate in position. Pare improved upon Lusitanus' design by changing the nail to a more functional clip.

These facts were published by the Portuguese dental historian, Dr. Jose de Paiva Boleo, in his booklet Amatus Lusitanus, the Inventor of the Palatine Obturator (in Estudos Castelo Branco, published by Grafica de San Jose, 1968). As in so many controversies in dentistry over priority of discovery, wherever it is possible, it is important that credit be given where credit is due.

Sincerely,
Malvin E. Ring, DDS
Rochester, New York

Author's Reply:

To the Editor:

I would like to express my thanks to Dr. Malvin Ring for taking the time to ensure that proper credit be given to Amatus Lusitanus as the inventor of the metallic obturator.

Dr. Ring has gained worldwide respect for his contributions to our history. His letter is greatly appreciated.

Sincerely,
Larry M. Over, DMD
Maxillofacial Prosthodontic Resident
Indiana University
School of Dentistry

To the Editor:

Thanks to Dr. Jack C. Weinrich of Greensfield, OH, we have been able to complete two sets of the Bulletin—one for our Editor and another for a library.

Sincerely,
Aletha Kowitz
Secretary-Treasurer, AAHD

To the Editor:

I am the Editor of Profile of the Negro in American Dentistry, and am working on a second book, Texas' Black Dental Professionals, 1890-1990, A Century of Service. I have a wealth of material but would like more information on Texas dentists who practiced prior to 1905. Anyone having information on dentists of that era or their descendants is requested to contact me.

Sincerely,
Foster Kidd, DDS
P.O. Box 15763
1420 Forest Avenue
Dallas, Texas 75215

In my last article (see Bulletin, April, 1989) I said that I would search Enrico Caruso's biography for evidence of his own special cure for a toothache, vanilla ice cream. That had been suggested to me by an acquaintance who was a Caruso scholar. I searched but didn't find. If anyone would know, it would have been his wife, Dorothy. She listed at least 25 of his greatest appetites (not necessarily foods) and vanilla ice cream was one. Throughout his career he lived extremely well, luxuriously, generously, and died in 1921, age 48. Instead of a "cure," however, my search was rewarded by the following treatment for his headaches, as related by his wife.

"I didn't like Dr. H. I had seen him give Enrico ridiculous treatments the year before for his headaches. These treatments consisted in laying him on a metal table, placing zinc plates on his stomach and sandbags on top of them. An electric current was then passed through the plates, and the spasmodic jerking of the bags was supposed to produce a super massage which would break up fat and cure his headaches. Next he was put in an electric cabinet and dehydrated. When it was all over he weighed several pounds less — which he regained, as soon as he got home, by drinking quarts of water. Of course his headaches continued. Since I couldn't prevent him from going to this doctor I didn't speak of my skepticism or protest when, one raw November day, he went again to Dr. H. to receive the same treatment for a cold in the chest that he had been given for a pain in the head." That ought to demonstrate to us the madness of the absurd and the too frequent gullibility of artists as patients, even though one would like to think a man of such exquisite tastes for living as Caruso should have known better. It was disclosed some years later, after Caruso's death, that Dr. H. was Philip Horowitz, MD.

Eating well has been one of life's great pleasures and it's rare that I spend a day without at least one fine setting or, as a substitute, indulge several excellent small tastings. No longer will I tolerate the abominable concoctions doled out by either restaurant cooks or home cooks, and this abstention has endured for at least two decades. Instead of consecrating a kitchen, too many desecrate it. I must have taken an oath years ago after a disaster of some magnitude, when suffering turned to snarling. I still feel as though I'm daring my life when driving on our highways and am forced by hunger to eat in unknown places. It's like being afraid of the dark, hearing a noise, and asking in a fake-firm voice, "Who cooks there?" I often read recipes in newspapers, occasionally in books, and get tips from TV chefs, many supplying me with high moments of sensuous glory. But the following recipe proposed a different intention, composed by Edda Servi Machlin in The Classic Cuisine of the Italian Jews.

PAPPA COLLAGLIO E L'OLIO
Garlic Bread Soup

"When dentistry was not as advanced as it is today, and oral hygiene was practiced only by the upper
classes, it was not unusual to see still young people with only a few teeth left in their mouths. Pappa, a pap made of cooked, soaked bread, and farinata, a cream soup base, were conceived to replace solid foods. Cheese or egg was added for protein. Of course many people who had few problems with their teeth developed a taste for pappa. My uncle Aldo, my father's older brother, had all his teeth; but every morning before starting his busy work day as a successful architect, he would spend a couple of hours in his garden; then, for breakfast, he would eat a big dish of Pappa coll'Aglio e l'Olio.

\[
\begin{align*}
Pappa & \quad \text{coll'Aglio e l'Olio.} \\
& \quad \frac{1}{2} \text{ pound Tuscan bread or, in place of it, any homestyle bread, stale} \\
& \quad 4 \text{ cups cold water} \\
& \quad 1 \text{ teaspoon salt if Tuscan bread is used; } \frac{1}{2} \text{ teaspoon for other bread} \\
& \quad 3 \text{ large cloves garlic, lightly crushed} \\
& \quad 4 \text{ tablespoons olive oil} \\
& \quad 6 \text{ heaping tablespoons grated pecorino cheese}
\end{align*}
\]

"In a 2-quart enameled saucepan, soak bread in 4 cups cold water for 10 minutes or until bread is soft and swollen. Add salt and garlic; place over high heat and bring to boil. Cook rapidly for 3 to 4 minutes, uncovered. Discard garlic and spoon out any water not absorbed. Add oil, mix well, and serve topped with cheese. Serves 6. Note: Omit the cheese if you wish to serve pappa with a meat meal."

What could be easier to make? In place of distant Tuscany's offering, any crusty loaf could substitute.

If anyone in the performing arts has ever lived more fully and lavishly, including romantic liaisons by the score, who could it be among his contemporaries? I am speaking of Arthur Rubinstein. He left Poland at the age of 12 to study piano in Berlin. France came after-in a hurry, and we left, happy to breathe fresh air and sleep during what seemed the longest half hour of my life. Then, with their tiny steps, they disappeared and emerged again with some dishes and chopsticks. Nela learned very cleverly to use these damned things, but I could never master them. A geisha was kneeling close to each one of us, giving us a better look at her teeth, and then tried to help us with the food. Now things began to irritate me seriously. My own geisha, seeing that I was not very interested in the food or gifted in handling chopsticks, became cheeky. She picked up pieces of some indescribable something with my chopsticks and actually tried to put them into my mouth by force. I could not endure that; she was treated to an angry look and a not too tender slap on her chopsticked hand. Strok saw the light, paid the bill in a hurry, and we left, happy to breathe fresh air and forget those teeth."

Louis Moreau Gottschalk (1829-1869), born in New Orleans, a piano prodigy discovered at the age of three, studied piano in Paris. He became a famous virtuoso, acclaimed as the "American Liszt" when he toured Europe for several years before returning to America. He was a flamboyant figure on stage and was very popular with audiences. He returned to the States to begin his concert career in 1854. While in Paris he also began to compose music; some of his piano pieces are available today. Among his acquaintances were Chopin and Berlioz. He was the first famous American pianist and the first native composer to incorporate nationalist.
themes in his music. Maybe his most lasting fame will rest on the diary that he began in 1857 and continued until his death in Rio de Janeiro in 1869. This is part of his introduction to it, indicating the surprising quality of the writing ahead.

"The recollections of my travels have often supported me in the ennui and fatigue of my wandering life. In writing about the present I often forgot the bitterness of the past, and when, on the contrary, the present became wearisome, I plunged into happy memories of the times that are no more, and I reawakened its charming emotions. These poor leaves have received my joy, my griefs, and my pains for the long time that I have whirled in that monotonous and agitated circle that is called concert life. May the reader lend to them a little charm when it is wanting, and when he shall find too flagrant proofs of awkwardness in my pen, let him remember that I was but a musician, and only a pianist!"

This is the entry of dental interest which he wrote while on tour in Alexandria, Virginia, in April, 1863.

"For fifteen months my existence has been that of a carpetbag. I certainly would become brutalized by this daily routine of railroad travel and of concerts if I had not set myself to work to find some possible way to combat the weariness and perils of the road, which threaten my intelligence. I have tried sleep, and have slept a great deal, but one cannot always sleep. Soon perceived that my temper was becoming soured by being, in the midst of a delicious dream, awakened with a start by the conductor striking me on the shoulder and decisively calling out, 'Tickets, please.'"

"I had to try some other means. I had read somewhere that the Arab of the desert, to appease his thirst, puts small pebbles into his mouth — the salivary glands, irritated by the foreign contact, dilate, and in feeling his mouth moistened, the poor traveler deludes himself into thinking that he has drunk (a German would not fail to call it a confusion between the objective and subjective). Here was a ray of light. Why, said to myself, should not try this means, and, by transferring the 'hydro-lithic' process of the Arab from the physical to the moral order of things, obtain a similar result? And I commenced writing notes of my travels. Such is the monotony of my travels that soon understood that what I wrote was much less the reflection of my surroundings than the expression of what took place within myself. But as that notion moistened my brain, constantly menaced with petrification, I did like the Arab, I accepted a saliv — salutary illusion by which I could traverse, without succumbing, the Sahara of concerts through which I have whirled for more than two years.

"I am fond of my notebooks (I was about to say my pebbles); they never leave me. They are like an intimate companion for me, a mute confidant who has an immense advantage over all the railroad friends I ever have met, that of hearing me without being obliged to strain my voice over the sharp summits of the highest note, as it listens to me and never interrupts me. It is discreet (of what friends could as much be said?) to the extent that, had you under your eyes the ten or twelve notebooks that I have filled from the Mississippi to the St. Lawrence, and from New York to the Mormon Desert, they would take great care to prevent you from discovering anything other than undecipherable hieroglyphics; every one of their pages looks like the side of an obelisk. The jolts of the road and the haste with which I write assist, it is true, marvelously in making them discreet. There are steeples, spirals, lozenges, rockets — what should I say? — but of writing, none. One sees in them everything and nothing, like flying clouds chased by the wind, in which everyone, as he fancies, sees a house, or a man on horseback, or a chain of mountains.

"Decidedly, I think that my notebooks would gain greatly by being translated into the vulgar language. Imagination might see in them charming things, which some readers, alas, will search for in vain at the end of my pen. I am only a pianist, do not forget it, and an American, which more than excuses me for my bungling style and awkward language."

This diary, originally printed by Knopf in 1964, now reprinted by Da Capo, is one of the finest diaries of its kind of that period. His comments on America and Americans engaged him in history as well as music. Although a Southerner, his sympathies were with the North during the Civil War. It is somewhat strange that Gottschalk remains one of the lesser known figures in American music to this day.

REFERENCES
Executive Committee meeting at 6:30 A.M.

Dr. Bert Hayashi, ADA Trustee and Dr. Frank Orland

Presidents past, future and present: Jack Gottschalk, Wilma Motley and Joseph Salcetti.

Dr. Robert K. Kuribayashi of Hawaii presenting orchids to President-Elect Wilma Motley.

Coffee break.
The Thirty-Eighth Annual Meeting:
Honolulu, Hawaii—November 2, 1989

Photographs courtesy of Drs. Carter, Chohayeb, Moriyama, Orland and Ms. Bresler

President Joseph Salcetti and Dr. Aida Chohayeb.

Mrs. Mary Faubion receiving Hayden-Harris Award from President-elect Wilma Motley.
APPLICATION FOR MEMBERSHIP
American Academy of the History of Dentistry
Dr. J. Leon Williams and the efforts to secure better artificial teeth

Jerry J. Herschfeld, DDS

The specialty of prosthetic dentistry is not a static science. Many of its aspects are highly controversial and new discoveries and inventions are forever changing the field so rapidly that an acceptable technique today may be obsolete tomorrow. Today's dentists have at their fingertips many types of teeth made for different purposes. They are fabricated to match every form and shade found in the human mouth. Millions of denture teeth are used annually. Mass production has reduced costs, while quality and dependability are constantly being enhanced. Pioneers such as Claudius Ash and S.S. White contributed greatly toward perfecting artificial teeth. Most of those competing in their manufacture had their own idea of what adequate tooth form was. Even after G.V. Black published a definitive text on dental anatomy in 1895, the selection and availability of artificial teeth remained disorganized. Some advocated that tooth selection be based on the temperamental system, such as the nervous, bilious and sanguine; remnants from the humoral theory which had confused the medical profession for hundreds of years. It was not until 1911 that order was established with the publishing of a description of the three divisions in tooth form as they occur in the human mouth. The observer of this phenomena was Dr. J. Leon Williams, and it was the adoption of his classification by the different manufacturers that established the selection of artificial teeth on a scientific basis.

James Leon Williams was born on April 21, 1852, near Solon, Maine. After relocating to North Vassalboro, Williams, now age 17, began working in the drugstore of Dr. E.J. Roberts, a prominent dentist. Williams soon began a dental apprenticeship, followed two years later by independent practice. In 1875 he joined the Maine Dental Society and began scientific studies in microscopy which led to the publication, in 1882, of "Studies in Histo-Genesis of the Teeth and Contiguous Parts." While this study was at odds with the teachings of the recognized leaders of the professions, and brought with it an ongoing battle with the supporters of the current ideas of histology, it nevertheless marked the beginning of a scientific reputation that would continue to grow greater and greater.

Handicapped by poor health, Williams moved to New York in 1882 to become associated with the dental firm of Sheffield, Richmond, and Sheffield, proponents of the most modern bridgework of the day. Continued poor health forced him to relocate to Philadelphia and three years later enter a sanitarium in the Alps. A side trip to London brought with it an improvement in his health so Williams relocated there and opened an office on exclusive Harley Street. There he enjoyed a practice with a distinguished clientele, in the course of which he constructed many prosthetic restorations. He became most dissatisfied with the esthetic qualities of the artificial teeth then available and...
in 1905 made a powerful appeal to manufacturers for better teeth. He led a one man campaign which, after years of discouragements, finally yielded results. He returned to the United States in 1910 and in July of that year, presented a powerful appeal before the National Dental Association.

Williams, among others, was now commissioned by the Dentists' Supply Company to undertake a comprehensive research program. In November, 1911, Dr. Williams made a discovery, which when put into practical application in 1914, virtually revolutionized the practice of prosthetic dentistry. He discovered that three types of maxillary incisor teeth have been common to all races of men, and that in living persons the effect is most pleasing when the form of teeth is like the outline form of the face when seen full front in repose. These findings were verified by leading anthropologists and created a marked advancement in the esthetic value of artificial dentures. His principles and his tooth forms are now standard throughout the world.

Many honors were accorded Dr. Williams during his life. In his later years he became a lecturer and writer on the progress of man from his early beginnings to the present. He died from heart failure on February 23, 1932.

Dr. Williams was one of the giants who helped to establish some of the very foundations upon which the profession of dentistry is built. He single-handedly conceived a system of comparatively few, carefully selected, interrelated tooth forms in graded sizes; aroused the profession to express effective interest in such forms; discovered the types of natural teeth and reproduced them in porcelain teeth; discovered and made practical a law of harmony between tooth forms and face forms; and lastly, presented to the profession such a mass of scientific evidence in support of his discoveries as to sweep away the old and unscientific theories and forms and to secure for the theories and forms he offered world wide acceptance as the standards of good denture technique! It is to the pioneers like Dr. Williams, men whose views often differed among themselves, whose objectives were not always seen as being clear and distinct, who more often than not had to battle alone against the barriers of ignorance and indifference, that the profession owes its greatest debt of gratitude. The benefits these men have given and will continue to give, will raise the profession of dentistry to even greater heights. The following selection is from "The esthetics and anatomical basis of dental prosthesis," Dental Cosmos, 1911, 53:

The anatomical basis

I have occupied some considerable time in making what I feel has been an inadequate presentation of the esthetic side of our subject, but I am quite sure it will be supplemented and greatly strengthened by the contributions of those who are here to discuss the paper. I must now pass to a brief consideration of the other phases of my theme. The anatomical basis of dental prosthesis is of course in many ways intimately related to the esthetic basis. If a set of artificial teeth is anatomically correct and they are placed in the correct anatomical position, they will be harmonious in all their relations. The esthetic effect will be pleasing and satisfactory. (I have observed that it has become the fashion in recent years to use the term "cosmetic" where I use the word "esthetic." I do not know who introduced this term, but I am afraid that my sense of justice and fair play will not allow me to fall in with this custom. I think it is unfair to the barber and the perfumer to filch from them a term which they have made peculiarly their own.)

In my efforts to discover what the anatomical basis should be for any given case of dental prosthesis, I invented some years ago a form of craniometer. I think the most original feature of this instrument is the hinged bar for showing facial or shape inclination. It also differs from some of the best craniometers in being applicable to the skull and also to the living head. Four important measurements are read simultaneously with this instrument — the distance from the external meatus to the depression in the maxilla above the central incisors, the width of the skull between the ears, the inclination of the face, which is recorded in degrees on the segment of a circle, and, by means of a tape fastened to the bar which enters the ear opening, the distance over the top of the skull from one ear to the other. Several things of importance to dental prosthesis have resulted from the use of this instrument. First, it is found that in all normal dentures, with rare exceptions, the general facial angle gives the inclination of the upper incisors. I will show you several photographs made from skulls of a great range of races, and also from living heads, and you will observe that a line drawn from the most prominent point on the forehead to the tip of the chin is exactly parallel to the long axis of the central incisors. This you will see is a fact of first-rate importance in establishing the inclination of the teeth, for this inclination of the incisors is a faulty feature in most artificial dentures.

A suitable instrument for this use can be made very quickly, for any given case, from a piece of stiff cardboard. All articulators should have a hinged lever or indicator on the front, regulated by a set-screw, so that when the position of the central incisors is once determined, this indicator may be fixed in position. The incisors can then be removed for grinding or for any
other purpose. The position of the incisors thus determines the position of every other tooth in the mouth.

I have also discovered — at least it is a discovery as far as I am aware — that the shape of the maxillary arch has for its special correlation not the length and width of the skull as a whole — although it is, of course, to some extent correlated with the skull — but the zygomatic arches. Brachycephalic skulls do not necessarily have wide, round maxillary arches, nor do dolichocephalic skulls always have long, narrow arches, but exceptions are very rare, so far as my observations extend, to the rule that the width and length of the maxillary arch follow closely the width and length of the zygomatic arches. And, furthermore, the direction of the curve formed by the buccal surfaces of the teeth follows almost exactly, in the great majority of cases, the curve of the zygomatic arches.

I shall show you photographs of skulls from a great range of races as wide apart as the Patagonians and Fuegians are from the modern European, and also a few very ancient skulls, illustrating this point. If you think for a moment, is not this correlation exactly what you would expect when you consider the attachments and actions of the great muscles of mastication, more especially the working of the temporal and masseter muscles?

There is no doubt whatever in my mind but what the vigorous action of these muscles in childhood tends to produce wide zygomatic and maxillary arches. This may be of more interest to the orthodontist than to the prosthodontist, but the presence of wide zygomatic arches indicates the form of the curve of the incisors; and this is an important factor in the arrangement of artificial teeth. The fault most frequently observed in this connection is the arrangement of the incisors in artificial dentures in too wide a curve, in cases where the zygomatic arches slope forward rather markedly toward the nose. This gives a particularly artificial and unpleasant expression to the mouth.

The shape and length of the teeth correspond in a general way to the shape and length of the face, but the law I have already mentioned makes it difficult to formulate any fixed rule for the selection of teeth for any given face. Here, in illustration is a photograph showing three skulls of markedly different shapes with but little variation in the shape and size of the teeth. I cannot remember ever to have seen markedly long teeth in a round face, but one not infrequently sees rather square or slightly oval-shaped teeth in long faces. I am constantly studying and taking measurements in the hope of discovering some correlation that will serve as a guide in this matter.

I hope some of the gentlemen who are to follow me will have observations of value to make on this point. I have noticed one peculiarity in the arrangement of the natural teeth that is very constant. Where the upper part of the face is very wide and the lower part narrow, sloping to a delicate, pointed chin, there is more or less overlapping of the points of the upper central incisors. This type of face usually indicates a sensitive, delicate nature, and the teeth are generally of a beautiful egg-shaped oval. I am engaged, in addition to my other work in this field, in the preparation of what we may call an atlas of faces, showing typical forms of teeth. These faces will be arranged in classes according to the types of teeth, and models of the teeth, presented in two aspects, will be shown beside each face. Such an atlas should be of great assistance in the selection of artificial teeth.

In the very notable series of articles which Professor Gysi of Zurich has contributed to the Cosmos, he has shown the anatomical and mechanical bases of dental prosthesis to be so intimately associated as to be impossible of separation. His paper is such a thoroughly scientific and exhaustive presentation of this phase of my theme that it hardly seems necessary for me to dwell at any considerable length on details. Aside from his demonstration of the value of his articulator, the practical point of special value which Dr. Gysi has brought out and proved with great clearness and scientific exactitude is the relationship between the condyle path and rotation points and the angles of the masticating surfaces of the teeth. For the first time he has put the whole subject on a thoroughly scientific basis and I cannot see how it is possible for self-respecting dentists to longer ignore anatomical articulation in dental prosthesis. But Dr. Gysi in his own practice can only imperfectly apply the results of his own investigations, and such results as he is able to obtain are only secured by much tedious grinding of porcelain! In the series of articles to which I have referred, he says: "As no artificial molars with the proper compensating cuspal surfaces are manufactured, we are compelled to shape the molars properly by grinding them." The new system of teeth will save all that, for the method I have discovered of articulating the plaster models from which the teeth will be made accomplishes perfectly the work which is now only to be approximated by long wearisome grinding. I say that the results which you will be able to obtain with the new teeth with little or no grinding can now only be approximated by much grinding, because there are few artificial molars made today that contain sufficient material to give the opportunity for grinding. The iron of this grinding business must have entered into many a man's soul, if I may judge from some of the letters I have received since I have been engaged in this work.
I will read you just one short letter, which is typical of many:

Dear Doctor—Don't say that my grinding days will soon be over and my fingers will no longer be sore—the news seems too good to be true! I have gone down the line from the old hinge articulator to the Snow articulator and face bow, and I have ground all the way. I have been down on my knees time and time again in prayer for a better tooth, one more like the Master constructed, and at last I believe you are going to give it to us. Keep after them—don't let up for a minute! As we say over here, give them the rush act and don't let them think until they have the teeth of the market. I want to say you have or will have done a great work when these goods are produced. Your effort should appeal to every man who wants to reach a higher standard.

With best wishes for your undertaking.

That the sort of experience graphically portrayed in that brief letter should have gone on year after year throughout our profession without any concerted effort to do away with the necessity for it is surely an astounding thing.

A few earnest workers in the profession have been trying to get a natural, anatomical articulation of artificial teeth which are made from models that have never been set up and articulated in any scientific manner. And that is another astounding fact. We, as a profession, like to think that we have artistic proclivities and accomplishments in our work. We also like to think that we are cultivating a scientific attitude of mind toward all professional questions. But I am going to say to you that in this field of prosthetic dentistry we, as a profession, stand without sufficient rags of accomplishment to cover our scientific and artistic nakedness. In the making of that which constitutes the foundation of dental prosthesis, the porcelain teeth, hardly a single scientific principle has been brought to bear on the work with reference to their efficiency in the mouth. And as to that other equally important aspect—well, they may, perhaps, be considered cosmetic, may properly be ranked with puffs, powders and perfumery, but esthetic, artistic, they certainly are not.

Let us rise up now and join hands and do away with this condition of things. Let us have the raw material for scientific and artistic work. Let us have something that will be a credit to the profession, and then we can demand from the public that recognition for our work that is due to all valuable scientific and artistic productions.

The Arabian physician Albucasis (1050-1122) was the first author to consider the formation of dental calculus, and to describe and illustrate instruments for removing it. He recommended a thorough cleaning of the teeth with a set of 14 scalers which he invented.

In the middle of the sixteenth century, Francisco Martínez of Spain published a book which included illustrations of instruments for removing deposits from the teeth.

In 1728, Pierre Fauchard, of France, published his classic work, “The Surgeon Dentist,” which contains among other things, descriptions and illustrations of scalers for cleaning teeth. Fauchard recommends five kinds of instruments for cleaning teeth. They are (1) a rebbet chisel, which was similar to the tool used by cabinet makers and carpenters for making mortises; (2) a parrot’s bill, curved at its point like the upper part of the beak of this bird, from which it derives its name; (3) a graver with three faces, which was similar to certain scrapers used by engravers; (4) a small knife with convex blade; and (5) a Z-shaped hook. Fauchard further states that these instruments are “sharp and are used like files or rasps. They suffice me for the removal of tartar from any place where it sticks. As most of the instruments used for cleaning the teeth seem to me very unsuitable and even clumsy, I have been obliged to invent others which are very simple and to reshape certain others which are in common use.”

John Skinner, in discussing scurvy, on page 15 of his “A Treatise on The Teeth,” published in 1801, which is the first book on dentistry to be published in America, states that “tartar must be judiciously and thoroughly removed...”

John Hunter of London, on page 124 of the third edition of his “The Natural History Of The Human Teeth,” published in 1803, states that “all acids, gritty powders, and injudicious methods of scaling the teeth, are prejudicial: but simply scaling the teeth, that is, clearing them of the stony concretions which frequently collect around their necks, while nothing is scraped off but the adventitious substance, is proper and useful.”

The American, Levi S. Parmly, on page 123 of his “A Practical Guide To The Management Of The Teeth,” published in 1819, states that “The first and simplest operation on the teeth is the removal of tartar, termed scaling. The instruments for this purpose are made of various forms, and so constructed as to be applied easily to the different parts of the teeth. It is an operation which is not attended with pain; and, for its utility, we may refer to the observations already made on the accumulation of tartar, as one cause of disease. In employing the instruments, I can with confidence say, I have...”

Fig. 1. Pierre Fauchard’s instruments for removing tartar, 1728.
never found a patient complain of the slightest pain, nor even perceive the smallest scratch on the enamel, after the tartar had been removed. This is prevented from the lightness of hand with which the instrument is conducted over the surface of the teeth; a dexterity acquired only by practice and experience.

James Snell, of London, in his "A Practical Guide To Operations On The Teeth," published in 1832, devoted a fifteen page chapter to scaling the teeth. On page 180, Snell said that "The operation termed scaling is performed for the purpose of removing from the teeth a substance very improperly denominated tartar." On page 182, he further states that "The operation of scaling is one of great antiquity, being noticed by the earliest authors." On page 183, Snell says that "The instruments sold in the shops as scaling instruments are without doubt the most awkward things for the purpose that can be conceived." To do a good job of scaling, Snell states that "the operator must possess suitable instruments, a light hand, a good eye and a certain mechanical tact in the use of the instruments that can be acquired only by practice." Snell describes and illustrates a set of six scalers which he recommends. He further describes in detail his technique of scaling. For anterior teeth, he recommended a diamond- or spear-pointed instrument which is turned up slightly at the tip. He states that the instrument should be constructed of the best steel and be designed like a scraper, not like knife. He says when one uses this instrument the cutting edge of the scaler should go between the "edge of the gum and the under surface of the tartar." When utilized in this manner, the tartar will sometimes "fly off in scales with the slightest pressure," which accounts for the term scaling. For the linguai of the anterior teeth, he recommends a pair of instruments, right and left, similar to that used for the anterior teeth, but considerably smaller and turned up at the tip. For the interproximals, he suggests a thin flat instrument. For the linguai of the molars, he advises the use of a broader instrument, right and left, with cutting edge on only one side. On page 187, Snell states that he believes using a different instrument for the right and left side is a "new method" and "I lay claim to the invention."

Fig. 2. James Snell's scalers, 1832.

Chapin A. Harris, co-founder of The Baltimore College Of Dental Surgery, in his "The Dental Art," published in 1839, devotes an entire chapter to Tartar, Or Salivary Calculus — Its Effects — Removal. On pages 227-228, Harris states that "For the removal of calculus from the teeth, a variety of instruments are necessary, which should be so constructed that they may be easily applied to all of the teeth to which this substance adheres. Those that are put up in small boxes and sold in the shops are but ill suited for the purpose. Those used by experienced practitioners are so very similar in their character, and so well known, that we do not deem it necessary to point out the minute differences of their construction, or even to give a general description of the instruments themselves. Every dentist should have a sufficient variety of them to enable him to perform the operation in the most perfect manner, and with the least possible inconvenience to the patient. The adhesion of tartar to the teeth is sometimes so strong that considerable force is required for its removal, even when the sharpest and best tempered instruments are employed. But ordinarily, not much, if properly applied, is requisite. Considerable tact, however, is always necessary to perform the operation in a skillful manner; more than most persons, from its simpleness, imagine. This skill can be acquired only by practice. Calculus may be taken from the outer and inner surfaces of the teeth without much difficulty, but the removing of it from between them is more troublesome, and can be effected by means of very thin, sharp pointed instruments."

In the "Anatomy, Physiology and Pathology Of The Human Teeth," by Paul B. Goddard, of Pennsylvania, 1844, we see illustrated, with a caption, a set of eleven "scaling instruments of various forms, to suit all the irregular cavities about the teeth. These instruments are used solely for removing tartar which accumulates about the teeth." These were made specifically for the dentist by an instrument maker.

Chevalier's 1858 Dental Catalogue advertises scaling instruments with ivory handles for eighty-eight cents each.

Jonathan Taft, of Ohio, on pages 22-24 of his "Operative Dentistry," 1859, discusses removal of calculus or tartar. He says its removal is "an operation that does not involve a great amount of skill, but, with suitable appliances, is easily performed." He describes two methods: (1) scaling and scraping, and (2) application of an acid. Taft preferred the former. Taft describes and illustrates what he considers the six most common scalers. He says that "The blade of the instrument should be applied at a slightly obtuse angle with the surface of the tooth, just beyond the edge of the deposit next to the gum, and thus slid under the tartar, scaling it off to the point, in such a manner as not to
Both the 1867 and 1876 S. S. White Dental Catalogues advertised commercially manufactured large and small scalers.

According to James E. Dexter in his “History Of Dental And Oral Science In America,” 1876, page 114, the difference between the first scalers and those used in 1876 was primarily the size. The older ones were bulkier, with large handles. Newly designed scalers were used along with the shapes of nearly all the old scalers. Dexter, on page 115, states that “The scalers were originally of very much more importance than they are now, and bore a much larger numerical proportion to the cutters. It must be remembered that cutting was at first only little attempted, at least in comparison with modern practice.” In 1876, it was not uncommon to see sets of scalers containing six to ten instruments.

On pages 285-292 of “The American System Of Dentistry,” edited by Wilbur F. Litch, 1887, A. W. Harlan discusses the instruments and techniques necessary to remove calculus. He states that “The instruments formerly in use were too clumsy, and most of them necessitated a pulling motion. In recent years these instruments have been superseded by those of smaller calibre for the pulling motion, and thin flat spring-tempered instruments requiring the pushing movement to detach deposits.” He further states that “While it is undoubtedly true that tartar may be removed from the teeth with large chisels and scalers, or even with excavators if sufficient time is given to the performance of the operation, still it is always at the expense of great laceration of the gums, the production of much pain, and the mental determination of the patient to not submit to such a dreadful ordeal in the future.”

Dentists invented sets of scalers, many of them commercially manufactured and containing over a dozen instruments. The instruments mentioned in this chapter were devised by nine different dentists. Harlan says that “the dentist who cannot find the proper instruments in the above sets must devise his own favorite scaler.”

From the late 19th into the early 20th century, the number of scalers increased with the increased treatment of periodontal disease. A dental catalogue of 1901 advertised a set of more than 60 scalers (several for each tooth surface).

In the 1920s, there was a large selection of scalers and periodontal instruments available from dental supply houses and in the 1930s dentists often had one or two drawers of instruments of this type. However, by the 1950s, new instruments and those which were universal in design were used and as a result dentists required fewer.

Officers of the American Academy of the History of Dentistry pictured at the 38th Annual Meeting in Honolulu, Hawaii. From left: Dr. Errol Reese, vice-president; Dr. Hannelore T. Locoy, editor; Dr. Joseph Salcetti, immediate past president; Mrs. Wilma Motley, president; Dr. Jack Gottschalk, past president; Miss Aletha Kowitz, secretary-treasurer; and Dr. Ben Z. Swanson, Jr., historian.
INSTRUCTIONS TO AUTHORS

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FORMAT:
The manuscripts must be submitted in triplicate (including photographs). They must be typewritten, double-spaced on 8½ x 11 inch bond paper, with double-spaced footnotes and references. Top, bottom and side margins should be at least one inch wide and all paragraphs should be indented. Multiple typefaces or bold face type should not be used in any part of the manuscript. Authors should retain copies of all materials submitted.

ABSTRACTS
The second page should contain an abstract of no more than 200 words. This abstract should be factual and summarize the reason(s) for the study, the main findings and the principal conclusions.

ABBREVIATIONS
If other than regular English abbreviations are used they must be defined with first use: i.e., American College of Dentists (ACD).

REFERENCES
References are listed at the end of the paper, typed double spaced and numbered alphabetically by the last name of the first author. The style of references to be used is that of the INDEX MEDICUS. When citing a reference in the text, follow these examples: Smith and Jones (1980) found... or Smith et al. (1980) found... Use et al. (underlined) when the work cited is by three or more authors. When the cited work is by two authors, both surnames separated by "and" not "&". List all authors if there are five or fewer; when six or more, list the first three, followed by et al. In general, abstracts, internal reports or other incomplete or inaccessible materials are not acceptable references. Private communications should be used sparingly.

Sample references follow:
Journal Articles:

Books:

Chapters in Books:
The two Martin Rulands

Max Geshwind, DDS

Martín Ruland is a familiar name to students of the history of dentistry as the author of one of the “Golden Tooth” books: Ruland Martini, Nova et in omnia inaudita de aureo dente qui nuper in Silesia pueru eudam septimii sucrevisse magna omnium admiratone amnemavesus est et eiusdem de eodum Judicium, Francofurti apud Pelhum Kopffium, 1595. Translated loosely as: “New and within memory of man the unheard of history of a golden tooth that recently erupted in a seven year old Silesian boy, which is a wonderous observation in my judgement.”

Another equally, if not more, famous book of the same event was published by a famous professor of medicine at the Julius University at Helmstedt, Jacob Horst (1537-1600), by the title of: De aureo dente maxillari pueri silesii, primum, utrum eius generatio naturalis suerit, nec ne; Diende an dignus eius interpretatio dari queat et de notactubalorum natura, differentiis et causis, eorumque tam praeservation quam etiam curativa, denuo auctus libert. Lipsae, 1595, Impresis Valentini Vaegelini Biphop.” Both Horst and Ruland interpreted this wonderous appearance of a golden tooth in the mouth of this seven year old Silesian boy as a sign and omen of great historical significance and foreboding. Their astrological explanation and interpretation may seem ridiculous and naive in light of our knowledge of dentistry and the teeth, but considering their times it was not unusual for such interpretation based upon the Paracelsian heritage of alchemy, astrology, and magic.

The author of the golden tooth book was Martín Ruland, filii (the son), (1569-1611). He was of the iatrochemical school of medicine and a follower of Paracelsus (1493-1541), practiced the alchemical arts, concocted chemical nostrums, and was guided by astrology. His father, Martín Ruland, patrii, (1532-1601), was a more conventional and conservative physician and author. His book, “Curationum,” went through numerous editions. The National Library of Medicine has at least seven editions of it, according to Durling’s bibliography of their sixteenth century books. Also listed by the senior Martín Ruland are books on balneology, scarification, phlebotomy, cupping and the water cure. In all, sixteen editions (3992-4008) of Martín Ruland, patrii, are listed in the NLM collection. The 1593 & 1595 editions of Curationum mention Martín Ruland, filii, as the editor of the revised editions.

Durling lists only two books for Martín Ruland, filii. The first, (4009), a 1600 edition on the Hungarian disease (typhus). The second, (4010), is the answer to J. Ingolsteter’s criticism of Ruland’s book of 1595 on the golden tooth. Ingolsteter said that in his opinion the golden tooth is not natural and therefore a fraud and a hoax. The title of Ruland’s answer to Ingolsteter is: Demonstratio juditi de dente aureo pueri Silesii: adversus Respansionem M. Johannes Ingolsteterti Norimbergensis, Francofurti, Ayd Johannes Saurium, impensis Cornelii Sutorii, 1597 (Durling 4010).

This was in response to Ingolsteter’s: De aureo dente Silesii pueri responsio et judicium M. Rulandi, Leipzig, 1596. Ingolsteter also disputed Horst’s golden tooth book of 1595 in: De natura occultorum et prodigiosorum dissertatio ad Jacobum Horstium qua responditur ipsius libello de aureo qui putabatur dente, Lipsae, apid eundem, 1597 & 1598.
Duncan Liddel (1561-1613), a Scotsman and a professor at Helmstedt, was like Ingolsteter (1563-1619), among those with more common sense who recognized the golden tooth as being an artificial product and therefore a hoax.

Lynn Thorndike in his *History of Magic and Experimental Science* points out that there is considerable confusion and misinformation in the literature with regard to the identity of the two Martin Rulands. This is also true in the works on the history of dentistry. Apparently dental historiographers were not aware that there were two Martin Rulands. B. W. Weinberger lists the birth and death years for Martin Ruland as 1532-1602, which are those of the father. Weinberger was only aware of one Martin Ruland, attributes the golden books to him, and the works of the more prolific father as well.

The quarrelsome Martin Ruland, filii, was involved in another dispute, this time with Johann Oberndorfer. Johann O. Oberndorfer (at times spelled Oberen-dorfer) flourished in Regensburg (1584-1621), then the seat of the government. Martin Ruland, filii, was practicing medicine in Regensburg at the time. Oberndorfer was a conservative physician, well respected, and with considerable influence, being the personal physician to the king and the royal princes as well as the official town physician.

In 1620 J.S. Strobelberger (1593-1630) published a book by the title: Tractus novas in qua de coco bapjia, ib & quae inde paratur concoctionis Alchemicae recto usu dissertatur ic cui insertus est Laurentii Catelani genuinis ejusdem concoctionis apparentae modus, novo primum in Latinum sermonem e Gallico breviter conversis, cum censure & approbatione Johannes ab Oberndorff. Jena ib typis Johannes Beithmarini, ic 1620.

It is not clear whether Oberndorfer was acting in an official capacity as censor who had to give his stamp of approval to all medical books by authors of his town, or whether he was a friend and adviser to Strobelberger and was lending his endorsement to the work. Perhaps there was an element of both involved, since Strobelberger seems to have been respectful of and on good terms with Oberndorfer. In Strobelberger's *De Dentium Podagra*, published ten years later he refers to Oberndorfer's works many times. Oberndorfer is referred to as the best for the treatment of the teeth. It is indeed surprising that no other mention of Oberndorfer is located in any history of dentistry.

It was this very influential, respected and conservative physician, Johann Oberndorfer, who engaged Martin Ruland, filii, in a dispute over a medicinal that was being produced and sold by Ruland. Ruland was taken to task by Oberndorfer for keeping the ingredients secret. By not disclosing the contents, other physicians were denied true evaluation of the medicine. The title of Oberndorfer's criticism was *Apologia chymico-medic apractica adversus illiberales Martini Rulandi calumnias, Amberg 1612, Typographo Fostetiano.*

Martin Ruland, filii, was a quarrelsome physician-alchemist who made and sold his own secret "patent medicines." These were often of questionable merit and were provided with trade names. One such product was known as "The Blessed Water of Ruland." This was such a popular and famous alchemical nostrum that it was the subject of a chapter in a popular "chemical" book by Zacharias Brendel (1592-1638) called: *Chimia in artis forman redacta* Jena, 1630. This book went through 1659 & 1668 editions at Amsterdam, and a 1671 edition at Leyden. Rolfink later deleted Brendel's name but continued to retain the title and contents, including the chapter on the "Blessed Water of Ruland." Giovanni Francesco Vigani also discusses the "Blessed Water of Ruland" in many editions of his *Marrow of Chemistry*, Danzig 1682, London 1683, 1684 & 1685 and Leyden 1693.

Ruland responded to the attack by Oberndorfer with a bitter diatribe entitled: *Alexicacus chymiatricus pures putis, mendacii, atque calumnis atrocissimis Johannes Oberndorferii oppositus asserendae veritas & famae integritis suae iure Francofurti, 1611.*

My first impression upon seeing the word "Alexicacus" in the above title was to see the Paracelsian influence in the use of a vulgar and scatological term "cacus". The name "Cacophrastus" as a derisive term for "Theophrastus" was used by rebellious students for Paracelsus, their professor, with whom they were feuding. They were thus emulating their professor who was not averse to the use of vulgar terms to describe his enemies and adversaries. But on consulting the *Medical Lexicon* of Robley Dunglison, I discovered that the term alexicacus and cacolexiteria were legitimate medical terms referring to medicines used against poisons and not at all vulgar or scatological. In view of this, I concluded that perhaps I have attributed more Paracelsian influence upon Ruland than is warranted.
How to rush a dying patient out of the office!

Malvin E. Ring, DDS

Dentists, for generations, have been faced with the possibility that a patient being treated may suddenly become mortally ill in the dental chair. The well trained dentist of today is equipped to handle such situations. His armamentarium includes life-saving drugs, a supply of oxygen and a means of administering it. Moreover, he is trained to recognize a potentially catastrophic situation and to seek help when it is indicated. Failure to utilize these skills, or to have resuscitative measures at hand, and most important, to seek assistance, would leave today’s dentist open to a most damaging lawsuit for malpractice.

But the situation was apparently quite a bit different a hundred and thirty years ago. An eerily fascinating account of a dentist faced with a mortally ill person appeared in the American Journal of Dental Science for July, 1854 (page 562). In an article entitled “A Painful Situation both for Patient and Practitioner, and the Advantage of Presence of Mind to the Latter,” a dentist described his method of dealing with this severely troubling occurrence by hastening the patient out of the office and into his carriage in order to get him to his home as soon as possible. His explanation was that he was troubled “... and greatly agitated at the prospect and annoyance of a coroner’s inquest at my own residence.”

It is interesting to realize that this dentist of long ago felt that he was acting in the most professionally proper manner and was proud enough of his actions which he bragged were a result of his “presence of mind,” to recommend that others follow his lead. Although a practitioner of today is dismayed at the prospect of a demise in his chair, his first thought would probably be to insure that the patient receives the best emergency care available.

In abbreviated form, here is the article as it originally appeared:

Mr. H——, a nice old gentleman, about seventy-five years old, applied for my professional services, and I incidentally noticed at that time, that he had strong symptoms of disease of the heart.

Subsequently, having had an accident with his bone lower jaw [denture], he called upon me for another, which he specified must be ready at such an hour, and on a particular day. The promise was made, and punctually to the moment, his carriage drove to my door, and soon my servant showed him into my surgery.

It may be remarked that he had been a free liver, enjoying life as it is called, and which in his early days, it is probable, that he would not do what would have been deemed a great disgrace — shirk his bottle; but which now, by a change of custom for the better, would have been regarded the better proof of an educated man. He was, however, a very nice, urbane and cultivated gentleman, about the middle height in sta-
ture — with light blue eyes, a florid face and of a sanguineous temperament; and as he entered, having more closely observed him and his mode of breathing, it was evident that he was affected with *angina pectoris*. After an almost automaton bow of recognition, I pointed to my operating chair, and he sat down without either of us having spoken a word. But as I turned my back to him, in order to open my mahogany work-board, I merely said, "You are very punctual, sir!" when immediately after I heard a curious gargling sound, and turning around to ascertain what it could be, I saw my patient with his head thrown backwards — his face livid — his eyes fixed, and his lips open and motionless, as if he was either in *articulo mortis*, or had already given up the ghost!

My first act was to feel his pulse, but he did not seem to have one, and yet I could not believe him to be dead! I therefore threw open the window, and dashed some cold water on his face, and watched the result with breathless anxiety. Soon, to my great satisfaction, saw him move. He then opened his eyes with a peculiar stare, like one suddenly recovered from a fit — then he endeavored to speak, but his tongue moved heavily, and there was a thickness and indistinctness in his words, in the manner of one partially apoplectic.

Whilst was perspiring at every pore, he pointed to his mouth and seem impatient and somewhat annoyed that I didn't proceed. Having tried the fit — which was very good — yet I was so anxious lest he should relapse, that I urged him to call another day, and would willingly have foregone receipt of the fee to have got him safely out of my house. But the good old man, by gesticulation and his "unknown tongue" seemed to insist on my keeping my bond, so I put in the jaw [denture]. It fitted him admirably well. He felt in his pocket, muttered something, then felt again, as if annoyed at his disappointment. Interpreting these actions to the fact that he had forgotten his purse, I said, "Never mind the money, sir;" at which he said something which I could not understand. Again his head fell backwards, and his face assumed a darker hue, and again his spirit seemed as if it had departed.

I had recourse to similar treatment, though it appeared a forlorn hope. Still I persevered, and placed some strong ammoniacal salts to his nostrils, and after a vast amount of labor and anxiety, he once more, to my great relief, breathed again. And as he recommenced seeking for his purse, I repeated, "Pray, never mind the money, you are very ill, do let me beg of you to return to your residence?" "No! no! no!" said the worthy man — "some paper! some paper!" I gave him paper, under the notion that it would by a means of expediting his departure, and so it did; for he wrote a few hieroglyphical signs for a check, and then induced him to take my arm, and as quickly as my humanity permitted, I got him safely to the street door, which my boy opened, and all assisted the coachman to get the patient into his carriage. He was driven to his home and died a few hours afterwards, having, however, sent the fee immediately on his return.
Hayden-Harris Award to Mary Faubion

Mary B. Faubion, RN, was honored with the Hayden-Harris Award of the American Academy of the History of Dentistry at its Annual Meeting in Hawaii November 2, 1989. Mary is the wife of Bernard H. Faubion, DDS, who retired from orthodontic practice last year after 55 years in dentistry. She was the first woman to receive this prestigious award which over the past 22 years has been given to such notables as J. Ben Robinson, Harald Hillenbrand Gardner Foley, Maynard Hine and Clifton Dummett.

Mary has created a 160 page exhibit on the "History of Dentistry on Stamps." This has won two gold medals from the American Topical Association and two vermeil medals from the American Philatelic Society at national stamp shows. She showed this exhibit at the Annual Session of the American Dental Association in San Francisco in 1986 and at several meetings of the University of Southern California Dental Alumni Association. Her exhibit inspired several dentists to collect stamps pertaining to dental history. She has provided these collectors with long lists of stamps relating to dentistry.

Mary also has a collection of old dentifrice advertisements which she exhibited at the Annual Session of the American Dental Association in Las Vegas in 1987. Many of these are from turn of the century magazines which are no longer published. Dr. and Mrs. Faubion live in Tarzana, California.

The presentation address which follows was by President-elect Mrs. Wilma Motley at the luncheon at the Royal Hawaiian Hotel overlooking Waikiki Beach on November 2.

"Through the courtesy of Jack Gottschalk, chairman of the Committee on Awards and a past president of the American Academy of the History of Dentistry, I am allowed to make the presentation of the Hayden-Harris Award today. It has special meaning to me and, as William Conrad says on The Wild, Wild World of Animals, "as you will see — in just a moment."

Horace H. Hayden became a dentist in the 1790s and soon concluded that special schools for the education of dentists were necessary. All his activities, both professional and social, enhanced the status of dentistry.

Chapin A. Harris, much younger than Hayden, already deeply involved with the American Journal of Dental Science, the first dental journal, championed formal instruction of dentists.

Through the efforts of these two men, supported, of course, by many others, they became an important part of the founding of the Baltimore College of Dental Surgery, the first formal dental school, and Harris became its dean.

In remembrance of these pioneers in dental education and to further establish their place in history, the Hayden-Harris Award was set up by the Academy to honor those individuals who have made singular and noteworthy contributions to the advancement of dental history. The first award was made in 1967. In all, 22 individuals have been honored since then. In case you don't think that adds up properly, 2 were given in 1970.

Those who have received this award are very special people, and today we will add another to the list. The Awards Committee decided not to divulge the awardee's identity ahead of time, and I think it has been a well-kept secret. So it is with great respect, friend-
ship, and excitement, I am about to present the 1989 Hayden-Harris Award to Mary Faubion.

Mary is the first woman to receive this award, and before it is actually given to her, let me tell you why she was selected.

My information has been collected by devious means, some from her daughter, a dental hygienist, now working for the dean of the USC School of Business, and some from Mary herself, not knowing why I asked so many questions or that I was writing it down as fast as I could. Barney and their son, Ray, a manager for a State Farm insurance agency in Ft. Myers, Florida, might have added other facts, but it would have been harder to keep Mary in the dark.

Mary was born in New Orleans but the family moved to San Francisco in 1929 and she grew up in the Marina District which was devastated in the earthquake just over 2 weeks ago. After graduating from nursing school, Mary worked as a surgical nurse at Children's Hospital in San Francisco. There she became a good friend of another nurse who introduced her to Barney Faubion who became her one and only husband. Barney, committed as a Navy dentist, was her link to the dental profession and to life as a Navy wife. With a son and daughter, they have lived in many places, 26 moves to be exact, including Panama, Oakland, Bethesda, Hawaii during Pearl Harbor, and at a later time, Japan, and San Diego, with Barney spending much of his time on board the USS Pennsylvania until his retirement.

Mary was always actively involved in groups such as the Gray Ladies, Children's Hospital Guild, Children's Thrift Shop, and with other Navy families. In addition to the American Academy of the History of Dentistry, she is active in the American Philatelic Society, the American Association of Philatelic Exhibitors and the American Topical Association.

After Barney’s retirement from the Navy and their move to Tarzana, California, Mary became interested in stamps, and about 15 years ago she began specializing in the history of dentistry as told in stamps. She is also collecting stamps related to Pearl Harbor since Barney was on board the USS Pennsylvania at the time of the bombing and she and their two children were in Honolulu. The stamps are Mary’s, but they are a close couple and Barney helps in many ways, so I feel he deserves honorable mention.

Mary believes the topic of dentistry is a very good one and is of general interest for everyone related to dental problems. She has exhibited the stars of her collection probably twice a year, including several meetings of the ADA, the USC Dental Alumni meetings, and sometimes in competition. The latest exhibit, the 45th American Exhibitors Association in Southern California, sponsored by the American Philatelic Society in October, brought her two awards, one the gold medal from the American Topical Association, and the other, a vermeil medal from the American Philatelic Society. In 1985 she also won these two awards. Each stamp is displayed on an official sheet of paper along with text describing the stamp and its significance. Preparation is a careful and lengthy procedure. There are several ways of categorizing stamps for exhibit and Mary has chosen to divide hers into five periods of time — Ancient, Medieval, Renaissance, Modern and 20th Century. Her oldest stamp dates back to 1840, and her newest acquisition is an 1852 folded circular letter advertising dental instruments for sale and introducing the new owner of the business.

No one knows how many issues of stamps relating to dentistry have been printed so you always look at everything and you never know what will lead you to some special stamp or cover. Because of this detailed search, and at exhibits, Mary has talked about the history of dentistry and has brought this information to hundreds of people. Many of those attending these meetings go out of their way to tell her how interesting and informative her exhibit is. Mary says she has never counted how many stamps on dentistry she has, let alone the total number she has collected.

Mary has been told her history of dentistry on stamps is good enough to be entered for international exhibit, but first she plans to redesign the layout and eliminate some displays to make a more compact exhibit. I am sure we will hear more about this lady as she spreads the word about dental history and continues her search for perfection.”

NEW YORK SECTION ON DENTAL HISTORY

The Dental History Section of the First District Dental Society had its first general meeting on September 10, 1989 at FDDS headquarters. The second meeting took place at the Jarvis Center on November 25, 1989, in conjunction with the Greater New York Dental Meeting. Dr. Leonard Linkow, implant pioneer, spoke on “The History of Dental Implants.” The officers of the Section are:

Chairman .................Elias M. Karnoff, DDS
Chairman-Elect .............John J. Young, DDS
Secretary-Treasurer .......Esther Colchamiro, DDS
Editor ....................Robert L. Fisher, DDS

NEW PUBLICATION ON GROWTH & DEVELOPMENT

An historically and dentally interesting booklet has been published by our member, Dr. Alexander Tsoukanelis, of Athens. The booklet is in Greek and
discusses the growth and development of the face and teeth from findings in prehistoric man to modern man. It is well documented and extensively illustrated.

AWARD TO DR. MILTON B. ASBELL

Past President Milton B. Asbell received a special award from the Middle Atlantic Society of Orthodontists at a banquet on October 23, 1989. This was in tribute to his 22 years as the Society’s Secretary-Treasurer. Dr. Asbell retired from this position at the end of 1989. The Fall 1989 issue of the Middle Atlantic Society of Orthodontists News had a special article on Dr. Asbell noting his work and his many publications in dental history. Dr. Asbell is Professor of Dental History at the New Jersey College of Dentistry and an honorary member of the Academy.

ONE HUNDRED YEARS AT GUY’S

One hundred years ago Mr. Newland Pedley founded the Dental School at Guy's Hospital. The anniversary was marked last May by a Thanksgiving service, and a visit of Her Royal Highness, the Princess Royal, along with other special events.

NEW MUSEUM IN AUSTRALIA

Dr. Rod Stockwell has brought to our attention the establishment of a new museum in Western Australia. It is a general museum built on the collection of the former Goldmeier Museum in Kalgoorlie, Western Australia, and was officially opened on June 15, 1989.

BERNARD MOSKOW IN THE NEWS

Dr. Bernard Moskow was profiled in the June 1989 issue of Dentist together with his collection of engravings, pictures and lithographs. The article describes Dr. Moskow's interests and future plans and points out the importance of such a collection.

"125 YEARS OF SERVICE AND PROGRESS"

The Illinois State Dental Society celebrated its 125th year during its September 1989 meeting. Dr. Jack S. Ragsdale, a member of the History Committee, presented a talk on the history of ISDS at the opening breakfast on Friday, September 8, 1989. Dr. Ragsdale is a member of the AAHD and practices general dentistry in Canton, Illinois.

NEW PRESIDENT FOR THE AMERICAN DENTAL SOCIETY OF ANESTHESIOLOGY

Dr. Peter H. Jacobsohn is the new president of the American Dental Society of Anesthesiology. He is currently working with our President-elect McCauley on the plans for the November meeting of the Academy.
This Publication is Available in MICROFORM

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Dr. Febres Cordero is a historian, an investigator and accomplished writer. His books are mostly dedicated to the history of dentistry, but in this book he presents the history of medicine, not as a separate entity in the development of the nations in the Americas, but as related to world history. Events that have taken place since their discovery influence not only the development of medicine but also scientific, economic, social and religious activities.

The methodology is not innovative, but is a comprehensive way of presenting the history of medicine. The book is well written, organized and delightful to read making it a must for physicians, dentists and laymen who view the history of medicine as an important step in the evolution of our civilization.

Dr. Febres Cordero is an American, a dentist by profession but also by vocation, a historian, a professor at the Universidad Central de Venezuela and dean of its School of Dentistry from 1946 to 1951. He is a member of numerous professional organizations and has published books describing the origins of dentistry in his country, the history of medicine in America, as well as books on related subjects.

The present book covers the years from the discovery of America to the early years of the 19th century. Listing events by date is not new but is one of the didactic ways to present the origins and evolution of any subject. The facts are based on research and on the latest information available, the information is new and accurate. This is not an encyclopedia but outstanding facts of the time are covered.

Readers can use the book as a dictionary, but at the same time with enjoyment similar to reading a novel.

When the opinion of the author is used in describing an event objective descriptions of the situation or the personage are also given. The purpose of the author is the presentation of events that had real meaning for the development of the history of medicine in Venezuela and America, but at the same time considering them as important moments in the history of mankind. Illustrations are numerous and well positioned in the text.

The bibliography is one of the most complete presented in any book. The index includes birth and death years, events and places along with the person's name.

There are many books about the history of medicine in America but this one is a compendium of events in the world, and how these incidents injected new ideas into the Old World. This makes the book unique. It is recommended for general practitioners, and for historians looking for people, places and events. From the first page to the last it holds the reader's interest and leaves him hoping that the second volume will be available soon.

The book is available from:
Sociedad Venezolana de Historia de la Medicina
Palacio de las Academias, Caracas, Venezuela
or
by writing to the author at Apartado Postal 1888, Caracas, Venezuela.
—Reviewed by Cesar A. Mena, DDS
Author of a 4 v. history of Dentistry in Cuba.


As the title clearly states ("Everything in short") this book is a compendium of medical techniques with special reference to dental treatment and phlebotomy. It was apparently intended for the education of the
barber-surgeons but the author seemed to have additional objectives in mind.

Little is known about Colombani. He was born in Parma, a northern Italian town at the border between Lombardy and Romagna. He was probably a barber-surgeon, without formal medical education, who slowly developed a special proficiency in dentistry. Instead of working the street corners like the typical dental practitioner of the time, he moved to Venice where he opened a dental office, in collaboration with his wife, also a dental practitioner.

Due to the stable business location, Colombani had a great professional liability and was, therefore, compelled to repudiate the tricks and wanton ways of the wandering quacks. Still he could not claim the formal education of a physician and apparently found himself at a tactical disadvantage with both groups of competitors, the fully qualified physician and the quack.

The compendium is directed also to the public at large and represents a rather skillful piece of “public relations” that tries to educate the consumer to the advantages of selecting a care provider with a proven local track record as opposed to the wandering quack who may skip town at the first sign of dissatisfaction. Finally the book turns out to be an attempt to show to the academic medical profession that the author, while lacking a formal degree, had the experience and the theoretical knowledge of an accomplished dentist. This last objective, rather than an ego-boosting maneuver, may have been another attempt to promote business. Many qualified physicians of the time had limited experience in surgical techniques and conceivably may have rather liked to refer a patient to a trusted, but not fully qualified, dental practitioner instead of to a fully certified colleague and competitor.

The compendium is divided into three parts. The first is a debate between the author and a fictitious charlatan (monsu Guascon) and exposes the tricks of the quacks. It also warns against the long term effects of quack remedies like the caustic powders prescribed for whitening teeth. The second part is by far the most interesting and describes what, according to the author, is proper care, and features the correct use of the dental instruments that are illustrated. Also included is a long series of recipes for remedies that the author certifies as safe and effective but that probably would not meet FDA standards. This ends the part of the book that concerns dentistry. The next subject is a description of bloodletting techniques followed by a brief review of human anatomy that includes two tables representing the male and female body. Colombani’s knowledge of anatomy is less than basic, the anatomical drawings rather crude, and not a match for the excellent anatomical tables available in the 17th and 18th centuries. These anatomical tables, however, show an interesting feature: in both male and female figures the various planes of thoracic and abdominal viscera are illustrated on superimposed movable leaves.

The third part is probably intended to impress the public at large, and academia as well, by showing the universal knowledge of the author. It consists of a hodgepodge of astrological data concerning the relation between the stars and diseases as well as astronomical tables said to be useful in determination of the most favorable days for bloodletting and, for everything from sailing to purchasing a house.

Colombani was woefully lacking in general medical knowledge from the viewpoint of a physician of the 18th century and I suppose that his book failed to impress academia and also failed as a promotional gimmick. This seems to me unfortunate, because out of the pages of his book Colombani comes to the reader as a man truly interested in and devoted to the dental profession and, for his time, unusually experienced in this trade. I liked the descriptions of the dental instruments, among which I found particularly interesting a needle-like funnel that Colombani used as a shield when applying hot irons or caustic substances to the exposed pulp of a tooth to prevent damage to the adjacent mucosa. Some comments suggest a rather conservative operator with personal ideas on periodontal disease. He states, for instance, that not all teeth that are loose should be removed because in some cases, if properly taken care of, they may be useful to the patient for years. He also notes that in some patients, when the loose teeth are pulled out, formerly healthy teeth tend to loosen.

In their introduction Gambacorta and Pantaleoni note that this compendium was printed four years before the publication of the pivotal work of Pierre Fauchard and hasten to state that the reprinting of this earlier, minor Italian work is not an attempt to strip the French author of some of his fame and merits. In other words, Colombani is not Fauchard. Even so, to the reader who can decode this rather poor example of 18th century Italian and the printing of master Milocco, this compendium gives a glimpse of an interesting time in dentistry. Obviously by the early 18th century the improvement in quality of life and the progress in medical knowledge had created the need for a codification and scientific reappraisal of the dental profession, and this need was felt not only in Paris but, as this lesser work from Venice demonstrates, throughout the Western world.

Reviewed by Pierangelo Taschini, MD
Riverside Medical Center
Kankakee, Illinois

The authors' stated purpose in writing this book is to present the life and accomplishments of Dr. John Mott-Smith, a dentist, who in late nineteenth-century Hawaii "personally and dramatically influenced the course of history." This book goes to great lengths to give his biography in the context of history. It can be read either as an historical novel or strictly as history. The last third of the book gives straight history through its extensive appendix, which includes biographies of the major figures of the time, newly discovered documents, a historical chronology of Hawaiian history and the life and work of Dr. Mott-Smith, as well as his family tree, bibliography and a reading list.

Dr. Robert M. Gibson, a native Hawaiian, who has contributed much to his community and the dental profession, researched the material for this book and wrote it with the assistance of Honolulu author, Terry Lawhead.

It tells the story of Dr. Mott-Smith, who arrived in Hawaii in 1851 and became its first permanent dentist. He not only became dentist to the monarchs, but was also one of their advisors. He was appointed to influential positions in the government and became editor of the government newspaper. He saw cane sugar replacing whaling as the primary industry and foresaw the growth of tourism. He played an active role in building the first luxury hotel in Hawaii. Until late in life, he acted as a negotiator for the monarchy with the United States.

Dr. Mott-Smith was self taught and although he did not graduate from dental school, passed the New York dental boards. The book touches briefly on his dental career. He opened his office in the early 1850s in the combined office and home of a physician. He scraped the teeth of his patients who had inflamed gums and was an early advocate of preventive dentistry. He gave up the practice of dentistry in 1876 and died in 1895.

This is an attractive book that is well written and well illustrated. It should appeal to those who are not only interested in Hawaiian history, but in those who made it, such as John Mott-Smith. Those of us who study dental history are always interested in dentists such as Dr. Mott-Smith who not only have worked in their profession, but have served their country too.

—Reviewed by Richard A. Glenner, DDS
Chicago, Illinois


Sometime during the 1870's, the celebrated American humorist, Mark Twain, visited the office of Dr. John Riggs, one of this country's most prominent dentists. Riggs gained fame in his lifetime as one of the early specialists in periodontal treatment, but had also extracted one of Horace Wells' teeth when Wells tried the effect of nitrous oxide on himself. Twain thought that there might be a good yarn in the story of the discovery of anesthesia and it was this that drew him to Dr. Riggs. However, Riggs convinced him that he needed treatment and Twain underwent several days of ministrations at the hands of Dr. Riggs, all of which he described later in a manuscript that gives us a wonderful picture of what early, but competent, periodontal treatment was like (Bull Hist Dent, 1973, 21(1): 25-30). Twain concludes his illuminating discussion of his treatment thus:

I was in the chair a good part of two days—nine hours the first day and live the next—and came out of it with my thirty-two teeth as polished and ship-shape and raw as if they had been taken out of their sockets and filed. It was a good job, and quickly and skillfully done; but if I opened my mouth and drew in a cold breath it woke up my attention like pouring ice water down my back.

Riggs was very obviously a careful clinician who had very fixed ideas of what caused degeneration of the bone and loosening of the teeth in the disease to which he gave his name. He wrote about his treatment and methods and lectured before groups of his colleagues. However, he was not alone in this. There was a great deal of activity going on in the field and hundreds of dental practitioners, in this country and abroad, strove to determine the etiology of a mutilating disease that seemed to afflict most of the adult population, and equally important, to find a successful method of treating it.

It is this very vastness of the field of published literature in the field of periodontology in the past century and a half that proved such a challenge to Dr. Held when he sat down to put pen to paper. He had collected over 6,000 citations from publications around the world, but managed to winnow this down to 1500! Consequently, he was faced with the enormous task of putting some kind of rational order to this whole sweep of more than 150 years. This he has done in admirable fashion, the result being, as he calls it, a survey of the field of periodontology from its very beginnings.

The author, a member of the American Academy of the History of Dentistry, holds both medical and dental degrees. He brings to his work a background that is filled with service to the dental profession as well as with scholarly study. He had a 30 year career as professor of conservative dentistry, periodontology.
stomatology, oral surgery and maxillofacial traumatology at the University of Geneva in Switzerland. He is a past-president of the International Society for Research in Periodontal Diseases (ARPA) as well as numerous other important organizations. It is this deep involvement with research that allows him to write so knowledgeably.

The first twenty pages of the book are taken up with the earliest history of the field, from the evidences of alveolar bone destruction in prehistoric man through the contributions of the Chinese and the Arabic world to the contributions of Pierre Fauchard and Philip Pfaff. The remainder of the book is laid out in a strictly chronological, fashion, which is about the only way this immense amount of information can be handled.

Thus, the coverage afforded the 19th and 20th centuries is literally overwhelming, probably more so to the American reader who has less familiarity with the work done by periodontists on the Continent than his European colleague. Americans are acquainted with the work of Glickman, Orban, Bunting and a host of others who advanced the knowledge in this very important field. But, how many are familiar with Weski and Sudhoff who also contributed mightily to our knowledge? This book brings the work of all these German and Swiss and French and English periodontists to our attention and shows how what they determined aids us today in our struggle against disease.

Dr. Held has chosen a particular approach to the vast amount of data he had before him and it served him well. "Every historical work," he says in his Preface, "because it consists of perceiving, selecting and analyzing the pieces of a puzzle, attempts to reconstitute a certain amount of reality as a step in the general process of the development of knowledge. . . Each account of history is important and becomes a part of the mass of historical material needed to explain the present and to permit a glimpse into the future."

Although Dr. Held achieved the task he set for himself, his book nevertheless is more useful as a reference tool than as a narrative painting the whole sweep of history of periodontology. There are so many references with so many workers contributing to the growth of the field that it is overwhelming. However, because of the fine index and even finer list of references — the latter running to 40 pages — it is possible to research any period in history or the work of any researcher or clinician and come up with appropriate and useful information. It is only in the 2-page Summary, at the end of the book, that we can see the progression of periodontology as Dr. Held puts it from Magico-religious medicine (5000 B.C. to 400 B.C.) through Empirical-rational medicine (400 B.C. to 1500 A.D.) to Scientific medicine (from 1500 A.D. to the present day).

Since the work is a translation into English from the French there are a number of small errors which are bound to creep in when one language is converted to another or when an author is not familiar with names as they were commonly used. Thus the name of Dr. W.D. Miller's classic work is given as The Microorganisms of the Human "Teeth" instead of "Mouth," and the name of the widely read journal, Dental Items of Interest is given as merely Dental Items. Another error is the ascribing of the date 1886 to the first use of x-rays in dentistry, 10 years too early. Yet it would be unfair to put too much emphasis on errors that have crept in since the greater majority of the book is carefully and correctly written and is a definite and major contribution to our knowledge of the growth of a most important part of dentistry. As the author states in a final note:

Before 1930, students at the American dental schools received little or no education in this field. Now, however, according to a recent report from the American Association of Dental Schools, "There are more full and part-time faculty members teaching periodontology than those in any other discipline."

—Reviewed by Malvin E. Ring, DDS
Author of Dentistry—An Illustrated History.


In 1984 Hamilton B. G. Robinson, one of the seven founders of the American Academy of Oral Pathology, was asked to write a history of that organization. All living past presidents were contacted for the project and requested to provide curricula vitae, a list of five of their most important contributions and a summary of important events during their tenure as presidents. Photographs were also requested. Colleagues and friends of deceased past presidents were also contacted. The result is a very interesting publication on the activities of the Academy as well as biographies of its past presidents who are a remarkable collection of outstanding scientists.

A summary of events, starting with the first annual meeting of the AAOP which took place in Chicago on February 9, 1947 is presented. The president at this first meeting was Kurt H. Thoma and 17 members and 24 guests attended. Six of the seven founders of the AAOP subsequently served as presidents. Biographical sketches of these founders of the Academy are presented.

The booklet is of interest to and will be of help to those concerned with the history of the specialty and the scientists who shaped it.

—Reviewed by Hannelore T. Loevy, CD, MS, PhD
Editor, Bulletin of the History of Dentistry

Generally recognized as the greatest medical library in the world, the National Library of Medicine's holdings are truly astounding. When one reflects that the Library grew out of a collection of medical tomes in the Surgeon General's office and that it is only a little more than a century and a quarter old, the growth is all the more astonishing.

One of the best features about the Library is that it has strived to make its holdings accessible to scholars everywhere and to this end has published numerous catalogues which are sold at nominal sums. This allows health practitioners and health science scholars in the most remote communities to benefit from the collections in this vast storehouse of knowledge.

Scholars of dental history find the Library a tremendous source, for illustrations, original publications, as well as primary source material. The cumulated Bibliography of the History of Medicine provides us with a wonderful periodic compilation of almost all publications dealing with the history of the health sciences, with dental history being well represented.

The Library had previously issued four catalogues listing its pre-19th century holdings. They are A Catalogue of Incunabula and Manuscripts in the Army Medical Library (1950), A Catalogue of 16th Century Printed Books (1967), a 1971 supplement to this catalogue, and A Short Title Catalogue of 18th Century Printed Books (1979). To these invaluable research tools is now added the current volume.

The current catalogue has a major drawback, however. The books listed are by author only, except when a corporate body rather than a single author was the issuer. Thus if one is seeking information about Fabricius Aquapendente, for example, one can quickly find approximately 35 of his works listed, in various languages and various editions. However, if one were seeking information about early works on surgery, which incidentally, would include Fabricius, there is no way to access them through this catalogue.

This is not to minimize the contribution this newly issued catalogue makes to scholarship and research. At one's fingertips are all the important works on the health sciences in the world's greatest medical library, from the beginning of printing through the 17th century.

Each entry in the new catalogue reproduces in print the title page of each volume, giving also the book's size, dating, pagination, printer and publisher. Included, too, are librarian's notes concerning important aspects of the book's physical condition as well as notations about any special characteristics, such as other works being bound together with it (a rather common occurrence in the early days of printing).

The book may be ordered from the Government Printing Office, Washington, DC 20403. The order number is 017-052-00255-4.

—Reviewed by Malvin E. Ring, DDS
Author of Dentistry—An Illustrated History.


This book has colored and black and white illustrations of postage stamps which relate to dentistry, and the text which accompanies each one explains its significance to dentistry. It also contains philatelic information and Scott Stamp Catalog numbers. Both authors are stamp collectors and have done extensive research for each stamp included. Where applicable, they explain the significance of each stamp to dental treatment past and present. Many pages have appeared in past issues of the JADA.

This book records the important contributions to dentistry by such prominent men as William Harvey, Anton Leewenhoek, Leonardo da Vinci, Wolfgang Goethe, Louis Pasteur, Hyacinthe Vincent and many others. It lists the oral symptoms of diseases such as cancer, acquired immune deficiency syndrome, and foot and mouth disease. It recognizes many dentists who achieved fame outside the profession of dentistry. Among these are Paul Revere, William Morton (general anesthesia), J.W. Elliot (invented the rotary snow plow), Tiradentes (Brazilian liberation hero), Danielle Casanova (French resistance heroine), Kerstin Palm (champion fencer), and several who won gold medals in Olympic Games.

The organization of the book and the illustrations of the stamps are excellent. The alphabetical Table of Contents makes it possible to locate any stamp easily. The index is organized into logical groupings such as Dental Meetings, Oral Health, People, Places, Sports, Surgery, World Health Day, Miscellaneous and others.

This book is of general interest to all dentists and to those affiliated with the dental profession. It is an excellent item for the waiting room of any dental office.

—Reviewed by Mary Faubion, RN
Member of the American Academy of the History of Dentistry
Abstracts


The history of the development of dental amalgam is reviewed from its early use in China (659 AD) to the present day. The use of amalgam by quacks such as the Crawcours family is presented to demonstrate the reason for its bad reputation and prejudice that surrounded amalgam in the 19th century. While the use of amalgam was considered malpractice in 1843, improvements in technique and proper preparation allowed reputable dentists to put the material to good use. By 1895 G. V. Black had studied different alloys and established acceptable formulas for dental amalgams. (14 refs)


Before the 18th century, dentistry was reduced to extractions only. In the autumn of 1699, an edict established a group of "experts," and dentists were further recognized by an edict of Louis XIV. The College of Surgeons was inaugurated in 1768, and presented special programs for experts on teeth. In 1789 the Royal Society of Medicine began a study on the reform of teaching of medicine and on the 25th of November of 1790 Feliz Vicq d'Azir presented to the National Assembly the essence of a project on the major reforms of teaching of the health sciences, with the complete text presented on the 13th of September of 1791. By 1892 a new reform was needed which was advocated by Charles Godon. Many other important dates in the history of dentistry in France are discussed in chronological order.


In 1925 McCollum demonstrated a hinge axis in the temporomandibular joint and established the basis of gnathology. In 1926 the Gnathological Society of California was formed by professionals in the field who included McCollum, Stallard and Stuart. McCollum and Stuart developed the first instruments to duplicate mandibular movements in 1930. From these beginnings the science of gnathology and new mandibular recorders have been developed. Pictures of these instruments are presented and gnathological concepts discussed.


Johan III established certain rules and privileges for the practice of the profession of barber in 1571. With the passing of many centuries the profession evolved, and in 1860, under the leadership of Magnus Huss the Swedish Dental Association was founded. By the end of the 19th century only one blood-letter was still practicing in Umea. He was Karl Anton Lundstrom. The first dentist in Umea was Sixten Malcolm Odmann born in 1862 who got his degree in Stockholm in 1882. Soon after him, other dentists established their offices in Umea including Carl Iwan Theodor Samuelson Linden who graduated in Lund in 1894.


The contributions of William and John Hunter have been of major importance to academic medicine and dentistry. William Hunter became famous in London as an anatomist and obstetrician and donated his collection of anatomical specimens to the University of Glasgow. Some of the specimens include material of dental interest and can still be studied. The collection of John Hunter was left to the Royal College of Surgeons in England where it has been housed since 1830. (10 refs)


Identification of dead persons based on dental findings goes back many years. Two such cases are reported. The identification of the first Earl of Shrewsbury, killed on July 17, 1453 at Castillon in Perigord, was made by one of his servants based on the absence of a tooth on left side. The second case involves the Duke of Burgundy who died on January 5, 1477 at the battle of Nancy and whose body was found half frozen, with his head in the mud, making his face unrecognizable. He was identified because of the lack of two upper teeth together with other physical characteristics, such as his nails, a scar on his neck and a fistula on his lower abdomen. (13 refs)
Robespierre was born on May 6, 1758 in Arras, Artois. After studying law and starting a practice in Arras, he was elected to the General States in 1789. In September 1792 he was elected to the National Convention, but by July 26, 1794 hatred of him had gained momentum. On July 28, Robespierre was imprisoned. A shot meant for his heart actually hit the mandible and Robespierre was conducted to the guillotine with a handkerchief holding together a mandibular fracture. Because of this, he was not able to utter last words before his death, as did many of the people he had put to death. (9 refs)


Guy de Chauliac published a book entitled, The Great Surgery, in 1363. The original publication, probably published in Latin, is lost but several copies of translations of it exist. One of the better known is an edition of 1890 by Nicaise. By evaluating several texts published in 1542, 1546, 1615, 1672, 1739 and 1890 an attempt is made to present Chauliac's ideas on dental diseases and treatment in a more modern form and establish the texts Chauliac used as his sources, including Albucasis, Avicenna and Rhazes.


Dental practitioners have been encouraged for a long time by the armed forces to practice their profession. G.V. Black, Edgar Denman Swain and C.R.E. Koch were among the Illinois dentists who joined the Civil War. C.R.E. Koch, author of the History of Dental Surgery, also participated in the Spanish American War. Other Illinois dentists were active during World War I, World War II, in Korea and in Vietnam. Biographies and accomplishments of some of these are presented. This is the first article of a series being produced by the History and Publications committee of the Illinois Dental Society in commemoration of its 125th Anniversary.


Cieszynski was born on May 31, 1882 in Oels. This city was at the time part of Germany. In 1902 he started to study dentistry in Berlin and Munich and graduated from the University of Munich in 1905. In 1910, he passed his examination as a physician. After working at the University of Munich, he joined the faculty of the Jan Kazimir University in Lwow (Lemberg), today part of Russia. There he taught and continued his research in dental radiography until July 3, 1941 when he was jailed together with other 24 members of the faculty of the University of Lwow by the Gestapo. Accused of sympathy to the Polish Government in Exile, all 24 prisoners were murdered the same night and buried in an unmarked grave.
Other Titles


PEDERSEN, PO. Tandlaeger og tandpleje i Gronland for 1940. Tandlaegebladet, 1989, 93(7): 244-257.


“In 1851, a quiet, hardworking dentist walked off a clipper ship and into Hawaii’s history.”

Dr. John Mott-Smith
by Robert M. Gibson, DDS, FICD
and Terry Lawhead

Hawaii's first royal dentist and last royal ambassador, his life was filled with adventure and intrigue. Here for the first time is the fascinating story of one of the most influential statesmen in Hawaiian history. A must read for any student of Hawaiiana.

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- 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.

SUBSCRIPTIONS AND OTHER BUSINESS MATTERS

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POSTMASTER: Send address changes to: Hannelore T. Loey, CD, PhD, Bulletin of the History of Dentistry, 801 South Paulina St., M/C 850, Chicago, IL 60612.

All correspondence pertaining to subscriptions, rates, servicing of existing subscriptions should be addressed to the Circulation Director: Aletah Kowitz, 2400 Lake View Avenue #406, Chicago, IL 60614.

The Bulletin is published semi-annually in April and October

ISSN: 0007-5132
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2400 North Lake View #406
Chicago, Illinois 60614
Memo from the president, Wilma E. Motley, RDH

One of my favorite publications, naturally after the BULLETIN of the AAHD, is THE ROYAL BANK LETTER, published by the Royal Bank of Canada. The author/editor is never identified, so I can’t give credit, but I like it very much. It is obvious that much thought and research go into the writing of each article. The May/June 1990 issue is titled “A World of Comparisons” and, it seems to me, it has a relationship to history.

The author points out that we are constantly making comparisons, but since there are no real standards for comparisons, they are based on our personal perceptions, “always in the eye of the ‘comparer,’” and our dispositions. As historians, we recognize the need for careful factual research, but when it comes to interpreting effects of actions and inventions it is mandatory that we put aside our preconceived beliefs and prejudices in order to be sure that we make unbiased, objective conclusions.

Having shared these pedagogic thoughts, I will address present realities to illustrate the point. The Academy’s BULLETIN has a new look; a face lift and a fresh format and comparisons are bound to be made. We are accustomed to how our BULLETIN looks and feels, and this issue is not the same. But don’t judge it yet. Let it stand on its own merits, and they are many. Please check the new size, the new cover, the clean format and the new type face. Make your judgments on appearance, visibility and ease of reading. Doesn’t it get high marks? I think so. Thank you, Hannelore and Aletha and consultant Rita Shafer.

Do you know:

To those of you who will attend the Boston meeting, you will have a very special morning program in the Ether Dome, followed by lunch and a brief tour of parts of old Boston which relate to anesthesia, on Wednesday, October 10. You will participate in our business meeting and assimilate the papers on dental education given on Thursday. Thank you, Berton, for this fine program. We hope that those of you who cannot be in Boston this year will be able to share the 1991 program in person.

The AAHD canceled its proposed Teaching Dental History Workshop at the AADS meeting. The Board had stipulated that it must be a self-supporting meeting and there were not enough registrants to meet the hotel reservation requirements. It is possible we should not attempt to hold a workshop every year until more interest can be generated. We will try again for we believe dental history is an important course for students.

The revised Constitution and Bylaws are completed and were mailed to you in June. They are very comprehensive and nicely done. Thank you, Joe.

Our 1989 financial commitment to the National Museum of Dentistry has not yet been reached, but we are all optimistic that more pledges will be received, for we have heard from only a small percentage of our members.

Committee chairmen have been requested to send reports of their 1989-1990 activities, these to be distributed to the Board before it meets so that all can be prepared for discussion.

Academy financial records were audited by Dr. David O. Moline and Dr. Richard A. Glenner. Everything was in order. Thank you, Treasurer Aletha and Auditors David and Richard.

This has been a happy year for me, and I am pleased with the progress that has been made, but I am ready to step down and let President-Elect Berton McCauley assume the responsibilities. Thank you all for making this experience possible for me and for your wholehearted support.
G. V. Who?*

The American Academy of the History of Dentistry is the largest organization devoted to the history of our profession in the world. Among other accomplishments, this academy supports an annual competition (Bremner Essay Award) open to all students in dental schools in the United States and CANADA. To date only a few Canadian students have won this prize.

The lack of interest exhibited by most dentists in their historical roots is appalling. What little information is disseminated through formal lecture series is either never absorbed or quickly forgotten. A profession unschooled in its origins, is more vulnerable to the commercial erosion that society invariably exerts on the unsuspecting.

In the rush to guarantee a proper foundation in cavity preparation and denture fabrication (two mainstays of our profession that will soon become historical curiosities themselves!), our Dental Faculties have failed to cement one of the cornerstones of any profession's survival. A recent informal review by this writer of some of the deans in Canada provided little reassurance. They all noted that while the time allotment was generous in light of other curriculum demands, students manifested little motivation in attending history lectures. Each of the deans professed a desire to make this element of their programs more available and imaginative. Yet, at least one faculty, has chosen to warehouse most of its excellent dental museum when expansion forced internal changes. None of the schools offers incentive to the potential dental historian.

When the private insurance corporation, Associated Medical Services, Inc., was legislated out of business as an insurance company by “progressive” social health legislation in Ontario, the company chose to establish the Hannah Institute for the History of Medicine. Funds from the Institute are directed towards ongoing support of a chair in the history of medicine at each of the five medical schools in Ontario. In all likelihood, comparable resources are out there, and with proper direction could be equally responsive to dentistry's needs. It's time for the profession to parade her past. It may be the key to survival in the future.

Jack H. Gryfe, DDS
Weston, Ontario

*Reprinted from J. Canadian Dental Assoc., January, 1990, 56(1).
Toothache in the XVII Century: Classical Therapy and New Medicines

by C. Gysel, LSD

General Considerations

In the XVII century, the etiopathology of dental pain was still considered what the ancients called catarrh. In vain Van Helmont in 1644 and Schneider in 1660 (confirmed by Wepfer in 1727) demonstrated that this was an inanity. Castellus' medical dictionary makes fun of them, and remains faithful to Galen. The discovery of blood circulation results in a new idea: the possibility that a morbid humour may reach the pulp via the blood stream. However, this new development did not fundamentally change therapeutics, nor did Descartes' biomechanics which was adopted in the second half of the century.

Therapeutics, both local and general, was traditionalist since the XVI century. In general, venesection and purges were considered necessary, and pain was relieved with opium and laudanum. Locally, therapeutics relied almost exclusively on medications of vegetable origin for the preparation of mouthwashes, masticatories, errhines, sternutatives, balsams, and salves. Medications of animal origin are not completely ignored, but their efficacy is debated. Trepanation and filling teeth was done only in rare cases; extractions remained the last resort when all else failed.

Characteristics for this century of rationalism were: classical remedies enjoyed great favor, some novel therapeutics were introduced; many panaceas enjoyed popularity, and occult practices persisted.

This paper will consider these characteristics in light of texts which appeared in the Low Countries, and were written in Latin or Dutch by “Belgians” who may or may not have emigrated.

The XVII century is indeed for Holland the golden century. Liberated from Spanish domination, and having become an economic and political power because of maritime commerce, Holland founded many new universities, notably Leiden, where the medical school has been one of the best in Europe since 1650.

Highly Valued Remedies

The “spiritus odontalgicus” of Paul Barbette. This medication, praised by both his colleagues in Holland (Dekkers) and abroad (the well known Swiss physician, Wepfer), was used in cases “of cold origin” that is, in

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DR. GYSEL was for 25 years the president of the Belgian Society of Orthodontics and is now its honorary president. He is also the past president of the Association des Licencees et dentistes universitaires de Belgique, and of the European Orthodontic Society.

Fig. 1. Adrian Spigelius (left), of Brussels, professor in Padova, promoter of the venesection of the ear (at the anthelix) against toothache, with the instruments (right) of an arsenal of surgery of his pupil Scultetus (French translation, Lyon 1702). Spigelius tried the remedy on himself which according to him is "infallible."
cases of pulpitis. Barbette calls it "odontalgic spirit of my composition." It contains 20 ingredients: shaving of saint wood; seeds of larkspur; pomegranate; gall; white incense, raw opium; flowers of red poppies; camphor; white ginger; cloves, long pepper, leaves of sage and flea-bane; nicotine; wild mint; roots of henbane and pyrethrum; mandragora; cynoglossum; and small nettles. An infusion with wine spirit was prepared for 24 days and then distilled from a water bath.

The burning with actual cautery of the antitragus. The ear is mentioned already in the XII century by Platearius, and Thomas Fienus in his book on cauteries (1601) recalls the advice of Rhazes. Fienus’ father, Jean Fienus, obtained from a woman of his land a painful and radical remedy which he tried on himself: applica-

New Therapies

Use of Moxa. It is in the second half of the XVII century that use of acupuncture combined with moxa spread in Europe. Thomas Bartholin calls it to our at-

Chemical remedies by Francois de le Boe Sylvius. This follower of Paracelsus and Van Helmont does not discuss toothache but in his book on intermittent fevers, he casually mentions that it may be caused by a dental problem. He cures these “dental fevers” with antipyretics and with chemical remedies which moderate and expel the acid humours which cause the dental problem. However, Sylvius never revealed the composition of his chemical remedies.

Resorting to tobacco. Tobacco is cultured in Europe
since 1560 and Charles Estienne, in 1583, claimed for it first place among the medicinal herbs, "because of its unique almost divine properties," to which the Antwerpian Aegidius Everardus, dedicates a treatise in 1587. His example was followed in 1622 by Jean Neander, a physician from Bremen, who practiced in Leiden. He recommended tobacco specifically for toothache "of cold origin." For Everardus, it is sufficient to place "green and dried leaves" in the mouth. Neander recommended, however: "put in mouth vinegar which has been previously boiled with tobacco leaf or to rub the gingiva with its powder mixed with gin." Heurnius to comfort himself, successfully used a decoction of tobacco with camomile flowers. According to Bevericus it is useful either ingest or to bring the smoke to the tooth. Bontekoe and Blankaat recommend chewing or utilizing a decoction. For Eyleman it is enough to smoke or to place a tobacco leave in the cavity. The recipe of Dekkers says: "Take tobacco — of the best — add peel of elder tree, white pepper and salt; place the mixture in a small linen sac and soak it in vinegar. This will form a masticatory which will relieve you." Muller added roots of papaver, grains of herbeine, pepper and opium to the tobacco leaves. He allowed it to soak in alcohol for 24 hours and then distilled it from a water bath to obtain a mouth wash. However, the usefulness of tobacco is questioned and its abuse denounced, even ridiculed (particularly by the historian, Petrus Scriverius (1576-1660) and by Cohausen). A Burgundian from Luxeuil, Magenus, in 1658 in The Hague published 14 dissertations against the use of tobacco in which he comments on the enthusiasm of Heurnius, Neander and Muller. He states that tobacco does not control pain, and other substances associated with it act equally well by themselves. Also, the harmful effects of tobacco on the nervous and respiratory systems, should be emphasized. The same was said (with less vigor) at the end of the century by the scholar Wittichius and by the Cartesian physician Schoon (with more vigor). The latter already discusses the relationship of tobacco and cancer but estimates that moderate use is not harmful: 2 or 3 pipes a day. Blankaat allows 4 to 6 in the morning, 2 in the afternoon and evening. Their attitudes differ from the extremists: Beintema estimates that tobacco prolongs life, creates happiness and preserves the teeth, while his adversary, the pastor De Vries writes 146 verses in Dutch, and demonstrates that according to the Bible the use of tobacco is not a virtue but a sin. The belief in the therapeutic value of tobacco persisted for a long time. In 1836 Janssens, in his inaugural thesis still cites the work of Everaerts and Neander, and even knew a lady who smoked to appease her toothache. "Ipse cognosco matronam, quae quotiescunque sentiat accessum odontalgiae, tabacci fumum haurit ad dentem dolentem cum successo bono."

**Curiosities and Panaceas**

**Toothache and snow.** Zacutus Lusitanus (1575-1643), a Portuguese Jew refugeeed in Amsterdam (who took care of the young Spinoza), was a highly regarded recorder in his times. He recalls in 1628, a soldier who got relieved of an aching teeth by keeping snow in the mouth — a story often repeated notably by Thomas Bartholin in a monograph on snow and by Blankaat.

**Panacea pills.** Pills of aloes (basic substance in the pills of a Dominican, Pierre de la Palud in the XIII century) which made the fortune of Fabrice ab Aquapendente (1537-1619), were used for toothache by Jean Feyens. Those of Doctor Herlicius (1557-1636), a German astrologer exalted in poetry and music, were so used by Etienne Blankaat. The latter pills, were a mixture of opium, hyocyane and papaver. According to Scultetus "kept in the mouth they are making pain disappear." The most famous in the last decades of the XVII century were the pills of the Labadists, a religious sect founded by the ex-Jesuit Jean de Labadie (1610-1674). They were made by one of his followers, Henri Van Deventer (1651-1724), to subsidize the basic needs of the community, which had taken refuge in Wiewerd in Friesia. These pills, a true universal panacea, were peddled all over the area and in neighboring regions. To cure toothache one took one
at night or placed a piece of one in the cavity. After the community was dissolved in 1688, Van Deventer established himself in The Hague as an obstetrician and orthopedist. He continued to sell his pills without ever giving away the secret of their composition.

The defensive salve by the brothers Vrolingh. This was a panacea for toothache as well as all other pain. Preparation instructions were: take red wine, add (before they become leaves), buds of willows, of ash, of poplar, add comfrey (consolida mayor) and seeds of blueberry; close the container tightly, and let it stand in the sun for 15 days; then heat the wine and add to it the oil of roses and wax; boil it till the wine is evaporated and a consistency of a balsam is obtained; add incense, myrrh, gold, silver, turpentine, salt or camphor oil.

Fumigation. It was still suggested for tooth worms (using henbane) by Feyens, Pulverinus and Eyleman.

Toothache and Occultism

Van Helmont and animal magnetism. Parallel with the heritage of irrational tendencies, pantheism or mysticism, of the XVI century (see Pagel), rationalism was developed in the XVII century, and they were thought to be able to co-exist in the same brains. Jean Baptiste Van Helmont (1579-1644), “father” of modern chemistry, and much esteemed by Boyle, Boerhaave and Lavoisier, also believed in animal magnetism. While on the one hand, he ridiculed the idea of catarrh as a cause of toothache, he was, on the other hand firmly convinced that the tooth of a dead human could kill the tooth of a living person; that it was sufficient to touch an aching tooth with the paw of a toad to cure the toothache; that certain herbs, rubbed against the gums and then buried, cure the disease by a “magnetism” similar to the action of the hemostatic stone which must only be held in hand to stop a epistaxis. Van Helmont is not alone. Jonstonius, also applied agents which had specific occult properties to aching teeth mainly the canine of a dead person, which had been burned in an oven, and mixed with posca (a Polish sour drink made up of vinegar, water and eggs).

Sympathy powder of Sir Kenneth Digby. This is essentially vitriol. Malebranche mentions it, and a Carmelite, Father Leon de Saint Jean (Jean Mace), briefly praises it in his encyclopedia intended for the men (and women) of the world. If one believes its inventor, it was a sovereign medication against all wounds, which acted from a distance. That is, not on the wound but on linen that has touched the wound. In Holland, Eyleman assures us he used this with much success. It does not seem that it was ever used for toothaches. To cure toothache, the medications published posthumously under the name of Digby do not differ in nature from those that use vegetables.

BIBLIOGRAPHY

LETTERS TO THE EDITOR

To the Editor:
I recently acquired a book from England: "At the sign of the Barber's Pole" by William Andrews, Cottingham Yorkshire, 1904. On page 31 is "In 1754, the surgeons and the barbers were separated by Act of Parliament. The barber-surgeons lingered for a long time, the last in London, named Middleditch, of Great Suffolk Street, Southwark, only dying in 1821. Mr. John Timbs, the popular writer, left on record that he had a vivid recollection of Middleditch's dentistry."

Can any of our colleagues help in identifying the work in which Timbs describes the dentistry practiced by the barber-surgeon Middleditch?
Sincerely,
Max Geshwind, DDS
Jamaica, NY

To the Editor:
The Academy of Denture Prosthetics is the oldest prosthodontic organization, being founded in 1918. Over the years, some of the historical material has been lost. We are presently organizing the available materials, so they can be placed in a safe repository. We would like to ask your readers to send us information and material they may have about our Academy. We especially need materials from the years 1930-1936. Any material prior to 1950 would be most welcome. Thank you for your assistance in publicizing our needs.
Sincerely yours,
Charles C. Swoope,
DDS, MSD
Secretary-Treasurer
The Academy of Denture Prosthetics
A Visit to the Dentist

After a painting by G.A. Story, A.R.A. - 19th Century American

A wood engraving by Walter J. All - published in the supplement to Harpers Weekly, August 3, 1878.

Dimensions -- 14 3/4 x 9 3/4 inches

While most 19th century images portray the dentist as a brutal craftsman intent on extracting the aching tooth without regard for the patient's suffering, this picture depicts a more sympathetic and compassionate operator. Both the patient and her mother are obviously concerned about the impending operation, while the elegantly attired dentist appears to be reassuring them. Meanwhile, his extraction forceps are inconspicuously concealed behind his back. In this pre-anesthetic era, one wonders how much confidence the poor patient could have had, no matter how skilled the dentist. The elegant furnishings of his office can be seen, which are radically different from the sterile and “high tech” dental offices of today.
In Pursuit of Palliation: Oil of Cloves in the Art of Dentistry

Eric K. Curtis, DDS

In historical analysis, details can often explain, clarify or alter the larger view. In the history of medicine, the story of a particular medicament can be useful in illuminating the progress of the specific branch of medicine it has served. It can also broaden the understanding of that branch’s place in society. Cloves hold the unique position of being of prime economic importance influencing the rise of maritime and commercial development in Europe. In dentistry the oil of cloves is among the oldest medications still used to soothe and sedate; to allay pain is the oldest goal of dentistry itself. The story of the pharmaceutical use of oil of cloves reflects the evolution of dentistry.

I have three distinct childhood impressions of visits to my father’s dental office: the big aquarium in the waiting room, the dazzling treasure chest full of prizes, and the funny smell that permeated the premises. It was the smell that I came to associate with dentistry more than any other emblem. As a dental student, I was startled when I discovered the aroma let loose from the little brown bottle of eugenol — that was it. That was the scent. Plunging into practice, I began to exude the scent myself. It seemed to linger, subtle and pervasive, the olfactory halo of my profession. My wife, amazed at my metamorphosis into dental surgeon, would exclaim, “You even smell like a dentist!”

Introduction

Eugenol’s perfume, as well as its substance, is derived from the oil of cloves. Clove is the name given to the dried flower buds of the *Eugenia caryophyllata* tree of the myrtle family. The clove tree is indigenous to the Molucca islands of Indonesia. Reaching heights of forty feet, it has deep green leaves and tiny bright red flowers. Four to seven thousand of the tree’s dried buds yield one pound of the spice. Clove’s name is probably taken from the French clou, for nail, owing to the distinctive shape of the bud. The oil distilled from the clove holds a unique place in the history of dentistry: it is one of the few traditional medicaments still widely used by dentists today.

Origins: Food, Medicine and Empire

The use of cloves as a breath freshener goes back millennia. The spice has been in use since at least the third century B.C., when it was reportedly introduced...
to the Chinese court. Subjects awaiting an audience with emperors were required to suck cloves to mask breath odors. Ancient Hindu medical writings allude to the use of cloves and pepper for treating toothache and other oral disorders; in regions of India the practice of plugging painful teeth with a paste of cloves and water has apparently persisted into the twentieth century.

The 17th century herbalist Coles declared that the Greeks had no name for cloves, implying that they were not acquainted with the spice. The Romans called it Clavus. Pliny, famous for his comprehensive work, *Natural History*, may have been the first author to call attention to the clove. He reported it to be from India, and described it as similar to pepper. But cloves were extremely rare, and it is doubtful that either Pliny or Dioscorides, the Roman military surgeon whose works on medical botany became the authoritative source for European pharmacy for 1500 years, ever tasted what would be one of the West's most prevalent spices.

To the Moslems who fell heir to classical medical traditions, mouth odors were a serious impairment of physical beauty. Cloves abounded in their prescriptions for breath fresheners. The Arab physician, Avicenna, exerted a lasting influence on the west. Accepting the Persian Rhazes' conviction that bad breath is caused by "putrifaction" of teeth and gums Avicenna treated the symptoms with 'clove pills,' a nostrum that was echoed in Europe for 500 years.

Arab merchants, familiar with their value as both remedy and foodstuff, brought cloves to Europe; the Venetians, then the Portuguese and Dutch, built empires based on the spice trade. By the late middle ages all Europe depended on the East for spices; one Florentine entrepreneur of the early 14th century listed an inventory of two hundred and eighty-eight different kinds. The clove and its companions were to exert a lasting influence on the West. Accepting the Persian Rhazes' conviction that bad breath is caused by "putrifaction" of teeth and gums Avicenna treated the symptoms with 'clove pills,' a nostrum that was echoed in Europe for 500 years.

The ailments of one group would be medicated with antidotes of the opposite. To a toothache caused by "cold" would be applied a hot remedy, like pepper (which was a great favorite), or cloves.

### Advent of the Oil of Cloves

The medical school in Montpellier, France, had the reputation in the 17th century as being more progressive than its conservative, Galenical counterpart in Paris. It was in Montpellier that the oil of cloves may have been first proposed as an anodyne for toothache. Perhaps observing that contact with cloves produces a mild anesthetic effect. Professor Lazare Riviere is credited with having been the first to place cotton dampened with oil of cloves in a cavity to stop dental pain.

Riviere must have been aware of the work of forerunners. Two centuries earlier, a Portuguese named Balascon of Taranta wrote a medical dissertation while in residence at Montpellier's famous school. Balascon described therapy for tooth decay, advocating removal of caries with a file and placing cloves or pepper in the cavity.

Riviere's own tome, *Practice of Physic*, which was published in French in the 1640's and translated into English in 1687, may well be the earliest book to describe the procedure of applying the *oil of cloves* for odontalgia: "Commonly the oyle of cloves is used in a little linct to stop the tooth if it be hollow, or otherwise, for so the humor, adhering to the part is drawn forth, and the part strengthened." It was an age in which botanic "simples," as one-ingredient herbal drugs were called, were often disdained in favor of intricately compounded chemical concoctions. Indeed, Riviere seems to have been fairly uninterested in the sedative properties of oil of cloves; he may have been merely describing an already traditional usage.

But in the New World, a similar treatment was being advocated. From the 1696 notebook of New England physician Thomas Palmer, this entry is found under the heading *Of Chymical Oyls*: "Oyl of Cloves — stayeth ye putrifaction of the bones in old and new ulcers, asuages the paine in the teeth from a cold cause. It heals wounds, diseases, wind, digesteth cold humours. Causes a sweet breath." The reference to cloves as a preservative of human tissue is probably a reflection of its use in food.

### Universal But Not Supreme

Although it has had remarkable staying power, oil of cloves was never the only, or even the preeminent, dental obtundent. Peter Kalm, a Swedish botanist who traveled in America on a research mission of the Swedish Academy of Sciences in the years 1747 to 1751, observed, "The remedies against the toothache are..."
almost as numerous as the days in a year. There is hardly an old woman but can tell you three or four score of them, of which she is perfectly certain that they are as infallible and speedy in giving relief as a month's fasting, by bread and water, is to a burdensom paunch. Leo Kanner, in his book, Folklore of the Teeth, explained the profusion of toothache remedies and medications (and the variety of would-be healers) by emphasizing the universality of the fear of toothache. In addition to detailing the use of animal material, minerals, prayers, chants, charms, pilgrimages and rituals to battle dental pain, he included a list of 133 plants used in treatment. Such popular palliatives as garlic and henbane were enumerated, and the likes of ginger and cinnamon were catalogued with the regions in which they were traditionally employed. But oil of cloves, Kanner pointed out, is a universal medicine; it has been used in all European countries.

Accompanying the Rise of the Dental Profession

By the eighteenth century such prominent dentists as Thomas Berdmore were advocating cloves in the relief of afflicted teeth. Berdmore, appointed Operator for the Teeth to King George III, described the chewing of "acrid aromatic substances," including allspice, camphor, mace and cloves, as a common remedy for toothache. When pain is too severe for the cautery of dental 'nerve and vessels,' he advised that using "oil of cinnamon or of cloves applied in the cavity, shrivels and destroys the nerves more gently and slowly than caustic applications, and after some days suppresses its sensibility so far as to admit the use of instruments, to widen the cavity, to clear away the cariated parts, and to fill it with gold or lead, to prevent the future access of air, the lodgment of food, and farther progress of the disease." Pierre Fauchard included cloves or oil of cloves as ingredients for various pastes, plasters and "opiates for the teeth." He also advocated placing a ball of cotton dipped in oil of cloves in a carious tooth to reduce sensitivity. After giving recipes for several pastes "to dissipate fluxions and appease the toothache," Fauchard allowed that "These remedies are most successful when at the same time a little cotton or lint steeped in oil of cloves or cinnamon mixed with equal parts of extract of opium is placed in the cavity and the patient is bled and purged."

Herbals, Almanacs and Textbooks

Oils of plant substances, including clove, cinnamon and camphor, have enjoyed the confidence of professionals and the laity alike, and have been mentioned in the herbals and almanacs that both groups referred to in the search for a cure. The early 19th century pharmacopoeias describe the clove and oil of clove, detailing harvesting (the buds are picked in October and November, when still green), solubility ("water extracts their odour but little of their taste . . . alcohol and ether take up both . . ."). specific gravity (at 1.020 the oil sinks in water), distillation and purpose (the oil is "used as a local application in the toothache"). Professor Gardner P. H. Foley documented the following passage from the Town and Country Almanac, Baltimore, 1840, under the heading Remedies for Diseases of the Teeth: "... if hollowed or decayed, apply . . . some essential oil, on cotton." The French dentist C. F. Maury judged that tooth pain is produced predominantly by carious activity or tooth fragments left in their sockets. In the event of extreme pain and pulpal exposure, Maury flatly advocated extraction. With less advanced decay, he felt confident in pursuing more gentle therapy, declaring that "very often the most severe pain will yield to the application of a little cotton saturated with essential oil, and introduced into the decayed cavity of the tooth." The 1843 English translation of Maury’s dental manual includes a recipe for "soothing drops," which was enthusiastically touted as
"one of the most efficacious remedies we know of for toothache produced by caries of the teeth, or other affections of the mouth." 

Soothing Drops
- Alcohol .................. 3 ounces.
- Sulphuric Ether .............. 1 ounce
- Tincture of Opium ........... 1 ounce
- Turlington's Balsam ........ 3 drachms.
- Essence of Cloves ........... 3 drachms.

Sources of Modern Usages

In October 1873, the seventh annual meeting of the Tennessee Dental Association was convened in Nashville. In its proceedings is recorded a discussion of pulp capping agents. Creosote was advocated by several participants. E.S. Chisolm, from Tuscaloosa, Alabama, proposed something completely new: oil of cloves mixed with zinc oxide powder would form a moldable, hardening putty to cover and calm exposed pulps. The idea would become a simple, universal technique.

Towards the end of the 1800s, Willoughby Miller was helping to change the face of dentistry by injecting scientific research into the centuries of tradition and empiricism. In his landmark 1890 work, The Micro-Organisms of the Human Mouth, Miller mused briefly on the possible germ killing properties of the essential oils. Reporting that "wintergreen oil and similar aromatic substances" have, except for oil of peppermint, seemingly very little potential for antisepsis, he nevertheless cautions that "According to Black . . . oil of cassia, oil of cinnamon, and oil of cloves have a much higher antiseptic action than the oil of peppermint. The results obtained by Black, in so far as they refer to the oil of cloves and oil of peppermint, are in direct contradiction to those obtained by Koch, who found that the oil of peppermint has an action nearly seven times as strong as that of oil of cloves." Miller tempers this disparity between the conclusions of G.V. Black and Robert Koch, the future Nobel prizewinning bacteriologist, by quickly assuring his readers that "This difference is no doubt to be accounted for in the difference in the bacteria experimented upon."

With the coming of the twentieth century oil of cloves was widely accepted as the therapeutic agent of choice among pulpal sedatives. G.V. Black declared, "If the pain is caused principally by inflammation of the pulp, a medicament is indicated to reduce the inflammation, and in my hands nothing has proven more satisfactory than oil of cloves . . . ." The 1915 text, Dental Pathology and Therapeutics, announced that sedative agents are "imperatively called for" in the face of carious sensitivity, "the most effective being the oil of cloves, or eugenol, equal parts of oil of cloves, and phenol . . . or solutions of cocaine." Zinc oxide-eugenol became popular as an "antiseptic foundation; in a cavity, "useful in doubtful cases in determining the possible bad reaction of the pulp." It was suggested as a good temporary filling for weeks, or months, or sometimes even years.

In the 1930s oil of cloves was deemed an ideal pulp capping agent, since it purportedly would both sterilize and harden cariously involved dentin. An entry in a 1945 text on materia medica for dentists lists the essential oils useful in dentistry as:

- Oleum Caryophylli (Oil of Cloves)
- Oleum Cassia (Oil of Cinnamon)
- Oleum Eucalypti (Oil of Eucalyptus)
- Oleum Menthae piperitae (Oil of Peppermint)
- Oleum Menthae viridis (Oil of Spearmint)
- Oleum Gaultheriae (Oil of Wintergreen)
- Oleum Terebinthinae (Oil of Turpentine)

These essential, or volatile, oils were said to be used as "antiseptics, carminatives, solvents for gutta percha, obtundents and flavoring agents."

Current Therapeutics and Popular Use

After 350 years, the oil of cloves continues to be quietly acclaimed. Particularly in combination with zinc oxide, it is constantly encountered. "One of the dentally useful chemical reactions," advises Skinner's Science of Dental Materials, "is that between zinc oxide and eugenol." That standard text goes on to describe zinc oxide and eugenol's medicinal and mechanical usefulness in dentistry: as a cement, surgical dressing, temporary filling material, root canal filling, bite registration paste, temporary denture reliner, and edentulous impression material. A 1986 research report predicted that "because of its low cost, simplicity, and efficacy, ZOE will probably continue to have the support of the profession for many years."
In the popular mind, as well, oil of cloves retains its reputation. In the 1974 novel, Marathon Man, all discomfort dissolves when the dentist applies the honored fluid:

The bald man gently rubbed the cavity with the liquid, as he did, the pain began to magically go away. "Is it not remarkable?" the bald man said. "Just simple oil of cloves and how amazing the results.

Babe licked at the finger, ran his tongue across his cavity. The dentist smiled, took some more oil of cloves, rubbed it over the cavity again, expertly, soothingly, making the pain disappear."

This 1988 advice from a weekly tabloid on taming toothaches at home is starkly familiar: "Place a wad of cotton soaked in oil of cloves, available at most drugstores, on the area. Avoid sweets and hot food." Only the admonition to seek a dentist's care as soon as possible identifies the quotation as belonging to the twentieth century.

Summary: A Retrospective

One of the efforts that has characterized dentistry historically is the ongoing search to decrease suffering. Examining the role of cloves, oil of cloves and zinc oxide-eugenol in reducing pain illuminates a larger view of the profession's development and relationship to society. The following vignette offers a glimpse of one dentist's methods for controlling dental pain. The description not only affords an enlightening look at attitudes which have shaded and influenced those of the present time, but also provides an entertaining example with which to summarize the profession's thorough dedication to assessing and assuaging hurt. At the same time it furnishes a testimonial to the usefulness of oil of cloves.

A chapter on preparing carious teeth for filling is found in C.N. Johnson's turn-of-the-century volume, Principles and Practice of Filling Teeth. Of Dr. Johnson it was declared that "no man in dentistry has so enviable a reputation for common sense." Addressing the management of toothache, Johnson conceded that the problems posed by hypersensitive dentin have been "prominently before the profession ever since teeth began to be filled . . ." He then observed that obtaining uniform results in the relief of sensitivity from cariously exposed dentin is difficult with any means of treatment.

Dr. Johnson suggested that the pain may be more psychological than physical: "In many instances it would seem to be the dentist who needed treatment instead of the patient." He called for the operator to adroitly combine treatment with chairside manner.

Outlining four personality types, he detailed the approach necessary to successfully deal with each. First are "those of a highly wrought, nervous temperament," who are often artists, writers and professional people. The dentist should take a no-nonsense approach in treatment, working in short, intense appointments. Procedures must be finished quickly.

In the next class of patients are "large, robust, healthy individuals who are by nature cowardly when it comes to infliction of physical discomfort." The author counseled stringing them along with temporary restorations to avoid causing pain and thus driving them from the office.

Third on the list are "effeminate, irresponsible individuals," without "stamina of any kind," who need a stern, authoritarian attitude from the doctor; dentistry is good for these people as a sort of disciplinary exercise.

Last are children, who come to the office afraid and apprehensive, "owing to the traditional table talk about the horrors of the dental chair." With children one should establish confidence, avoid lying, and keep visits short.

However, "In those cases (involving any of the profiled personality categories)," Johnson concluded, "where it seems impossible to remove the decay in the first instance, it is often advantageous to seal a pledget of cotton saturated with the oil of cloves in the cavity for three or four days . . ."

Dr. Johnson determined that the whole question of taking care of sensitive cavities can be summarized as hinging on "manipulative skill on the part of the operator, tact in knowing how to control the different temperaments among our patients, and the invariable use of the keenest, sharpest instruments."

And perhaps oil of cloves.

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2. Ibid, p 521.
11. Berdmore, T. A treatise on the teeth and gums. London,
1990 Reviewers

The American Academy of the History of Dentistry wishes to thank those individuals who have spent valuable time reviewing manuscripts for the Bulletin. Their professional expertise has contributed greatly to the quality of this publication.

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The Early Life of Nathan Cooley Keep, Monumental Figure in American Dentistry

by Malvin E. Ring, DDS, MLS, F.A.C.D.

Nathan Cooley Keep, who was to obtain world renown in later life as the first dean of the School of Dental Medicine of Harvard University, began his vocational career as a jeweler's apprentice. He left that trade and became a preceptoral dental student, opening private practice in Boston in 1821. He greatly influenced the development of prosthetic dentistry by his invention of superior porcelain teeth for which he was awarded a medal in 1839. Newly discovered documents in the archives of Harvard University throw light on the early years of this great dental innovator.

One of the most important leaders in American dentistry in the 19th century came to the profession after a long and arduous period as an apprentice to a jeweler. Chafing at his position, he managed to enter dentistry despite the apparent opposition of his family who counseled him against giving up the security of the jeweler's trade. Yet with little formal schooling, Nathan Keep went on to become one of the most celebrated dentists of his time and was chosen to head the first university-affiliated dental school, that of Harvard University.

Much has been written about Dr. Keep's successful career in dentistry; of how his testimony at the trial of Professor John White Webster for the murder of Dr. George Parkman was one of the earliest instances of the use of dental forensic evidence in a courtroom and how this testimony sealed the doom of Professor Webster and sent him to the gallows.

He also was one of the organizers of the Massachusetts Dental Society and its first president. In his inaugural address he stressed the need for thorough and formal professional education. "The liberal charter which has been granted to us by the Commonwealth, and which we have this day accepted," he said in that address, "gives us a legal existence as an institution for raising the standard of..."
that he was faithful to this trust is evident in the fact that when the Trustees of Harvard University agreed to establish a dental school as an integral part of the University, they called upon Dr. Keep to be its first dean. This was not only a tribute to his talent and fine professional standing but also to the fact that he was in the forefront of those who campaigned for the establishment of just such a school.

Several letters and papers, newly discovered in the archives of Harvard, give us an insight into the early life of this benefactor of the dental profession. They permit us to see what forces shaped his life; in addition they give us a better picture of what a new dentist needed in order to establish himself in practice.

Early Beginnings

Nathan Cooley Keep was born on December 23, 1800 in the town of Longmeadow, Massachusetts, the oldest of six children. He came from an intensely religious family, several of whom were very active in the church. His was a poor farm family with money too scarce for the finer things. Nevertheless, he attended the village school in his native town, but this schooling was meager compared to that of today.

At the age of sixteen he was apprenticed by his father to John Taylor, a jeweler in Newark, New Jersey. Keep showed fine skill in mechanics and was an apt pupil but did not want to stay in the jewelry trade, preferring another line of work. Apparently his first desire was to become a school teacher and the evidence for this is in a letter written to young Nathan by his father when the lad was only in the first year of his apprenticeship. The strong moral tone of the letter gives us an insight into Nathan’s upbringing.

Longmeadow, May 31, 1817

Dear Son,

We received your letter dated April 2nd which was very interesting to us. We have reason to think, by your writing, that your distress of mind was very great. We rejoice and give thanks to God that we have reason to hope that you are brought out of darkness into marvellous light (and) the love of God is spread about in your heart, and that you can rejoice in a crucified Saviour. Parents can have no greater joy than to hear of their Children walking in the truth. We feel very anxious for you; you are in constant danger of being led astray by the allurements of the world and the deceitfulness of your heart and the temptation of the Grand Adversary of Souls who goeth about like a roaring wind seeking whom he may devour. Keep near the throne of grace. Remember you have no strength of your own but all your sufficiency is of God.

In regard to what you wrote us about your leaving your business and applying to studying, your Uncle John was here when we received your letter. He let us see the one he received from you. We consulted him on the subject. He said he would write as soon as he could; he had a good deal of business on his hands. We wished him to write and we supposed he had. I should not have neglected writing so long had I not depended on him. It appears from yours by Mr. Taylor that he has not written. We have taken the subject into consideration; we consider it a matter of great importance and cannot decide hastily.

The undertaking is great on your part. Have you considered the inconveniences you will be under? We are not able to do a great deal for you in that way. Perhaps Mr. Taylor will think he must have some consideration if you leave him now. I have not seen him, We hear he is coming this week to our house. We do not know as it would be prudent to say anything to him as circumstances are.

If it is on the whole thought best for you to stay there, there need not be anything said to him about it. If on mature deliberation you should continue to feel anxious about it, you had better consult Mr. Tuchard on the subject. I feel willing to do what I can for you but am not able to defray the expense. You would have to seek patronage under some institution for educating pious youth.

If you should leave your trade and should not succeed in the undertaking it might be a great damage to you. A person may do a great deal of good in the world without being a public teacher. You can write to us and to your Uncle John hereafter about it. For the present I think you had better stay where you be.

I have thought of speaking to Mr. Taylor about your coming home next fall to make us a visit. I don’t know what he will say to it. We want to see you very much. Our corn was all cut off last year. Money is very scarce. The worms are eating up all our grass and gardens and corn in the fields. What is before us we know not. It is late and I must retire. I wish you good night.

Samuel Keep, Jr.

About three weeks later the elder Keep wrote to his son again, urging him to give up the idea of going on for further study and staying on as a jeweler’s apprentice.

Thursday morning, June 19, 1817

Mr. Taylor has been to our house. We have had a very good visit from him. He thinks it will be a damage to you to come home short of two years (for) visiting. His reasons are such I am satisfied on the subject. I have not said anything to him on the subject (of) your leaving him. I think you had better be contented where you be. Mr. Taylor is waiting. Perhaps Mr. Taylor will think he must have some consideration if you leave him now. We wish him to write and we supposed he had. I do not know as it would be prudent to say anything to him as circumstances are.

If it is on the whole thought best for you to stay where you be, I have thought of speaking to Mr. Taylor about your coming home next fall to make us a visit. I don’t know what he will say to it. We want to see you very much. Our corn was all cut off last year. Money is very scarce. The worms are eating up all our grass and gardens and corn in the fields. What is before us we know not. It is late and I must retire. I wish you good night.

Samuel Keep, Jr.
er's apprentice stood him in good stead in dentistry, and his association with medical practice gave him a keen awareness that in order for a dentist to be a true professional he must have a knowledge of medicine.

Dr. Keep apparently began private practice the following year as evidenced by an inventory he kept of instruments and supplies he purchased for the purpose. Dated August 12, 1822, the list shows what a dentist needed in order to establish an office in those days and what the financial investment was.

### INVENTORY OF INSTRUMENTS August 12, 1822

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small oilstone</td>
<td>.50</td>
</tr>
<tr>
<td>1 Small hammer</td>
<td>.50</td>
</tr>
<tr>
<td>1 Pair straight forceps</td>
<td>1.00</td>
</tr>
<tr>
<td>1 do Crooked do</td>
<td>1.00</td>
</tr>
<tr>
<td>2 Drill Stocks @ 25 cents</td>
<td>.50</td>
</tr>
<tr>
<td>1 Blow Pipe</td>
<td>.37</td>
</tr>
<tr>
<td>4 Lancets and case</td>
<td>1.50</td>
</tr>
<tr>
<td>Sundry hand files</td>
<td>4.00</td>
</tr>
<tr>
<td>1 Small Bench Vise</td>
<td>3.25</td>
</tr>
<tr>
<td>1 Pair Dividers</td>
<td>.88</td>
</tr>
<tr>
<td>4 Dental Files</td>
<td>.50</td>
</tr>
<tr>
<td>2 Pairs Flat pliers</td>
<td>1.00</td>
</tr>
<tr>
<td>1 Pair small cutting do</td>
<td>1.50</td>
</tr>
<tr>
<td>1 do Scissors</td>
<td>.31</td>
</tr>
<tr>
<td>1 Spring Saw, small</td>
<td>1.00</td>
</tr>
<tr>
<td>1 Tin vise</td>
<td>.87</td>
</tr>
<tr>
<td>1 Screw Plate</td>
<td>.75</td>
</tr>
<tr>
<td>3 Small Files</td>
<td>.37</td>
</tr>
<tr>
<td>29 Instrument Handles, silver ferrules</td>
<td>4.52</td>
</tr>
<tr>
<td>1 Bar for extracting Key</td>
<td>.25</td>
</tr>
<tr>
<td>12 Extracting Hooks</td>
<td>.25</td>
</tr>
<tr>
<td>1 Round File for Roots</td>
<td>.12</td>
</tr>
<tr>
<td>2 Large mouth Phials</td>
<td>.15</td>
</tr>
<tr>
<td>1 Small extracting inst.</td>
<td>3.00</td>
</tr>
<tr>
<td>1 Large do</td>
<td>1.00</td>
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<tr>
<td>1 Common extracting inst.</td>
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<tr>
<td>1 File</td>
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<td>1 Spatula</td>
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<tr>
<td>1 Large half-round file</td>
<td>.18</td>
</tr>
<tr>
<td>2 Small half-round files</td>
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</tr>
</tbody>
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### STOCK

<table>
<thead>
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<tbody>
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<td>75 Cows teeth</td>
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</tr>
<tr>
<td>2 Pounds Hippopotamus</td>
<td>2.00</td>
</tr>
<tr>
<td>1 Piece Hickory for pivots</td>
<td>.10</td>
</tr>
<tr>
<td>31 Grs. 38 Kt. Gold</td>
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</tr>
<tr>
<td>31 Grs. pure gold filling</td>
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</tr>
<tr>
<td>Ivory at Comb Factory</td>
<td>.25</td>
</tr>
<tr>
<td>4 Grs. Gold</td>
<td>.12</td>
</tr>
<tr>
<td>1 Piece Gold wire pivots</td>
<td>1.37</td>
</tr>
<tr>
<td>12 Cows Teeth</td>
<td>.37</td>
</tr>
<tr>
<td>6 Lbs. Hippopotamus teeth</td>
<td>12.00</td>
</tr>
<tr>
<td>1 Piece hollow tin wire</td>
<td>.12</td>
</tr>
<tr>
<td>2 Small castell rods</td>
<td>.33</td>
</tr>
</tbody>
</table>

### ARTICLES OF MERCHANDISE

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<th>Cost</th>
</tr>
</thead>
<tbody>
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<td>1.50</td>
</tr>
<tr>
<td>20 do do</td>
<td>.60</td>
</tr>
<tr>
<td>6 Toothbrushes</td>
<td>1.00</td>
</tr>
<tr>
<td>6 do do</td>
<td>1.13</td>
</tr>
<tr>
<td>Dentifrice</td>
<td>2.75</td>
</tr>
<tr>
<td>6 Steel plates</td>
<td>2.00</td>
</tr>
</tbody>
</table>

### FURNITURE

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<thead>
<tr>
<th>Item</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>2 Instrument Boxes</td>
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</tr>
<tr>
<td>1 Trunk, Small</td>
<td>1.37</td>
</tr>
<tr>
<td>1 Large Trunk</td>
<td>3.00</td>
</tr>
<tr>
<td>1 Watch, silver, cast</td>
<td>15.00</td>
</tr>
<tr>
<td>1 Pen Knife</td>
<td>.33</td>
</tr>
<tr>
<td>1 Pencil Case</td>
<td>3.00</td>
</tr>
<tr>
<td>1 Razor, concave</td>
<td>.37</td>
</tr>
<tr>
<td>1 Lather Box</td>
<td>.25</td>
</tr>
<tr>
<td>Jewelry on hand</td>
<td>15.00</td>
</tr>
<tr>
<td>1 Door Plate, Brass</td>
<td>2.00</td>
</tr>
<tr>
<td>1 Pocket Comb</td>
<td>.25</td>
</tr>
</tbody>
</table>

### Role in Developing Porcelain Teeth

One of the fields in which Dr. Keep received greatest recognition was that of manufacture of porcelain teeth. In 1807 Giuseppangelo Fonzi's momentous invention of what he termed "terro-metallic" teeth opened the way for the dental profession to liberate itself from being bound to the use of natural human teeth and teeth carved from ivory for artificial replacements. Both of them had highly objectionable and undesirable properties. However, the newly introduced "mineral" teeth were so poor esthetically that a search was underway in many quarters to find ways to improve them.

Among the leading dentists practicing in Boston around the time of Keep's entry into practice there was Josiah Foster Flagg, son of the eminent pioneer Colonial dentist, Josiah Flagg. The American Journal of Dental Science, in an article several decades later, said of this earlier period: "Dr. J.F. Flagg and Dr. Keep were experimenting in making porcelain teeth in 1833. The story is that they met with a dapper little Frenchman, a fine dancer and an entertaining conversationalist, who professed to have the secret of making such porcelain and offered to teach them for one thousand dollars. They made a bargain and got some information out of him, but soon concluded that he was a better dancer and talker than tooth-maker, that he didn't know much about practical details, and so dropped him, and went it alone, working in each other's laboratories so faithfully that they succeeded in setting their workshop on fire."2

This fanciful account is probably due more to the...
Rubbed off on his nephew, Plantou, allowing the latter not unlikely, therefore, that some of this innovation writer's imagination than to historical fact. It is indeed true that porcelain teeth were introduced into America by a French dentist, Antoine Plantou in 1817. But rather than being the charlatanish character the Journal painted him, he worked in this country successfully for over ten years, promoting his developments in the manufacture of porcelain teeth.

When Dr. Keep had been in practice for about five years he received a letter from this Dr. Plantou. Dated August 11, 1827, and written by Plantou from New York City, it was addressed to Dr. Keep at 24 School Street in Boston. The letter gives us some basis for concluding that Keep's work towards finding a better porcelain tooth probably had its genesis in the offer made by Plantou.

New York, 11th of August 1827

Sir

I am in this City for about ten days and when I left Philadelphia, it was my intention to proceed to Boston but having brought with me some letters of introduction, I find myself so much engaged that I have thought it would be better to write you a word to know, if, (as Mr. Gravert, whom I have had the pleasure to meet and for whom I have made a second set of teeth) if, I say, in case of my going to Boston, you would be willing to acquire from me the art of making those incorruptible teeth? I have no doubt it would be for you a valuable acquisition. I would impart it to you for the price of six hundred dollars and give you not only the receipt (recipe) but also material already prepared to make teeth.

Two ladies from Boston are to come soon in Philadelphia to have each a complete set of teeth made by me. They were formerly customers of Dr. Hudson and Dr. Hare, professor of Chymistry in Philadelphia who had commended me to them. They have agreed to pay me two hundred dollars each and as I am going this autumn to Europe for not to come back, such business would fall into your hands.

I have the honor to be

Your most humble servant
A. Plantou

Cortland and Greenwich at Mrs. Gant

Rather than being the comic character the previously cited article painted him, Plantou was apparently a highly respected member of the dental profession. His training was of a high standard — according to the prevailing method of preceptorial instruction of the time — when he arrived in this country from France in 1810 a notice in the General Advertiser for June 6, 1810, stated "... from Paris, pupil and nephew of the celebrated Bourdet, dentist to the late king of France."3

Etienne Bourdet, cited by Hoffmann-Axthelm as the most significant author after Fauchard, was named Dentiste du Roi in 1760. Noted for a whole array of innovative procedures, including many orthodontic devices, his greatest importance is in the field of prosthetics, for which he developed an array of differently designed dentures and obturators. It is not unlikely, therefore, that some of this innovation rubbed off on his nephew, Plantou, allowing the latter to experiment with, and advance the art of, porcelain teeth. It is known that in 1817 Plantou did introduce a superior porcelain tooth into the United States. Therefore it is reasonable to assume that in ten years he would have improved upon it sufficiently to feel that it was a marketable commodity. And since Nathan Keep had to get his start in the use of porcelain teeth from someone, it is also reasonable to assume that he would have taken up Plantou's offer.

Keep continued his research into the use of porcelain teeth, and improved upon them so much, that the Massachusetts Charitable Mechanic Association, at its Exhibition of 1839, awarded him its gold medal "for superior mineral teeth." This high honor was but one in a long line of honors and awards to be bestowed upon Dr. Keep. An earlier historian described Dr. Keep as "... one of the first few original manufacturers of porcelain teeth in America and carried the art to a high degree of perfection for that day. He spent many evenings in his cellar testing in a baking furnace new enamels and bodies he had compounded... the excellence of his imitation of the natural teeth... was considered unequalled in all that pertained to the niceties of their manufacture. His signal ability in this direction made him master of his art; he had the artist's eye and the delicate touch so rare in any profession." His years as a jeweler's apprentice had served him well.

Acknowledgement

The author wishes to thank Mr. Richard J. Wolfe, Curator of the Rare Books and Manuscripts Division, Francis A. Countway Library of Medicine, Boston, for making available to him these documents relating to Nathan Cooley Keep.

REFERENCES


Fig. 3. Medal awarded to Dr. Keep in 1839 by the Massachusetts Charitable Mechanic Association for his "superior mineral teeth."
Dental implantology is viewed by most people in our country, including many dentists, as a phenomenon in the 1980s. This paper discusses the history and current usage of dental implants, and demonstrates that dental implants are not new. Harry Truman said “the only thing new in the world is the history you don’t know.” Dental implants have a long history. However, it is true that the world of dental implantology has not been the same since the presentation by Dr. Branemark of his research on the success of the cylindrical threaded endosteal implant in 1977.

**Ancient Attempts**

Ancient civilizations sought for means to replace teeth. A pre-Columbian skull with a carved stone tooth was reported in 1893 by Andrews and the ancient Egyptians experimented with the replacement of teeth. Many early efforts at dental implants were probably what we would today call tooth transplantation. Archaeological findings show that the Egyptians, Arabs, Greeks, Romans, Etruscans and Chinese transplanted teeth. An Arabian, Albucasis de Condue (936-1013), is credited with leaving the first written record of replacing missing teeth with other teeth. He also presented the concept of making implants from ox bone.

**Transplantation**

The practice of tooth transplantation developed later in Europe. In 1530 Ambroise Pare transplanted teeth and in 1728 Pierre Fauchard, the Father of Dentistry, did so. Generally, only the wealthy or the nobility would receive a transplant — it was unbecoming, even then, to be missing front teeth. The teeth to be transplanted were generally acquired from the poor, who either sold the teeth for money (if they were fortunate) or simply had them removed against their will (if they were not fortunate). John Hunter, an Englishman, was a strong advocate of tooth transplantation. He wrote, “Although this operation is in itself a matter of no difficulty, yet upon the whole, it is one of the nicest of all operations, and requires more chirurgical and physiological knowledge than any that comes under the care of the dentist.”

However, transplantation began losing favor in the 1800’s for several reasons. First, with the age of individual and civil rights it was viewed as morally out-of-line for the rich to benefit at the expense of the poor.
Also, it was noted that diseases frequently were transplanted with the tooth. Syphilis, tuberculosis and actinomycosis were all noted as having been transferred. Besides the actual transmission of disease, the patient receiving the transplant typically had a period of illness that lasted for weeks. Cellulitis, osteomyelitis, and sinus tracts commonly developed. For these and other reasons, tooth transplantation generally lost favor. However, the author has met and visited with a practicing dentist who, in the 1980’s, was still “implanting” teeth from one individual to another. He described his technique as follows. After a sound tooth is extracted, it is saved and immediately frozen. When a patient missing a single tooth presents for care, sort through the collection of frozen teeth and find one to match. Then resect a flap, make a socket in the bone with a bur, insert the tooth, close the flap and splint the tooth. He completed the case by doing root canal therapy. He followed cases for two or more years and indicated that the teeth were stable and functional, and the patients were happy.

Replantation

Developing concurrently with transplantation was replantation, a procedure that was more successful and was not a moral issue. Again it was Pare in 1530 who first advocated replantation of avulsed teeth. In 1768 Bourdet gave the first written account of replantation and in 1778 Hurter popularized the technique. Replants were more popular than transplants because 1) no donor fee had to be paid; 2) using one’s own tooth precluded the need for matching teeth; 3) the results were more successful; 4) there was no disease transmission; and 5) it was not a moral issue.

Replantation of avulsed teeth is a procedure still advocated and commonly practiced today. It is not now regarded as a dental implant, but it certainly is a viable means of replacing a recently lost tooth.

Endodontic Endosteal Implants

There is one category of dental implant that fits somewhere between a tooth implant and a non-tooth implant, the endosteal endodontic dental implant, or the placing of an implant through an endodontically treated tooth to secure that tooth into bone. In 1943 Strock and Strock published the first report on endodontic implants. They used the technique to stabilize lower anterior teeth whose root formation was incomplete due to disease or injury or whose roots had been amputated and, therefore, were not stable. Then in 1958 Orlay expanded the use of the endodontic implant to stabilize periodontally involved teeth. In 1967 Frank standardized the technique, developing Vitalium pins that corresponded to standard instrumentation. In 1966 Lew developed the threaded implant that Judy redesigned in 1973. The overall success of the screw has been shown to be better than that of the pin.

The endodontic implant is unique among dental implants. It has no contact with the oral epithelium and thus is not perimucosal. The difficulties associated with the implant/mucosa interface are eliminated when this implant is used. The failures with these implants occur through improper technique, lesions of endodontic origin, root fractures, or poor implant design. The success rate is reportedly high and with a 35 year history this implant is a viable treatment alternative.

Non-Tooth Implants

Non-odontogenic dental implants began to become popular 100 years ago. The half century beginning in 1880 and continuing until 1930 saw much experimentation in the field of dental implants. The half century starting the 1930s and continuing to the present is the time when the dental implants currently used were developed. Let us begin with a review of that first 50 years from 1880 to 1930.

The work on antisepsis by Lister in 1860 paved the way for successful surgical procedures. In 1887 Harris inserted a lead root containing a platinum pin which was fused to a porcelain crown. The following year Berry tapped lead roots into tooth sockets. In 1890s Pajme inserted silver capsules onto which porcelain crowns were added a few weeks later, and Bonwill experimented with gold or iridium tubes to support one tooth or a full upper or lower denture. In 1905 Scholl developed a corrugated porcelain tooth which he implanted and fitted with teeth. In 1913 Greenfield reported on an endosseous crib made of iridio-platinum which had been placed in 1906. In 1921 Tompkins implanted porcelain teeth.

While some success was noted during this time using certain procedures, it wasn’t until the late 1930s that modern dental implant technology and terminology began to develop. Alvin Strock in 1937 inserted Vitalium screw-shaped endosteal implants which had the first long-term success (15 years). In 1986 Dr. Strock left an account of how nearly 50 years earlier, he placed the first Vitalium implant.

Vitalium, a cobalt-chromium alloy, was introduced to dentistry in the 1930s as a metal for removable partial dentures. In 1934, a noted surgeon, Dr. Charles Venable, went to his dentist, Dr. Wheat, for a partial denture. According to the account left by Dr. Strock,
Dr. Venable learned of the metal Vitallium and "jumped out of the dental chair before the dentist could finish his description of the new metal. Dr. Venable rushed to his laboratory, where he conducted a series of experiments which he published entitled, "The Effects of Bone on the Presence of Metals Based Upon Electrolysis." These experiments proved the inertness of the metal embedded in tissue. The metal was known to the dentist as Vitallium — and that it how it all began. This metal could now be inserted into body tissue and not be removed."

Dr. Strock obtained Vitallium screws from Dr. Venable, and in 1937, as an oral surgery intern at the Brigham Hospital in Boston, placed two screw implants made of Vitallium. His first implant experience in his own words is as follows:

"In those days, there was no protocol necessary for experimental surgery. I watched out in the dental clinic for a suitable case, and located one with a diseased mandibular incisor with an apical lesion . . . The Venable Vitallium screw was placed immediately after extraction, using a celluloid crown form on the screw head as a functional crown.

War then came on — our work was interrupted. When I returned, I was fortunate to be able to locate my first case. I wondered if exfoliation of the implant occurred during the years of my absence — but, no, all was intact! Patient E.B. was followed for a total of 15 years, until 1953 when he was, unfortunately, killed in an auto crash far from Boston." 15

Simultaneously, Adams patented a submergible, cylindrical screw implant with a rounded bottom, smooth gingival collar and healing cap. In 1938 Skinner and Robinson began research on yet another early type of dental implant — the through-and-through intrasosseous metal implant to stabilize a denture. This implant traversed buccolingually through the alveolar bone and the denture snapped over it. 16 And in 1939 Secord and Breck reported the first "osseointegration" between bone and metal.

"On September 28, 1939 . . . operation was performed . . . vigorous attempts were made to remove the screws. Finally, one of us fitted the end of a screw driver into the slot of the screw while the other grasped the shaft of the screwdriver with a pair of pliers, and simultaneously we exerted a twisting motion. Despite our combined efforts, we were able to loosen only one of the four screws. The plate and screws were left in site." 17 Thus we can see that the concepts used in today's endosteal implants, typified by the Branemark implants, are not new, but have a history of 50 years.

Current Implantology

Currently, there are four types of dental implants in common use with more than 25 implant modalities in existence. The four most commonly used dental implants are: 1) subperiosteal, 2) transosteal, 3) endosteal blade, and 4) endosteal root-form. Other implant designs such as pins and needles, endodontic stabilizer, mucosal insert, fiber mesh and ramus frame have been used.

The four major types of implants are classified by their position. Subperiosteal implants rest on bone, being placed between the periosteum and the bone. Transosteal implants penetrate the full thickness of the mandible. Endosseous implants are inserted into the bone, and come in two common forms: root-form implants and blade implants. 18 In addition to these four, the mandibular ramus frame implant, which is less commonly used, merits review.

Ramus Frame Implants

The ramus frame is a one-piece implant designed to retain a mandibular full denture. It was developed by Harold Roberts in 1970 and does have some potential advantages over other types of implants. It provides exceptional stability, can be implemented in a one-stage operation in a dental office employing local anesthetic and intravenous sedation, and it costs less than the mandibular staple or subperiosteal implants. The metal used is surgical stainless steel which is highly polished and chemically treated to render the metal passive. The ramus frame implant is horse-shoe shaped and is inserted posteriorly in both mandibular rami through the retromolar pad and anteriorly in the anterior symphysis of the mandible.

Currently, there are six modifications of the original design of the ramus frame. According to a 1978 survey at Baylor College of Dentistry, the success of treatment was 95% for retention of the ramus frame for four years or longer. 19 The other four implant modalities have a longer history and are more widely used than the ramus frame, but it is a viable implant alternative and is being used successfully today.

Subperiosteal Implants

Subperiosteal implants were first conceived by Gustav Dahl in 1940 when he inserted a metal structure on the crest of maxillary alveolar bone. Aaron Gershkoff and Norman Goldberg modified the concept and inserted the first viable subperiosteal implant in 1948. These implants rest on the surface of the bone, and it is not claimed that they integrate with bone, although some have been coated with hydroxyapatite to encourage osseointegration. Typically these are used...
for the fully edentulous rather than partially edentulous arches, and are more commonly placed on the lower rather than the upper jaw. They are especially recommended for patients with marked bone resorption. They are commonly made of Vitallium, the chrome-cobalt alloy used by Strock in 1937.

The first attempts at the placement of subperiosteal implants utilized stone casts of the edentulous ridges that had been altered to approximate the contour of the bone. These changes in the cast were based on intraoral radiographs that were used to estimate the soft tissue thickness. In 1951 Berman developed the direct bone impression technique, which provided better fit and accuracy, but was a two-stage surgical procedure. 21

With the advent of computerized axial tomography (CAT-Scan) computer-generated models can be made, thus eliminating the need in many instances of the surgical stage of impression taking. At Loma Linda University, 72 subperiosteal implants have been placed since March 30, 1984, all having been designed on models from this CAT-Scan method. To date, none have been removed. 22

The subperiosteal implant has been a safely and effectively used treatment for decades. Three separate studies show that subperiosteal implants have been a successful mode of treatment for the past 35 years: one by Bodine, 22 a second by Young, 23 and a third by Golec. 24 Long ago these implants were recognized by the American Dental Association Council on Dental Materials, Instruments and Equipment as safe and effective. 25

Currently, guidelines are being developed for an alloy acceptance program for custom-made subperiosteal implants. One estimate suggests that in 1987 nearly 6,000 subperiosteal implants were placed in the United States. The use of these implants has been slowly increasing over the past few years, and that trend will likely continue. 26

Transosteal Implants

Transosteal implants, another type of dental implant, are the least used of the commonly used implants. Over the past few years the number of transosteal implants has remained at about 1,000 per year in the United States, with some estimates of as many as 1,400 a year. There are two common types of transosteal implants, both of which are used solely for the mandible and which are inserted into the mandible from below. The first type is the mandibular staple plate of United States origin, associated with the name of Dr. Irwin Small, and made of Vitallium. The second type is the transmandibular implant, associated with Dr. Hans Bosker of the Netherlands, and made of a gold alloy. 27

Transosteal implants generally require an extra-oral surgical incision in the submental region. They are usually placed in a hospital operating room while the patient is under general anesthesia. These implants generally support a removable appliance, and were developed after extensive animal and clinical trials. The implants have been shown to be safe and effective and have been used for many years. Transosteal implants are recognized in the 1988 NIH consensus statement on dental implants. 28

Blade-Form Implants

Blade-form endosteal implants are a third type of dental implant and were the most commonly used form of dental implant in the United States until 1986, the year that more root-form endosteal implants were placed. Blade implants accounted for about 50% of all patients implanted by the year 1987. In 1985 an estimated 12,000 blade implants were placed and it is projected that by 1990, 16,000 blade implants will be placed annually. Three studies demonstrate that the blade-form implants are a viable treatment: one by Fritz/Smithlof1, a 15-year prospective study; 29 another the Harvard Blade Clinical Implant trial; and a third by the Veterans Administration Cooperative study on dental implants. 30 In the February 1989 issue of the Journal of the American Dental Association, the Weiss system of blade-form implants was noted as having received provisional acceptance by the ADA. 31

Blade implants were introduced independently in 1966 by Leonard Linkow, and in 1967 by Ralph and Harold Roberts. 32 The blade, or flat, implant is useful in areas where the bone is narrow and/or shallow. Root-form implants require both wider and deeper bone than do the blade-form implants. Blade implants are used most commonly for the partially edentulous, and most often for the posterior edentulous segment. The blade may be single or double.

Currently, the use of submergible blade implants (with removable heads) coupled with refined instrumentation and surgical techniques has allowed improvement in their performance, including osseointegration and fibro-osseointegration of blade implants. The blade implants are most commonly made of metal, but some are ceramic.

The metal of choice appears to be titanium due to an oxide film that forms on its surface, reducing its interaction with oral tissues and fluids. Stainless steel has been shown to be corrosive; Vitallium and other cobalt alloys also have been used. The non-metal material used most frequently is polycrystalline aluminum oxide sapphire but single crystalline blades have also been
used to fabricate blade implants. Coating of metal blades produces no significant clinical difference, although blades have been coated with hydroxyapatite, aluminum oxide, Proplast or tricalcium phosphate in an effort to enhance success.\textsuperscript{33}

**Root-Form Implants**

The fourth type of commonly used dental implant is the root-form endosteal implant. Many people think all implants are of this type or that there are no other forms of dental implants, but it has been reported in this paper that other successful implant modalities exist. Beginning in 1986, when 17,000 were placed, the root-form implant became the most commonly placed implant in the United States. In 1985 about 8,000 were placed and in 1990 an estimated 42,500 root-form implants will be inserted.\textsuperscript{34}

The early developments in root-form implants have already been noted. In 1952 Branemark began his extensive study of cylindrical threaded endosteal implants that revolutionized the world of dental implants when he published it in 1977. Nine years later, in 1986, the Branemark system received provisional acceptance by the American Dental Association.\textsuperscript{36} In the February 1989 issue of the *Journal of the American Dental Association* it was noted that the IMZ system had received the same provisional acceptance.\textsuperscript{36}

Many others besides Branemark were involved in the development of the root-form implants. Formiggini in 1947 continued developing his spiral design implant and Chercheve developed the double helix. Linkow, noted previously for his contributions to the blade implant, designed the vent implant, which has threads, vents, and a hollow core in 1963. In 1965 Lew wrote on the development of a cobalt-chromium-molybdenum screw that was self-tapping.\textsuperscript{37} While these and other efforts all contributed to the development of the root-form implant, it was the extensive documentation that Branemark produced in 1977 that began the new age of implants in the United States.

The root-form implants are generally made of metal and may be threaded or unthreaded, conical or cylindrical, and solid or hollow baskets. There are also combination forms where features of a hollow cylinder and a screw both appear. Implant surfaces may be smooth or deliberately roughened or notched.

The materials used for these root-form implants include polymers and ceramics as well as the more common metals. The metals used include the following: commercially pure titanium, stainless steel and other alloys such as gold-platinum-silver-vanadium and titanium-aluminum-vanadium. The metal implants may be coated with biocompatible materials such as tricalcium phosphate or hydroxyapatite to encourage osseointegration.

Root-form implants find use both in the maxillary and mandibular arches, and are used for both the partially or the fully edentulous. They require wider bone than do the blade-form implants. They are used to replace a single missing tooth, and also are used in conjunction with natural teeth as fixed bridge abutments. The appliances supported by root-form implants may either be removable or fixed.

**Conclusion**

Dental implants are not new but have been popularized during the 1980s. Most of the earliest work done with implants was in the areas of transplantations and replantations. Then, beginning in the late 1800s, many individuals attempted many implant procedures, providing the foundation upon which dental implantology has grown and flourished. Since the 1930s successful dental implants have been placed.

In the United States in 1987, over 10,000 dentists were using implants. About 5,880 of these were general dentists, or 6% of general dentists in the country. Of 5,400 oral surgeons 3,700 placed implants and of 3,300 periodontists 990 placed implants. When a general dentist performs implant surgery, he usually also performs the restorative phase of treatment; when a specialist does the surgery, someone else usually does the prosthetic work.

The most popular implant in the United States today is the titanium root-form endosteal implant. This does not mean that other modalities have no place in dentistry — other modalities when properly placed have proven records. What it does mean is that for almost any edentulous situation or condition there are implants that can help. It also means that dentists need to learn the indications for each common type of implant so proper treatment planning can be accomplished. Virtually all major types of dental implants are being used frequently. This bodes well for the future of implants and for dentistry in general. Much “history” is yet to unfold in the exciting field of dental implants.

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Subacute bacterial endocarditis (SBE) remains a potential risk for dental patients with preexisting cardiac disease. Prior to the mid-1940s, little could be done except to educate practitioners about the risk of SBE that faced heart patients. During the mid-1940s, however, clinical investigators discovered that this insidious malady could be treated with penicillin or prevented with prophylactic doses of the drug prior to dental procedures. By 1950, dentists routinely administered prophylactic antibiotics to patients with a history of heart disease. The reduced incidence of rheumatic fever since the mid-1940s (with a concomitant reduction in heart valve damage), combined with the use of penicillin, has lowered the number of SBE cases. Subacute bacterial endocarditis during the pre-penicillin era, however, remained a potential danger for many individuals with valvular damage from rheumatic fever. Prior to the 1940s, little could be done except educate practitioners about the grave risk of SBE that faced heart patients.

Subacute bacterial endocarditis (SBE) remains a potential risk for dental patients with preexisting cardiac disease. During the mid-1940s, however, clinical investigators discovered that this insidious malady could be treated with penicillin or prevented with prophylactic doses of the drug prior to dental procedures. By 1950, dentists routinely administered prophylactic antibiotics to patients with a history of heart disease. The reduced incidence of rheumatic fever since the mid-1940s (with a concomitant reduction in heart valve damage), combined with the prophylactic use of penicillin, has reduced the number of SBE cases. Subacute bacterial endocarditis during the pre-penicillin era, however, remained a potential danger for many individuals with valvular damage from rheumatic fever.

The stage was often set for SBE after a bout with rheumatic fever. The fatal conclusion usually came when, during an extraction, *Streptococcus viridans* entered the bloodstream and lodged on the rough edges of the scarred heart valves. Vegetating there, the *Streptococcus viridans* multiplied and dispatched both bac-

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Between the 1880s and the 1920s, investigators acquired ordered the removal of all of a patient's teeth. Spurred its connection to organisms found in the mouth. he referred to as "medical wholesale extractionist(s)," between the patient's physician and dentist. Dr. S. Calvin Smith, a physician, emphasized to the members of the Pennsylvania State Dental Society in 1928 that dentists and physicians should respect one another's expert opinion about the interaction of systemic disease and dental health. Too many physicians, whom he referred to as "medical wholesale extractionist(s)," ordered the removal of all of a patient's teeth. Spurred by suspicious areas on a dental x-ray, Smith announced, "the teeth are ordered out by the hasty, tunnel-blind and saw only an apparently perfect clinical picture of SBE, Craig reminded his readers that the young patient should contract SBE due to a dental infection. Referring to the risks associated with rheumatic fever and congenital heart lesions, Craig stressed, placed such dental patients at extreme risk for SBE. He noted that most cases proved fatal in only a few months for no effective treatment existed for the dreaded malady. Echoing Craig, one contemporary textbook commented, "Various drugs, vaccines and serums have been tried without any apparent influence on the course of this disease. The end is no doubt often hastened by the employment of radical measures, chiefly those which are followed by a severe systemic reaction." Given the danger of SBE in rheumatic dental patients, Craig posed, how should dentists treat such cases? "Our problem . . ." he wrote, "is the prevention and treatment of foci in heart patients, foci whose presence is undermining the general wellbeing, but whose removal may precipitate a malignant disease." Craig believed that prevention represented the first line of defense in preventing SBE. Dentists should treat caries as conservatively as possible, attempting to maintain "the vitality and health of the pulps of all persons with congenital and other heart diseases." Although Craig did not endorse "wholesale extractions," he agreed with one authority that it was unwise to wait until a tooth had become severely infected before considering its removal. Once a dental infection had established itself, Craig told his readers, it was probably best to remove surgically "every ascertainable focus of infection." Absolute
sterility in the operative field reduced the already great risks to the patient. Pre-operatively, the author endorsed digitalis three times per day for the two days prior to the procedure; post-operatively, Craig suggested “morphine or sedatives.” He concluded, however, that “we must admit that in the bacterial forms (of endocarditis), once established, no dental procedures were known to be of positive benefit.”

The introduction of the sulfonamides in the late 1930s marked an important turn in the treatment of dental infections and their sequelae. Since the sulfas were effective against many streptococcal organisms, investigators considered their use in oral infections. Some researchers recommended crushing a five grain sulfanilamide tablet and sprinkling it into the tooth socket every twenty-four hours as necessary. In cases of severe gingival infections, a thick paste of sulfanilamide and distilled water was recommended. Dentists were warned, however, of the potential side-effects of the sulfonamides (i.e., renal complications, gastrointestinal upset, and fever).

The sulfonamides, however, proved disappointing in the treatment of SBE caused by *Streptococcus viridans*. Perrin Long and Eleanor Bliss, pioneers in the clinical use of the sulfas, reported in 1939 that only five out of sixty endocarditis cases had been “cured” by sulfanilamide therapy. Too often, they noted, the clinical signs of the SBE abated for several weeks while the patients received sulfanilamide, but “then the organisms reappeared and were never absent again.” “We were persuaded . . .” Long and Bliss concluded, “that every patient suffering from subacute bacterial endocarditis should receive intensive therapy with sulfanilamide. It is also our opinion that, provided the treatment is tolerated, it should be maintained until a ‘cure’ or death results.”

The sulfonamides did demonstrate some reduction of transient post-extraction bacteremias. Drs. Philip M. Northrop and Mary C. Crowley of the University of Michigan Dental School wrote in March 1943 that prophylactic use of sulfathiazole reduced the bacterial levels of *Streptococcus viridans* in the majority of their patients. They admitted, however, that their study was only preliminary and failed to demonstrate conclusively that the drug prevented SBE in high-risk cases. The authors could only hint that “the possibility of an ensuing subacute bacterial endocarditis is greatly diminished by premedicating with sulfathiazole.” Dentists, Northrup and Crowley stressed, had a grave “responsibility” to enquire about any history of rheumatic fever or any other “cardiac disturbance.” Once the *Streptococcus viridans* had lodged itself on the damaged heart valve, one writer added, SBE followed an almost certain fatal course.

Not until 1945 did a suitable alternative appear: penicillin. Although clinical investigators had used the drug in sulfonamide-resistant infections since the early years of the Second World War, its administration had been restricted to diseases that were proven penicillin-sensitive and of military interest. SBE was not one of them, for in 1942 penicillin treatment of ten endocarditis patients had failed. It was not until early 1944, in a paper published in the *Journal of the American Medical Association* that several researchers demonstrated that inadequate doses of penicillin had doomed the initial studies to failure. Sufficiently large doses of penicillin administered over a period of several weeks or months were necessary to prevent a relapse of the disease.

Penicillin’s use in dentistry went far beyond the treatment of SBE. Dr. Leonard Weiner of the Army Dental Corps reported in May 1945 use of penicillin against oral infections caused by a wide range of bacteria (including several cases with *Streptococcus viridans*). Using both local and intramuscular penicillin injections, Weiner found that none of his fifty-six patients (many of whom had serious oral infections) suffered any post-extraction complications. One “acutely ill” patient with severe cellulitis due to pericoronitis appeared “fully recovered” after four days of treatment with penicillin. Overall, he had received 80,000 Oxford units of the drug. Another patient suffering from cellulitis, who received only 12,000 Oxford units of penicillin, Weiner described as “an amazing case.” He commented that the infection “seemed to clear up as if by magic.” “Almost without exception,” he remarked proudly, “the men remained on a duty status, losing little or no training time.”

But would penicillin be of any use against SBE? The evidence had shown that *Streptococcus viridans* was highly sensitive to the drug, and several wartime studies had suggested that penicillin could effectively treat the disease. Dr. Leo Loewe and his colleagues had produced extremely promising results against SBE with combined penicillin and heparin therapy. Additional research in the mid-1940s corroborated their findings. Penicillin researcher Wallace Herrell concluded in Penicillin and Other Antibiotic Agents that “probably the greatest usefulness of penicillin to patients suffering from intrinsic cardiac lesions may be in its prophylactic employment before and after surgical procedures which are known to be followed frequently by transient bacteremia and subsequent bacterial endocarditis.” It was necessary, if the patient contracted SBE, to continue treatment for as long as several months.

By mid-century, penicillin had replaced the sulfonamides as a standard prophylactic measure in valve-damaged patients who underwent dental procedures. The policy of the Council on Rheumatic Fever of the American Heart Association, for example, recom-
mended that patients receive 600,000 units of penicillin intramuscularly no more than one hour prior to the extraction of a tooth. In patients with severe periodontal or periapical infections, penicillin should be administered the day before and several days following the operation. A 1949 editorial on SBE in Dental Items of Interest also reiterated the importance of cooperation between the physician and dentist in order to insure optimal care for the high-risk patient. Quoting a 1941 study, the editorial stressed, "It is repeated that the premedicative measures to be taken in dental treatment in endocarditis, together with the necessary blood counts and urinalyses, must be completely under the control of the patient's physician, and no removal of teeth should be attempted until the physician indicates that it is safe to begin removal of the teeth." The ability of dentists to perform—safely—dental procedures on patients with a history of heart disease had changed markedly by the second half of the twentieth century. Looking back from 1950, Dr. Mendel Nevin (who had been practicing dentistry since 1907) was particularly struck by the reduction in mortality from SBE from virtually one hundred percent to around fifty percent. Penicillin had played a crucial role in reducing mortality from SBE, however Nevin reiterated that dentists also shared an important responsibility for preventing SBE. Nevin agreed that dentists were not in the business of diagnosing cardiac disease, but they were in the business of inquiring about the patient's medical history. Even presumably healthy patients who required a tooth extraction Nevin concluded, should be given an injection of 300,000 units of penicillin combined with a local anesthetic and epinephrine to reduce the risk of bacteremia. "This is a prophylactic measure," he added, "not only for the protection of the patient's heart but also to prevent infection of the wound. The old, old adage 'an ounce of prevention is worth a pound of cure' certainly applies very well here."

By mid-century prophylaxis of patients with even a slight degree of risk had become a part of dental practice.

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With a long lifetime of experience behind him, the late Eric Hoffer completed nine books, all referring to ideas and principles. Born in New York more than 80 years ago, almost blind, he recovered his sight when he was fifteen. Then he started to read everything he could wherever he landed, making up for all the missed years. He spent 10 years as a migratory laborer before becoming a longshoreman in San Francisco in 1943, his final occupation and home. During his learning and early working years he started to write. Truly he is the model of a self-educated man, which is how he defined himself. His first book, “The True Believer,” was published in 1951. Two critics said, “This brilliant and original inquiry into the nature of mass movements is a genuine contribution to our social thought.” “He is a student of extraordinary perception and insight. The range of his reading and research is vast, amazing. He has written one of the most provocative books of our immediate day.” A philosopher, a writer who never wrote a cloudy or obscure sentence, who seemed to have tested every word before he used it, to read all his books would provide an advanced education without a formal degree. He once said that any writer ought to be able to say what he wanted in 150 pages. Any more would be but a filler. The following episode, recounting his wanderings during the 1930s Depression, is from the chapter, “The Role of the Undesirables.” It was in the winter of 1934 when he was in a federal transient camp in El Centro, California, working as a migrant agricultural worker.

The people I worked and traveled with I knew as Americans and Mexicans, Whites and Negroes, Northerners and Southerners, etc. It did occur to me that we were a group possessed of peculiar traits, and that there was something — innate or acquired — in our make-up which made us adopt a particular mode of existence. “It was a slight thing that started me on a new track. “I got to talking to a mild-looking, elderly fellow. I liked his soft speech and pleasant manner. We swapped trivial experiences. Then he suggested a game of checkers. As we started to arrange the pieces on the board I was startled by the sight of his crippled right hand. I had not noticed it before. Half of it was chopped off lengthwise, so that the horny stump with its three fingers looked like a hen’s leg. I was mortified that I had not noticed the hand until he dangled it, so to speak, before my eyes. It was, perhaps, to bolster my shaken confidence in my powers of observation that now began paying close attention to the hands of the people around me. The result was astounding. It seemed that every other man had been mangled in some way. There was a man with one arm. Some men limped. One young, good-looking fellow had a wooden leg. It was as though a majority of the men had escaped the snapping teeth of a machine and left part of themselves behind. “It was, I knew, an exaggerated impression. But I began counting the cripples as the men lined up in the yard at mealtime. I found thirty (out of the two hundred) crippled either in arms or legs. I immediately sensed where the counting would land me. The smile preceded the statistical deduction: we in the camp were a human junk pile.

“I began evaluating my fellow tramps as human material, and for the first time in my life became face-conscious. There were some good faces, particularly
among the young. Several of the middle-aged and the old looked unhealthy and well-preserved. But the damaged and decayed faces were in the majority. I saw faces that were wrinkled, or bloated, or raw as with the surface of a peeled plum. Some of the noses were purple and swollen, some broken, some pitted with enlarged pores. There were many toothless mouths (I counted seventy-eight). I noticed eyes that were blurred, faded, opaque, or bloodshot. I was struck by the fact that the old men, even the very old, showed their age mainly in the face. Their bodies were still slender and erect. One little man over sixty years of age looked a mere boy when seen from behind. The shriveled face joined to a boyish body made a startling sight.

"My diffidence had now vanished. I was getting to know everybody in the camp. They were a friendly and talkative lot. Before many weeks I knew some essential fact about practically everyone."

"And I was continually counting. Of the two hundred men in the camp there were approximately as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cripples</td>
<td>30</td>
</tr>
<tr>
<td>Confirmed drunkards</td>
<td>60</td>
</tr>
<tr>
<td>Old men (55 and over)</td>
<td>50</td>
</tr>
<tr>
<td>Youths under twenty</td>
<td>10</td>
</tr>
<tr>
<td>Men with chronic diseases, heart, asthma, TB...</td>
<td>12</td>
</tr>
<tr>
<td>Mildly insane</td>
<td>4</td>
</tr>
<tr>
<td>Constitutionally lazy</td>
<td>6</td>
</tr>
<tr>
<td>Fugitives from justice</td>
<td>4</td>
</tr>
<tr>
<td>Apparently normal</td>
<td>70</td>
</tr>
</tbody>
</table>

("The numbers do not tally up to two hundred since some of the men were counted twice or even thrice—as cripples and old, or as old and confirmed drunks, etc.")"

A book about the war against Japan was published in 1981, a classic, written by Eugene B. Sledge, "With The Old Breed: At Peleliu and Okinawa." I have shelves of books on World War II. Nothing I've read has equaled the absolute honesty and truth of what war is like from the infantryman's position as this book. Sledge was a Marine. That he survived without even being wounded was incredible. It was a face-to-face war for him. For those who want to know exactly what it's like, this is the definitive, the ultimate book. This action of Company K was on Peleliu.

"During this lull the men stripped the packs and pockets of the enemy dead for souvenirs. This was a gruesome business, but Marines executed it in a most methodical manner. Helmet headbands were checked for flags, packs and pockets were emptied, and gold teeth were extracted. Sabres, pistols, and hari-kari knives were highly prized and carefully cared for until they could be sent to the folks back home or sold to some pilot or sailor for a fat price. Rifles and other larger weapons usually were rendered useless and thrown aside. They were too heavy to carry in addition to our own equipment. They would be picked up later as fine souvenirs by rear-echelon troops. The men in the rifle companies had a lot of fun joking about the hair-raising stories these people, who had never seen a live Japanese or been shot at, would probably tell after the war.

"The men gloated over, compared, and often swapped their prizes. It was a brutal, ghastly ritual. One of which have occurred since ancient times on battlefields where the antagonists have possessed a profound mutual hatred. It was uncivilized, as is all war, and was carried out with that particular savagery that characterized the struggle between the Marines and the Japanese. It wasn't simply souvenir hunting or looting the enemy dead; it was more like Indian warriors taking scalps.

"While I was removing a bayonet and scabbard from a dead Japanese, I noticed a Marine near me. He wasn't in our mortar section but had happened by and wanted to get in on the spoils. He came up to me dragging what I assumed to be a corpse. But the Japanese wasn't dead. He had been wounded severely in the back and couldn't move his arms; otherwise he would have resisted to his last breath.

"The Japanese's mouth glowed with huge gold-crowned teeth, and his captor wanted them. He had put the point of his kabar on the base of the tooth and hit the handle with the palm of his hand. Because the Japanese was kicking his feet and thrashing about, the knife point glanced off the tooth and sank deeply into the victim's mouth. The Marine cursed him and with a slash cut his cheeks open to each ear. He put his foot on the sufferer's lower jaw and tried again. Blood poured out of the soldier's mouth. He made a gurgling noise and thrashed wildly. I shouted, 'Put the man out of his misery.' All I got for an answer was a cussing out. Another Marine ran up, put a bullet in the enemy soldier's brain, and ended his agony. The scavenger grumbled and continued extracting his prizes undisturbed.

"Such was the incredible cruelty that decent men could commit when reduced to a brutish existence in their fight for survival amid the violent death, terror, tension, fatigue, and filth that was the infantryman's war. Our code of conduct toward the enemy differed drastically from that prevailing back at the division CP.

"The struggle for survival went on day after weary day, night after terrifying night. One remembers vividly the landings and the beachheads and the details of the first two or three days and nights of a campaign; after that, time lost all meaning. A lull of hours or days seemed but a fleeting instant of heaven-sent tranquillity. Lying in a foxhole sweating out an enemy artillery or mortar barrage or waiting to dash across open ground..."
under machine-gun or artillery fire defied any concept of time.

"To the noncombatants and those on the periphery of action, the war meant only boredom or occasional excitement; but to those who entered the meat grinder itself, the war was a nether world of horror from which escape seemed less and less likely as casualties mounted and the fighting dragged on and on. Time had no meaning; life had no meaning. The fierce struggle for survival in the abyss of Peleliu eroded the veneer of civilization and made savages of us all. We existed in an environment totally incomprehensible to men behind the lines — services troops and civilians."

After his Company had knocked out a Japanese machine gun position, Sledge noticed that the squad members around it were still sitting in poses exactly as a book would have described it. A photographer would have called it a frozen pose. All were dead.

"The crown of the gunner's skull had been blasted off, probably by one of our automatic weapons. His riddled steel helmet lay on the deck like a punctured tin can. The assistant gunner lay beside the gun. Apparently, he had opened a small green wooden chest filled with strip clips of machine-gun cartridges when he was killed. Several other Japanese soldiers, ammo carriers, lay strung out at intervals behind the gun.

"A Company K rifleman who had been in the fight that knocked out the machine-gun crew sat on his helmet nearby and told us the story. The action had taken place the day before while the mortar section was fighting at the pillbox. The rifleman said, 'The thing that I just couldn't believe was the way those Nip ammo carriers could chop around here on the double with those heavy boxes of ammo on their backs.'

"Each ammo box had two leather straps, and each ammo carrier had a heavy box on his back with the straps around his shoulders. I lifted one of the ammo chests. It weighed more than our mortar. What the Japanese lacked in height, they certainly compensated for in muscle.

"'I'd sure hate to hafta lug that thing around, wouldn't you?' asked the Marine. 'When they got hit,' he continued, 'they fell to the deck like a brick because of all that weight.'

"As we talked, I noticed a fellow mortarman sitting next to me. He held a handful of coral pebbles in his left hand. With his right hand he idly tossed them into the open skull of the Japanese machine gunner. Each time his pitch was true I heard a little splash of rainwater in the ghastly receptacle. My buddy tossed the coral chunks as casually as a boy casting pebbles into a puddle on some muddy road back home; there was nothing malicious in his action. The war had so brutalized us that it was beyond belief.

"I noticed gold teeth glistening brightly between the lips of several of the dead Japanese lying around us. Harvesting gold teeth was one facet of stripping enemy dead that I hadn't practiced so far. But stopping beside a corpse with a particularly tempting number of shining crowns, I took out my kabar and bent over to make the extractions.

"A hand grasped me by the shoulder, and I straightened to see who it was. 'What are you gonna do, Sledgehammer?' asked Doc Caswell (the medical corpsman). His expression was a mix of sadness and reproach as he looked intently at me.

"'Just thought I'd collect some gold teeth,' I replied.

"'Don't do it.'

"'Why not, Doc.'

"'You don't want to do that sort of thing. What would your folks think if they knew?'

"'Well, my dad's a doctor, and I bet he'd think it was kinda interesting,' I replied, bending down to resume my task.

"'No! The germs, Sledgehammer! You might get germs from them.'

"'I stopped and looked inquiringly at Doc and said, 'Germs? Gosh, I never thought of that.'

"'Yeah, you got to be careful about germs around all these dead Nips, you know,' he said vehemently.

"Well, then, I guess I'd better just cut off the insignia on his collar and leave his nasty teeth alone. You think that's safe, Doc?'

"'I guess so,' he replied with an approving nod.

Reflecting on the episode after the war, realized that Doc Caswell didn't really have germs in mind. He was a good friend and a fine, genuine persons whose sensitivity hadn't been crushed out by the war. He was merely trying to help me retain some of mine and not become completely callous and harsh."

How can one add to what Sledge has written? Editorializing, interpreting, so unnecessary here. He said it all. He was well-trained and proud to be listed in short-hand talk as belonging to K/3/5, Company K, 3rd Regiment, 5th Marine Division, and his insignia would command respect from others. Today, with a Ph.D. in biology (ornithology), Dr. Sledge teaches at the University of Montevallo in Montevallo, Alabama.

Of the master spies for the Allies in World War II, these three are perhaps the most outstanding, their work the most valuable. Richard Sorge in Japan, a Russian agent, eventually uncovered and executed by the Japanese; Rudolph Roessler, code name "Lucy," who worked from Switzerland and died a natural death years after the war; and Leopold Trepper, born in Poland in 1904, committed to Communism as a young man, and trained for espionage in Russia. It is Trep-
The following tells of his capture.

"I was to leave Paris on the 27th [November, 1942], and [Hillel] Katz was to follow me shortly after. Leo [Grossvogel] was to disappear into the south of France as soon as he received his new identification papers.

"Before leaving, I telephoned the dentist, who was to put caps on two of my teeth. I asked him whether he could see me sooner than we had arranged. He happened to have some time on the 24th and gave me an appointment for two o'clock in the afternoon.

"November 24: I got up rather early. I dressed slowly, going over the recent events in my mind and weighing the difficulties that were piling up around us. We had to be very cautious. The more I thought about it, the more I was convinced that our decision to disperse, at least for a time, was wise and necessary.

"I had lunch with Katz. We talked little. It was no time for long conversations or emotional scenes. We agreed to meet again about four o'clock, after my visit to the dentist. After that I would go and say goodbye to Georgie de Winter [a member of the network]. Then that evening we would have a final rendezvous with Leo. That night I would take the train to Royat [a suburb of Paris], having decided to advance my departure by three days.

"Accompanied by Katz, I left for the dentist's office in the Rue de Rivoli, but Katz and I separated quickly. Katz walked a few dozen yards behind me. We had perfected this technique because of the risk of arrest. At exactly two o'clock, I arrived in front of the building and glanced quickly to right and left. The coast was clear, no suspicious figures or parked cars. I walked up the stairs and rang the bell. The dentist answered it himself. I was surprised: ordinarily his assistant came to the door for the patients. I was also puzzled to find that the waiting room was empty. As a rule, it was full. Furthermore, the dentist took me into his office immediately. I looked at him. He seemed anxious; he was pale and his hands were shaking. I asked him,

"What's the matter? Aren't you feeling well?"

"He stammered a few inaudible words and then pushed me toward the chair. I sat down and propped my head back as he asked me to do. He picked up his instruments. No sooner had I opened my mouth than I heard a noise behind me. I should have suspected something from all those unusual circumstances and made my escape — but now it was too late.

"There was a shout: 'Hande hoch!'

"Hardly more than a minute had elapsed since I had entered the office. Two muscular men aimed revolvers at me. Their faces were as pale as the dentist's; they were trembling, too, from sheer nervousness. What a scene!

"After this sudden moment of emotion — and I am not sure that I was the most upset — I very quickly recovered my poise. The blood flowed back into my face. I slowly raised my hands and said calmly, 'I'm not armed.' This undoubtedly reassured them.

"A third man slipped quickly in front of the window — to keep me from jumping out, I suppose.

"They handcuffed and searched me. They seemed stunned that everything had come off so quickly and easily. If they had spoken, they would have said, 'But you've been walking around unarmed! You don't even have a bodyguard!'

"The dentist walked over to me; he seemed to be the only one present who had not recovered. His voice was shaking: 'Monsieur Gilbert [Ttrepper's assumed name],' he said, 'I had nothing to do with this. I promise you.' He was not lying, as I found out later.

"Meanwhile, I was in the hands of the Gestapo. I had to face that. It was very hard, but I had to maintain my confidence. I knew instinctively that the game was not yet over for them or for me.'

"Trepper had been betrayed by a member of his network. He escaped later on, as I mentioned earlier. Katz was arrested a week later, was tortured and disappeared a year later, assumed murdered. Grossvogel was arrested three weeks later, sentenced to death in May, 1944. When the war ended Trepper returned to Moscow. There he was imprisoned, given a sentence of 10 years, five of which he spent in solitary confinement in the famous Lubianka Prison. When Stalin died, he was freed. He was never acknowledged as a hero until then, but it was too late. He had already become disillusioned with Communism: 'The revolution has degenerated and we have gone down with it.'

REFERENCES
Sterility in Dentistry

Richard A. Glenner, DDS

Today we take sterility for granted. We wear uniforms, drape our patients, disinfect our operatories, wear gloves, a mask, sterilize our instruments utilizing steam, chemical vapor or dry heat and use disposable items whenever possible. We don't realize that it wasn't until late in the 19th century that dentists first became aware of the importance of sterility.

The modern concept of sterilization is based on development in the science of microbiology.

In 1861, the Frenchman, Louis Pasteur, "The Father of Bacteriology," disproved the concept of spontaneous generation and proved that putrefaction is a fermentation caused by the growth of microbes.

Applying Pasteur's principles, an English Surgeon, Joseph Lister, in 1867, became the founder of antisepptic surgery by establishing sterile technique in the operating room.

In 1881, the German bacteriologist, Robert Koch, and his associates researched the disinfecting properties of steam and hot air. This marked the beginning of the science of disinfection and sterilization.

The book, "The Micro-Organisms Of The Human Mouth — The Local And General Diseases Which are caused by Them," by Willoughby D. Miller, D.D.S., M.D., published in 1890, was an important factor in bringing sterility into the dental office. In 1893, Miller writing in Dental Cosmos described the methods of sterility which he used in his practice.

By the turn of the century, following Miller's suggestions, many dentists began their day by scrubbing their hands for two minutes with a stiff brush using a one to two percent solution of Lysol®. Between patients, they washed their hands with soap and water. If the dentist worked in a "filthy mouth," Lysol® was again used. Some dentists used only soap and water, except when an infected tooth was handled. Then the dentist immersed his hands in a solution of mercury bichloride or carbolic acid. Dentists also began to wash their instruments after each procedure and then to sterilize them. One set of instruments was used on a patient, while another was being sterilized.

The commonly used methods of sterilization in dentistry at this time were:

1. Boiling water sterilization, the most popular method. A small amount of bicarbonate of soda was added to the water to prevent instruments from rusting. Lysol® or carbolic acid was also added sometimes. Commercially manufactured boiling water sterilizers became readily available early in the 20th century.

2. Cold sterilization in a solution of carbolic acid.

3. Formaldehyde gas was another method of sterilization in dental offices. The gas was liberated in a small air-tight metal-lined chamber; sometimes part of a dental cabinet and sometimes separate. It was believed that an "infectious" instrument, which was left in the cabinet, would be sterilized in ten minutes. A dentist in 1901 sealed his operatory at night and filled...
it with formaldehyde gas, believing that he was thereby sterilizing the entire room and contents. The windows were opened in the morning to air it out. He advocated this technique for hospital waiting rooms and physician’s offices.

(4) Steam under pressure sterilizers were used in hospitals or large institutions for surgical procedures, not routine dental work.

The above methods of sterilization remained in vogue into the 1950s. The Department of the Army technical manual for dental technicians, published in 1952, states that sterilization in boiling water is noted to be the most common sterilizing procedure used in the dental clinic. Chemical sterilizing agents such as Zephrin, the brand name for benzyltrialkonium chloride, were advocated for the sterilization of cutting instruments and other equipment and material which would be damaged or destroyed by heat. Other chemical agents recommended were ethyl alcohol and formaldehyde. Sterilization by steam under pressure, with an autoclave, was not considered necessary for routine operative dental procedures, but was recommended for certain oral surgical procedures where absolute sterility was required as in any other type of major operation.2

At this time, although the need for sterility was established, the significance of cross-contamination in the dental operatory had not been completely studied. This may have been due to a popular misconception that the oral flora are relatively stable and harmless rather than potentially dangerous sources of infection.3 The full danger of contaminated needles, microbial aerosols and blood soaked surroundings were not fully understood.

In 1956, fifteen cases of serum hepatitis, including three deaths were reported in dental offices.4 There were also eight cases of acute hepatitis in which the transmission of the virus was attributed to repeated use of inadequately sterilized needles and syringers in a physician’s office.5

Once hepatitis transmission in the dental office was recognized the use of presterilized disposable needles was advised. The sterile disposable dental cartridge needle was introduced in 1959 by both the Cook-Waite Laboratories and The Roer Products Company. These needles were manufactured to be used once and discarded. They were simply a modification of the reusable cartridge needle, standardized and mass produced to reduce the cost. The sterile disposable needle became a necessity once it became known that it was impossible to sterilize the inside of a hypodermic needle. Additionally, since disposable needles were only used once, they were always sharp and caused less pain.6

Besides the use of disposable needles being recommended, the Council on Therapeutics of the American Dental Association stated that sterilization of dental instruments is best attained with saturated steam under pressure after the instruments have been cleaned and rinsed.7

In recent years, as a result of the AIDS epidemic, there has been a renewed impetus to control infection. Today dentists follow guidelines recommended by the Centers for Disease Control in Atlanta, the American Dental Association and OSHA, to protect themselves, their employees and their patients who are exposed to blood-borne pathogens from hepatitis, AIDS and other infectious diseases.

FOOTNOTES

DENTAL STAMPS

Over the past fifty years many stamps have been issued concerning dentistry. Sometimes this was done in commemoration of scientists renowned in our profession and sometimes to commemorate certain anniversaries of professional organizations. Occasionally attention was drawn to oral hygiene. The Dental Health Stamp issued in 1959 by the United States on the occasion of the century of health service by the American Dental Association and the stamp issued in France in 1961 depicting Pierre Fauchard on the occasion of the bicentenary of his death are examples. A solemn memorial ceremony took place in Fauchard’s castle organized by French dentists and the Pierre Fauchard Academy when the latter was issued.

On February 1989 two stamps were issued in the Netherlands. Although they were issued for another purpose, stamp collectors may be pleased to read the statement about them by the Dutch Post Office: “Trade Unions have been active in the Netherlands since 1889. The separate trade organizations that came into being in individual businesses or branches of trade have merged into the Federation of Dutch Trade Unions (ENV). The movement owes its right of existence and its function to the need for protection of the interests of its members. Its objectives are to enhance prosperity, to provide social security, good working conditions, employee participation in business, institutions, and in government and education. In the Netherlands attention focuses on vulnerable groups of the working population. The Trade Union Movement is internationally involved in socioeconomic aspects of the European unification in 1992. It is also concerned with the future, for instance, with new technology, the environment, and the quality of labor. The Dutch Trade Union Movement clearly sees its mark on the social order. It tries to accomplish its objectives by means of consultation. It is not afraid of criticism, and sometimes opts for demonstrations and other actions to emphasize matters considered to be in the interest of the working population. Two stamps cannot express all these aims but some concepts of solidarity and awareness of the present situation.” Workers awareness is seen on the 75 cent stamp and a stylized molar with four roots is seen on the 55 cent stamp.

Dr. F. E. R. DeMaar
Netherlands
Colin Mackenzie’s 5,000 Receipts

by Max Geshwind, DDS

Five thousand receipts in all the useful and domestic arts, constituting a complete and universal practical library, and operative cyclopaedia — by Colin Mackenzie — Philadelpia, 1825 is how the title page of the first edition reads.

In 1829, an enlarged and improved edition appeared in Philadelphia with more extensive description of its contents on the title page. It proclaims to be, “a complete practical library relative to agriculture, bees, bleaching, brewing, calico printing, cements, confectionary, cookery, crayons, dairie, diseases, distillation, dyeing, enameling, engraving, fencing, food, gardening, gilding, glass, health, inks, etc., jeweller’s pastes, lithography, medicines, metallurgy, oil colours, oils, painting, pastry, preserving, scouring, silk, silk-worms, silvering, tanning, trees of all kinds, varnishing, water colours, wines, etc. & etc. — and the medical part carefully revised and adapted to the climate of the United States; and also a new and most copious index by an American physician.”


The reason Mackenzie is listed in Bibliographies of Cookery books is the large section on “Culinary Arts,” p. 248-277. This is preceded by a section on “Brewing, Wines, and Distillation,” p. 165-248.

My interest in this book is centered on the medical section, p. 292-451. This is by far the largest section and includes a small section on the teeth. There is also dental information in the “Perfumery” and “Miscellaneous” chapters.

Mackenzie’s “self-help” or do it yourself encyclopedias was a best seller for the years between 1825 and 1860, and deservedly so. It was particularly useful to farmers, explorers, hunters and trappers and the pioneer families in outlying areas. These people lived relatively isolated from professional help such as physicians and dentists and from the stores in the cities where they could purchase supplies.

The traits among the early Americans of fierce independence, frugality and self reliance were further enforced by poor transportation facilities and their relative isolation. The city dwellers, even if a professional dentist was available to them, preferred to do it yourself when it came to dental complaints and ills. Their frugality and lack of “hard cash” often made “the fee saved” the overwhelming incentive to do it yourself. Mackenzie’s 5,000 receipts supplied just the book for these people.

I would like to digress a while to explain that I do not mean to imply that our early American forebears were “stingy penny-pinchers,” when refer to them as “frugal” and reluctant to spend their “hard cash.” We must look back to that era in our history with understanding and empathy. Times were hard and there was a distrust of paper money coupled with a shortage of coinage. Paper money was distrusted since the debacle of the colonial paper money — hence, the expression “not worth a continental.” It took our federal government many years to coin enough metal to come near to supplying the needs of a rapidly growing nation. As a result, foreign coins circulated as currency to satisfy the needs of commerce.

It was during this period when amalgam fillings were introduced that we encounter “Spanish Milled Dollars” being used to supply the silver filings necessary to produce an amalgam filling. These coins were a good grade of silver, were readily available, and handy as a
source of silver for use by the dentist. Every dentist had a small vise on his workbench, where he would hold the "Spanish Dollar" and then file enough silver filings into his mortar sufficient to make up his amalgam filling.

During the Civil War, there was a most acute shortage of pennies. Private parties, usually merchants, issued their own penny tokens that became known as "Hard Times Tokens." These tokens helped relieve the shortage. The obverse of these private coins often carried advertisements or patriotic slogans. A few of these coins are known with dentists' advertisements. They are eagerly collected by "dentist collectors" of dental memorabilia. See "Dental Collectibles and Antiques" by Carter et al., page 41, where these coins are referred to as "dental advertising medals." I would also refer the interested reader to "Patriotic Civil War Tokens" by George and Melvin Fuld, 2nd ed. Racine, WI, Whitman Publishing Co., 1960. This pamphlet is a specialized numismatic catalogue of these tokens with a historical preface and an estimated value in 1960.

Regular features in our early colonial almanacs and newspapers were remedies, receipts and do it yourself hints and instruction for useful projects on the farm or in the kitchen. The editors of these publications were well aware of their readers' wishes and needs and included more and more of this type of material which maintained and increased circulation. Many of these early ephemeral works have survived because farmers saved them for their useful receipts. Then, there appeared the encyclopedia recipe book that gathered together, in one book, useful receipts and arranged them in a readily available reference work. It is no wonder that "Mackenzie's 5,000 Receipts" was so successful.

I would like, now, to examine some of the dental information appearing in Mackenzie's first edition of 1825.

On pages 280 to 282 in the "Perfumery and Cosmetics" chapter are the following listings: To make a Coral Tooth Powder, A Good Tooth Powder, An Astringent for the Teeth, To Prevent the Tooth-Ache, A Radical Cure for the Tooth-Ache, To Clean the Teeth, To Make the Teeth White, To Make an Excellent Opiate for the Teeth, To Make Vegetable Tooth Brushes, followed by many receipts for Lip Salves, and to Sweeten the Breath.

The medicine chapter begins on page 292 and runs through page 451 of double columned small print on large octavo pages. On page 302 is "To Check Hemorrhage Subsequent on the Extraction of Teeth." This is followed by six remedies for diseases of the teeth. On pages 441 through 445, the following listings appear: The Teeth, Picking the Teeth, Tooth powders, Loose Teeth, Foul Teeth, Cleaning the Teeth, Diseases of the Teeth, etc., To Clean and Preserve the Teeth.

The section on "Loose Teeth" is worth reproducing. "When the teeth are loosened by external violence, by falls and blows, or by improper use of instruments in pulling diseased teeth, in the neighborhood of sound ones, they may be made tolerably fast by pressing them as firmly as possible into their sockets, and preserving them so with ligatures of catgut, Indian weed, or waxed silk and keeping the patient on spoon-meat till they firm."

A tooth paste for the teeth appears under the heading, "An Astringent for the Teeth." "Take a fresh conserve of roses, 2 oz., the juice of half a sour lemon, a little very rough claret, and 6 ounces of coral tooth-powder. Make them into a paste, which put up in small pots; and if it dry by standing, moisten with lemon juice and wine, as before."

"A Radical Cure for Tooth-Ache"

"Use as a tooth powder the Spanish snuff called Sibella, and it will clean the teeth as well as any other powder, and totally prevent the tooth-ache; and make a regular practice of washing behind the ears with cold water every morning, the remedy is infallible."

"To Make an Excellent Opiate for the Teeth"

"Well boil and skim one pound of honey; add to it a quarter of a pound of bole ammoniac, one ounce of dragon's blood, one oil of sweet almonds, ½ ounce of oil of cloves, 8 drops of essence of bergamot, a gill of honey water, all mixed well together, and put into pots for use."

"To Make Vegetable Tooth-Brushes"

"Take marine marsh-mallow roots, cut them into lengths of 5 to 6 inches, and of the thickness of a middling rattan cane. Dry them in the shade, but not so as to make them shrivel."

"Next finely pulverize two ounces of good dragon's blood, put into a flat bottom glazed pan, with four ounces of highly rectified spirit and half an ounce of fresh conserve of roses. Set it over a gentle charcoal fire, and stir it until the dragon's blood is dissolved; then put in about thirty of the marsh-mallow sticks; stir them about, and carefully turn them, so that all parts may absorb the dye alike. Continue this until the bottom of the pan be quite dry, and shake and stir it over the fire, until the sticks are perfectly dry and hard."

"Both ends of each root or stick should, previously immersed in the pan, be bruised gently by a hammer, for half an inch downwards, so as to open the fibers, and thereby form a brush."

"They are generally used by dipping one of the ends in the powder or opiate, and then, rubbing them against the teeth, which they cleanse and whiten admirably." There is also a receipt for other vegetable tooth brushes."

Toward the end of the medical section is a section...
on the teeth starting on page 441. The teeth are described and the importance of dental hygiene is discussed. This is followed by a section on “Picking the Teeth” on page 442. A tooth powder section follows which cautions against, “The quality of some of the dentifrice powders advertised in newspapers, is extremely suspicious; and there is reason to think that they are not altogether free from a corrosive ingredient.”

“Loose Teeth” and “Foul Teeth” follow the above and then on page 443 Mackenzie offers advice for treating carious teeth in the section on “Diseases of the Teeth.”

“When a black or decayed spot appears on a tooth, if it be quite superficial, it may be removed; but if it go through the thickness of the enamel, it will be more advisable to let it remain.

“When a small hole breaks out in a tooth, particular attention should be paid to prevent the admission of air. Tin, lead or gold-leaf, commonly employed for this purpose, sometimes give relief for many months, or even years; but at other times are of little advantage, and in some instances, create great pain. When stuffing is to be employed, it ought to be done in the intervals of the fits of tooth-ache, otherwise it will give great uneasiness. When it is used, the whole cavity of the tooth should be filled; and this is to be done with a blunt pointed instrument.”

Mackenzie also instructs on the use of instruments for “Cleaning the Teeth” on page 442. “When teeth are to be cleaned by instruments, the operator ought, with a linen cloth or with a glove, to press against the points of the teeth, so as to keep them firm in the sockets, with the fingers of one hand, while he cleans them with the necessary instruments held in the other; taking care not to scrape them so hard as to loosen them, or to rub off the enamel. This being done, the teeth should be rubbed over with a small brush, or a piece of sponge dipped in a mixture of cream of tartar and Peruvian bark.”

Knowing how difficult it is to prepare a tooth for filling and to produce a gold-foil filling that will survive a reasonable time in comfort and health, I cannot imagine that these instructions for filling teeth could possibly have been followed with success. Trying to fill teeth or even to scale teeth without knowledge, training, know-how and the experience of a trained dentist seems foolhardy and doomed to fail. Being mindful of the handicaps encountered by the dentists at that time, working with hand instruments and the very “difficult” filling materials such as tin, lead, and golf leaf, I cannot believe that an untrained layman could possibly have successfully accomplished filling a tooth for himself or anyone else.

It seems that Mackenzie was just suggesting that it was the entrance of air into the tooth that was the cause of the trouble caused by the hole in the tooth. In his opinion, stuffing the hole completely with a relatively inert metal leaf could prevent the entry of the air and preserve the tooth for “Many months, or even years.”

In the 1830 New American edition (from the latest London Edition) of Philadelphia and Pittsburgh, we find additional entries on “Remedies for tooth-ache” in the Miscellaneous section, page 39. The first is: “Take the inside of a nut gall, and put a small piece into the hollow tooth, which is to be removed and replaced by another bit, about every half hour, as long as white matter comes away with the piece taken out. The above has been found not only a temporary but a permanent cure.”

“Another, the following has been found very beneficial in allaying the tooth-ache. Take the tincture of opium, rectified spirit of wine, each 3 oz. camphor, 6 drs. opium, powdered, 1½ do. pellitory of Spain, ½ oz., macerate for eight days. A small piece of lint or cotton is to be dipped into the tincture, and placed in the cavity of the affected tooth.”

“Another, — Take a sheet of common writing paper, fold it into a conical form, and set the larger end of it on fire, collect the smoke (which will issue copiously from the small end) in a clean silver tablespoon, and when the paper is wholly consumed, a small quantity of oil will be found in the spoon. Then make a pellet of convenient size, and having caused it to absorb as much of the oil as will saturate it, put it carefully into the carious tooth.

Espcial care must be taken that the pellet is not too large, for, if that circumstance be not attended to, in forcing the pellet into the tooth, great part will be squeezed out.”

“Another, — The well-known lady bird, coccinella septempunctata, possesses a peculiar virtue against tooth-ache.” “I was induced,” says Dr. Frederick Hirsch, dentist to several German courts, “to collect some of those insects, and, on repeated trials, I found it to exceed my expectations, and I was so happy as to cure several persons speedily and completely with this small insect; finding myself obliged to repeat the remedy only in the cases of a few female patients . . . ” There follows a description of applying the crushed insect, rubbing it into the aching tooth and surrounding gum. In every case the pain ceased, but only if fresh insects were used; dried ones lost their therapeutic power.

The last remedy in this section, which immediately follows the above, is the famous “fumigation with smoke from henbane seeds” remedy famous for thousands of years in the Arabic world, in medieval Europe, and the ancient world of the Sumerians and Assyrians. There is a cuneiform tablet, dating to the third millenium B.C., that mentions hyoscyamus (henbane)
as a tooth-ache remedy.

Mountebanks and other tricksters used henbane seeds over hot coals to fool their patients into thinking that the little embryonic plant expelled by the roasting process was really a tooth worm expelled from their aching tooth. There were a variety of tricks employed by the mountebanks in many areas and times employing henbane seed fumigation to expell tooth worms. Gerard, in his herbal, relates of how the scam was practiced in 16th century England.

A 19th century version of the “henbane seed fumigation remedy” is repeated on page 397 of the 1830 edition of Mackenzie.

“Take a clean tobacco-pipe, place the bowl of it in the fire till red hot, put two or three pinches of henbane-seed into the bowl, over which put the broad part of a common funnel, the tube of the funnel against the tooth affected, so that the smoke arising from the seed may enter. As often as the pipe gets cold, heat it afresh, and put in more seed; continue this for about a quarter of an hour, and if the pain, is not allayed immediately, will soon cease. This is a certain cure (at least a relief for some years) for the tooth-ache. The seed may be bought at any seed-shop, and two pennyworth of it will serve for twenty people. Care should be taken that the person, after the performance of the operation, does not take cold, in order to prevent this, it had better be performed shortly before the patient retires to rest.”

On page 395 of this same miscellaneous section is:

“A Natural Dentifrice”

“The common strawberry is a natural dentifrice, and its juice, without any preparation, dissolves the tartarous incrustations on the teeth, and makes the breath sweet and agreeable.”

On page 234 is found “To check haemorrhage consequent on the extraction of the teeth.”

“McCullen, of Sheerness, recommends the following method for the treatment of the above frequent and sometimes serious accident: — Take a small fine, vial cork of a size adapted to the socket whence the tooth has been extracted and haemorrhage proceeds; then, with a small dossil of lint, wet the aqua stiptica solution of sugar of lead, and put on the smallest end of the cork, push the cork into the bleeding orifice, pressing it firmly in, till it be, as it were, wedged in the socket; and keep it there as long as may be necessary, desiring the patient to press against it with the teeth of the opposite jaw till the bleeding be stopped, which it is almost instantly. This acts as a tourniquet, and gives time to use whatever other means may be deemed requisite; but it is seldom that anything else is required.”

There follows:

“Remedies for Diseased Teeth”

“If hollow or decayed, apply compound tincture of benjamin or some essential oil, on cotton, to the part; or pills with camphor and opium; or chew the roots of pellitory of Spain. Some burn the nerve with vitriolic or nitrous acid, or a hot iron.”

In the antebellum period of American history, there were many Americans who only sought the services of a dentist when in dire straits and in desperate need of an extraction. The family doctor would more often do the toothpulling than the dentist. There were also “irregulars” such as tooth-drawers who might be bleeders, hairdressers, barbers or barber-surgeons, as well. In any event, this was one form of treatment that was not recommended to be done by “oneself” or by a layman, even in this “do it yourself” medical book. The common use of the very traumatic extraction instrument, the key, led to excessive trauma and bleeding at the extraction site and to the emergency of “haemorrhage consequent on the extraction of teeth,” which was a common occurrence. The key was traumatic to the soft tissues as the bolster, or fulcrum, was applied to the soft tissues and alveolar areas when the tooth was extracted using a twisting motion. An adjacent tooth was frequently loosened or fractured. The tooth or roots of the tooth to be extracted were often fractured and sometimes even the jaw or large areas of the alveolus were fractured away. The key was called a vicious instrument; yet it was popular with dentists and physicians during most of the eighteenth century and well into the nineteenth century. It was the lateral forces employed, when the key was used, that were so damaging. This lead to the search for vertical extracting instruments. This search resulted in a constant series of changes in key design to try to develop a vertical extractor. By the end of the nineteenth century, the key was largely replaced by the forceps for the extraction of teeth. Today, collectors of old dental keys are amazed at the endless varieties of these instruments that have survived.
BRITISH DENTAL MUSEUM

The British Dental Association's museum was recently recognized under the British Museum and Galleries Commission's criteria for museum registration. These criteria were set up in 1988 to ensure a minimum level of care for British museums and galleries. Professor Stanley Gelbier has been named the Honorary Curator.

HOFFMANN-AXTHELM HONORED

Dr. Walter Hoffmann-Axthelm, an honorary member of our Academy was elected to Honorary membership in the German Society for Maxillofacial Surgery. He is the author of the Geschichte der Zahnheilkunde (Quintessence).

OUR PRESIDENT HONORED

The University of Southern California Dental Alumni Association honored our president, Wilma Motley with their Presidential Award on November 17, 1989.

GIFT TO DENTAL MUSEUM

A collection of antique dental instruments and equipment was donated by Mr. Joseph Coss of Syracuse, NY to the Dental School of the University of New York at Buffalo. This gift will be placed on display to allow more students to get better acquainted with our dental past.

THE J. BEN ROBINSON FUND

The J. Ben Robinson Fund was established in 1977 at the death of this primary founding member of the American Academy of the History of Dentistry. Doctor Robinson called the meeting to order and, after explaining its purpose, was elected its temporary chairman and after the proposed Constitution and Bylaws were accepted, was elected the Academy's first president.

Apparently few people are aware of this Fund and now is an ideal time to bring it to your attention as a part of the Academy's history. Money in the Fund is used each year to give recognition to students winning the Bremner Award.

Academy President-Elect, H. Berton McCauley, is the latest person to make a generous donation to the J. Ben Robinson Fund. He suggests that if each Academy member voluntarily added $1.00 to the dues payment, this additional sum could be added to the current balance and, if invested, it could grow into an endowment. All contributions, simple or to honor someone, will be gratefully accepted and will be acknowledged.

LECTURE SERIES ON HEALTH SCIENCES

The Reynolds Historical Library and Library Associates annually sponsor a series of lectures on some aspect of the health sciences from a historical perspective. On November 13, 1989, the guest speaker was Clifton O. Dummett, who spoke on "American origins in community and public health dentistry: Chicago's Charles E. Bentley, Father of the Oral Hygiene Movement." The talk was held at the Lister Hill Library of the Health Sciences at the University of Alabama Health Sciences Center, Birmingham.

SILVER ANNIVERSARY OF UCLA

The School of Dentistry of the University of California in Los Angeles marked its 25th anniversary. The first dental class of UCLA convened in 1964 with 28 students. To celebrate the anniversary, students, faculty alumni and staff gathered to honor the past. A time-capsule ceremony in which a record of the school's history, 25-year-old dental instruments, photographs and other memorabilia were sealed into a wall of the school clinic lobby took place. The time-capsule is to be opened in the year 2015. A dinner dance to celebrate the occasion was also held in May, during the California Dental Association annual conference in Anaheim.
SPECIAL ANNIVERSARIES

The year 1990 marks the 100th anniversary of the Missouri State Dental Association and the 100th anniversary of the North Dakota Dental Association. It also marks the 70th anniversary of The American College of Dentists which was founded in August 1920 at Boston's Copley Plaza Hotel. Therefore, a special anniversary celebration will take place in the same city as the founding of the College, at the meeting of the American College of Dentists in October, just prior to the ADA's Annual Session.

ATLANTA'S FIRST AFRO-AMERICAN DENTIST

The October-November Newsletter of the Society for Study of the Negro in Dentistry Inc., edited by Dr. Foster Kidd, published a biographical sketch of Dr. Roderick D. Badger (1834-1890). Dr. Badger was apparently the first Afro-American dentist to practice in Atlanta.

LUCY HOBBS TAYLOR AWARD

The Lucy Hobbs Taylor award for 1989 was presented to Esther Kaplan Colchamiro during the luncheon, November 3, 1989 at the Hilton Hawaiian Village Hotel in Honolulu. The award is presented annually and recognizes significant service to dentistry. Dr. Colchamiro is on the faculty at the New York University College of Dentistry (NYUCD) where she teaches Pediatric Dentistry.

100 YEARS AGO

The Schweizer Monatsschrift fur Zahnmedizin, the official publication of the Schweizerischen Odontologishen Gesellschaft (SOG) will celebrate its 100th anniversary in 1990. While the SOG was founded in 1886, there was no official publication for the Swiss society at the time. The journal was actually started in 1887 by Professor Camille Redard of Geneva as the Revue et Archives Suisse d'Odontologie, but only in 1890 did it become the official publication of the SOG. The Revue was substituted by the Schweizerischen Vierteljahresschrift fur Zahnheilkunde, published in French and German. Redard was the editor for the French part and Dr. T. Frick for the German part.

Obituary

Margaret W. Menzies Campbell, MB, ChB, Hon FDS (1893-1990)

Dr. Margaret Menzies Campbell was born on July 21, 1893 near Glasgow, and except for the short period of time when she was a house surgeon at Doncaster, lived in Glasgow. She attended St. Andrews where she graduated with an MB, ChB in 1918. She was in private practice and served as an assistant surgeon at the Hospital for Women in Glasgow, but left active medical work when she married Dr. John Menzies Campbell on December 23, 1924. For the rest of his life Dr. Margaret worked with Dr. J. Menzies first in his private dental practice, and later in his work on the history of dentistry and with his collection of dental books, dental instruments and equipment. The artifacts, along with their annotations and historical records were given to the Royal College of Surgeons in Edinburgh in 1964, and are available for study there. The book collection was given to the Royal College of Surgeons of England in 1969. Dr. J. Menzies retired from active practice in 1953, and died after a long illness on June 27, 1974. Dr. Margaret kept on with his work in dental history, and was always pleased to guide visitors through the collections at Edinburgh. To further interest in dental history, Dr. Margaret endowed the Menzies Campbell Lectures in the History of Dentistry in Dundee, Edinburgh and Glasgow. On June 10, 1977 the Royal College of Surgeons of Edinburgh admitted Dr. Margaret to an Honorary Fellowship in Dental Surgery. Dr. Margaret died in her sleep at her Glasgow home on January 27, 1990 at the age of 96. She was a very active person who stayed interested in people and dentistry and medicine even when age and physical disabilities would have slowed others. One of the fondest memories the writer has is of meeting with Dr. Margaret and spending the day enjoying her reminiscences and her descriptions of the collections at Edinburgh. Even though many years younger it was the writer who found the hills of Edinburgh strenuous to climb, not Dr. Margaret. All who corresponded with her spent much time deciphering her handwriting but the message was always more than worth the effort of reading it. The world is a poorer place without the smiling face of Dr. Margaret Menzies Campbell, physician, dental historian, and concerned friend.

Aletha Kowitz
Books


The year 1839 marks the introduction of the first major process of photography, and dentistry was quick to notice its advantages and to utilize this documentation process. Now, 150 years after the introduction of daguerrotypes, the funding of the first dental journal, and the establishment of the first dental college, the opportunity to study these beginnings is provided in this collection of early photographs related to the different aspects of dentistry. Dentistry in America has been around for a long time, and the opportunity to study its different aspects, different perceptions of it, and its evolution is vital. The American Dentist is a book based on an extraordinary collection of pictures showing the changes of dentistry in the last 150 years that is meant as a study of dentistry via photography.

The book is divided into 21 chapters of varying length. The first chapter presents early dental photography in America. Other chapters cover the rise and development of the dental office, itinerant dentistry, early dentists and dental equipment, dental education, and, military dentistry in both World Wars. There is also a chapter on floating dental offices and one of dentistry in the movies. This latter chapter, is particularly interesting since it includes a study of cosmetic dentistry required by Shirley Temple at the age of 11.

Some of the pictures shown are familiar, some are not. Some this reviewer is very glad we are given an opportunity to see, some not. If I do not see many more pictures of dentists extracting teeth with “knee on the chest technic” it will not be soon enough, but fortunately there are few of these. We could have been spared some pictures on pages 7, 10 and 130. However, the large amount of outstanding material compensates these few shortcomings. This researcher was gratified to find for the first time pictures needed in my own research and teaching, pictures I did not know existed. This is the most important aspect of this new book: the help it gives to teaching and historical research. For those dentists, dental personnel and patients interested in understanding our past it is certainly a book to read. The book includes a very well organized list of sources, and an easy-to-use index. It is a significant contribution to the dental literature and is highly recommended for those teaching courses in dental history and for those patients in the dental office who would like to leaf through an excellent collection of photographs and understand further today’s dentistry.

— Reviewed by H. T. Loevy, CD, MS, PhD

Bulletin of the History of Dentistry


Histories of hospitals, colleges, or associations written by long-time members and published by the groups themselves generally make me wince in pain as I strug-
gle to elicit significant information from often tedious and self-celebratory tale-telling. After all, why would any group want to author its own story and raise money to put the product before other members and a lay audience unless it is to congratulate itself for a job well done or to convince others of its worthiness for praise. As a result, although these works come under the heading of history, they are more an exercise in public relations.

Nevertheless, within this genre, some works are better than others, and this book is much better than most. Nancy Rockafeller is a Ph.D. candidate in the Department of History at the University of Washington and her co-editor James Haviland is an M.D. who taught an elective in the History of Medicine at the University of Washington School of Medicine. What they have done is to provide a readable, mostly descriptive survey of changes in health care delivery and education in the state which last year celebrated its centennial. The book is divided into eleven chapters including a broad overview, an examination of various types of practitioners prior to statehood, the rise of the hospital, the issue of medical reimbursement, the changing face of public health activities, contributions towards military medicine, the development of the state's medical school, the activities of the auxiliary, the changing economics of practice, community service activities of physicians, and a chapter containing brief histories of the various county medical societies.

Some chapters by the very nature of their subject matter are more interesting than others. Stanley Tuell, M.D. provides a reasonably good overview of the controversy over contract practice and prepaid insurance, both these issues to be employed for guaranteeing both affordable health care of patients and adequate compensation for physicians. Nancy Rockafeller's "Shamans, Quacks & Orthodox Docs" nicely describes the variety of healers and their practices in the early days, though her comments about the continuing influence of Galen in 19th century thinking and practice is much overdrawn. Robert Monsen, D.D.S. provides an interesting but all too brief outline of dentistry in the state as part of the introductory chapter.

Indeed, it would have strengthened the book if more attention could have been devoted to orthodox medicine's interactions and controversies with other health professions. Left out for example is the failed effort by the Washington State Medical Association, along with some dissident osteopathic physicians to set up a paper college in the early 1960's to award M.D. degrees to "qualified" D.O.'s, an action that was opposed by the Washington State Osteopathic Association and the Federation of State Medical Boards. The State Board of Medical Examiner's decision to recognize this "school" was declared by the State Supreme Court to be "subterfuge, was palpably arbitrary and capricious, and was void in all respects." This episode is certainly part of Washington State's medical history and should have been included.

It is to be remembered that this book is not designed for the scholar but to be picked up and browsed through at leisure. Helping to interest the prospective page-turner are a vast number of nicely reproduced black and white photographs and illustrations, as well as several useful charts which illustrate various trends. While this reader would have preferred a more in-depth, objective and critical examination of the topics covered, it is to be said for this work that it largely succeeds at accomplishing the goals set by its editors.

--- Reviewed by Norman Gevitz, PhD
Assistant Professor of the History of Medicine
University of Illinois College of Medicine


"I had little sense of the Service's rich history or the full extent of its impact on the lives of all Americans." This statement by the former Surgeon General, C. Everett Koop, standing by itself, is reason enough for anyone interested in history to include this book in the list of "must read."

Indeed, this book would be found enjoyable, not only by all persons associated with the USPHS, but other health care personnel would too because of its description of times and events which have brought health care to the level we experience today. It is not a dry presentation of historical facts; rather it is a story which succinctly describes a mission, a struggle and the very human emotions of some of the people who were principals.

It appears that the book achieved much more than its purpose, a commemoration of the 100th anniversary of the Commissioned Corps. It provides readers with an interesting story, which is factual, well done in terms of substance and presentation and finally is enjoyable reading.

One could easily criticize the fact that the author is a commissioned officer on active duty with the Public Health Service saying that the information presented may not be totally without bias. The response to that possible criticism might be "so what;" the book was written, not as a detailed critique, but rather as a commemorative document on a festive occasion. Any other approach would call for a change in title to "The Plaque of Politics." for example. It appears that the author, with an undergraduate degree in history from a school.

known for scholarly achievement and a professional degree in medicine from another equally renowned center of academic pursuit, is eminently qualified and has performed accordingly. (The same criticism might be raised relative to a review by a commissioned officer albeit from the inactive reserve.)

The presentation of the contents in chronological order from 1798 to 1989 make for easy reading and give the younger reader a perspective of how things were in the “good old days.” The presentation allows the older reader to reminisce and stand tall with pride in the professions and the Corps.

As is true in any historical effort especially, one picture is worth a thousand words. Being able to look into the eyes of doctors, nurses, patients, allows one to have a deeper appreciation for what was taking place at the time. The other depictions of places and events serve to enrich the story of the Commissioned Corps in a way that is factual and gives a greater appreciation of what was happening.

The layout of the book with appropriate and adequate notes, bibliography, appendix and index, makes it a pleasure to read from a pragmatic viewpoint.

If there is a deficiency in this commemorative literature, it could be found in the lack of depth and number of facts regarding the sometimes vicious infighting that goes on in any political environment. To its credit the USPHS has survived and is still making important contributions to the health of Americans, indeed to the health of the world.

Finally, as a dentist, I would have liked to see more credit given to our profession in meeting the Cuban refugee crisis, for example, and other “in the trenches” types of efforts in hospitals, prisons and remote areas. Regardless, this book is highly recommended to all health professionals, so that they might be aware of and take pride in the efforts of some of their colleagues who didn’t follow in the footsteps of Marcus Welby.

— Reviewed by John D. Thorpe, DDS, MPH
Associate Medical Director
Blue Cross, Blue Shield of Illinois


With periodontics dominating the profession today, it is difficult to conceive how recently it arrived in dentistry. The American Dental Association only accepted the Board of Periodontology in 1948.

Dr. Hine’s *History of the American Academy of Periodontology* is subtitled 1945-1989, but he wisely includes a previous history of the Academy written by Dr. Arthur H. Merritt which dates to its organization in 1914.

Dr. John M. Riggs (1811-1885) of Hartford, Connecticut, gave his name to the disease of periodontoclasia in the 1860’s when he developed the techniques of scaling and curettage and is often called the “Father of Periodontics.”

Dr. D. D. Smith of Philadelphia (1839-1920) expanded these treatments for prevention of disease with regular periodic recalls. As early as 1907 he was called the “Father or Oral Prophylaxis.”

And then, after hearing Dr. Smith speak at a dental meeting, Dr. Alfred C. Fones (1969-1938) of Bridgeport, Connecticut became so impressed with the importance of regular prophylactic care, he founded the first school for dental hygienists in 1913.

In 1914, a pioneer group of 18 dentists interested in periodontics met in Cleveland and formed the Academy. Two women dentists, Drs. Gillette Hayden and Grace Rogers Spalding took the lead in organizing the group, with Dr. John Oppie McCall writing the Constitution and By-Laws and Dr. Austin F. James elected as the first president.

During the next years they succeeded in aggressively educating the profession and the public as to the prevalence of periodontoclasia and the possible treatment of what had up to then been considered an incurable disease.

The Academy originally accepted generalists to membership; dentists who were interested in periodontics. A specialist organization, the American Society of Periodontists was formed in 1961 and the two groups existed side-by-side. In 1968, however, the two merged into one and jointly sponsored a journal and the continuing development of the new specialty.

Dr. Hine’s book is a treasure-house of information and the names of our teachers jump out of the pages. Many of these pioneers are still with us or are just recently deceased. He has done a fine service for the history of dentistry by preserving the record of these dedicated men and women.

— Reviewed by Elias M. Karnoff, DDS
New York
ticular instrument or piece of equipment; in understanding how an instrument was used or what therapeutic agent was most popular for treating a particular disease; or for determining how other problems, which may have presented in a practice, were handled.

One of the largest and most successful of all American surgical supply companies was that of George Tie- mann, a German cutler and apprentice instrument maker, who had immigrated to this country in 1826. Shortly after arriving on these shores the young Tiemann opened a cutler shop in lower Manhattan, and in 1841 was advertising that he was now manufacturing "scissors and surgical instruments." Through his close contacts with many of New York’s leading surgeons he was able to learn what instruments were most needed. Building on this core, the business was transformed into America’s largest and most successful surgical supply house. In 1889, after the firm had been in business some 60 years, it issued its most comprehensive catalogue which still stands today as one of the most complete compendiums of surgical and medical instruments, supplies, drugs and miscellaneous appliances.

The current publishers have brought out this facsimile edition on the occasion of the 100th anniversary of the issuance of the original catalogue and a manificent job they have done with it! Limited to 1000 copies, The Centennial Edition reproduces Tiemann’s largest and most comprehensive catalogue page for page. With 4414 illustrations on 846 oversize pages, the book provides the best written and pictorial record of all the medical and surgical apparatus of the time. Even the paper, as well as the textured, simulated-leather binding, with its gold stamping, accurately reproduce the original work making it a handsome volume indeed.

A lengthy introduction by two outstanding scholars in medical history give an excellent picture of the state of medicine and surgery in the 19th century. James M. Edmondson, Ph.D. is Curator of the famed Dittrick Museum of Medical History in Cleveland and F. Terry Hambrecht, M.D. is a specialist in bio-engineering and the head of the neuroprosthesis unit at the National Institutes of Health in Bethesda. Their writing is lucid and competent and covers not only surgical instrument history but the story of the growth of medicine and surgery in general in the last century. In addition, their copious notes further elucidate the text adding significantly to the information offered by the book. There are also a number of interesting illustrations of early New York showing the locations of successive Tiemann headquarters. The original text, itself, begins with an excellent short history of surgery, culled from various sources.

It is a fascinating excursion back in time to browse through the book page by page. One learns that some brainy ideas were utilized in creating instruments such as the absorbable drainage tubes made from the tibia or femur of a chicken with a description of just how the bones were rendered aseptic and pliable enough to be manipulated so as to obtain the best drainage from an abscess. Every new group of instruments is preceded by an extensive discussion of the disease or condition for which it is intended, and these are taken by the pageful from the leading medical and surgical tests of the time. There are also extensive anatomical descriptions which accompany instruments which will be used to study or modify existing anatomical problems, such as the rectal or vaginal specula.

An interesting section is that dealing with "electrotherapeutic" machines which were recommended for cautery, for electrolysis, as well as for the more mysterious types of application to alleviate a variety of troubling conditions, as well as providing "electrical anesthesia." Today, machines promising the same things are being advertised to the dental profession at a price upward of $2000. However, similar machines are pictured in Tiemann’s catalogue for the munificent sum of $40! One of the most interesting aspects of the catalogue is the price list from which we learn that extraction forceps designed by Chapin Harris retailed for $2.00. What hath inflation wrought? The book can be ordered from Norman Publishing, 442 Post St., San Francisco, CA 94102 or The Printers’ Devil, 1 Claremont Court, Arlington, MA 02174.

— Reviewed by Malvin E. Ring, DDS author of Dentistry—An Illustrated History Rochester, New York

Abstracts


While dentistry has been practiced for many centuries among the Etruscans, Egyptians and other world populations, improvements of the techniques started in earnest with rapid improvement of illumination technique and the development of new materials. The rapid progress, particularly after 1840, is discussed with a chronology of events which led to the technical advances in dental techniques. (46 ref)

COOMAN, J. Jacket crown and porcelain work (La jacket crown et travaux de porcelaine.) Rev Fr Prothese Dent, 1989, No 9, Ser C: 42-46.
In 1939 M. Linet wrote a book with this same title. Part of his book is reproduced with the permission of the publishers. Linet describes in great detail the construction of dental prostheses using porcelain, the technique and materials needed, and the instruments that allow the construction of porcelain crowns.


The year 1989 marked the 200th year anniversary of the French Revolution which has had a major effect on modern thinking in all fields. Dentistry apparently was also affected by delayed progress in scientific activity. With the revolution in France a number of dentists, including Jacques (James) Gardette, immigrated to the United States. With progress in education and technology in the 19th century dentistry and its specialties gathered prominence in the US. (12 ref)


Isabella d'Aragona (1470-1524) was the wife of Gian Galeazzo Sforza, Duke of Milan. After the death of Gian Galeazzo in 1494, Isabella returned to Bari and died there in 1524. Her remains were exhumed recently and the skeleton remained. The buccal surfaces of the teeth, particularly the anterior teeth, show extensive abrasion. The abrasion was studied with both optic and scanning electron microscope techniques, and is probably due to the use of rigid instruments. The tooth surfaces which were not abraded were covered with a black patina which on microanalysis showed a high mercury content. The black patina is attributed to chronic use of mercury, possibly in the treatment of syphilis, and the abrasion produced intentionally in an attempt to remove the patina. (23 ref)


The knowledge of maxillofacial surgery available in the 13th century and the influences of Arab medicine on the knowledge of the time are discussed.


John Mott-Smith was born in New York in 1824. He taught himself dentistry, passed the New York examination in 1845, and started a practice in Albany, NY. In 1851 he arrived in Honolulu where he established a practice with a local physician, Wesley Newcomb. Mott-Smith became a trusted adviser to three Hawaiian kings and to Queen Liliuokalani. He was the first editor of the Hawaiian Gazette, a partner in the first Family Drug Store of Honolulu, a member of the Board of Health, Board of Education and Board of Immigration of Hawaii, and was made Minister of the Interior in 1876 by King David Kalakaua. Mott-Smith died in Honolulu in 1895. (18 ref)


As part of the celebration of the Illinois State Dental Society's 125th anniversary, several articles on dental history were published. The first article discussed the era of 1865-1920, the second 1920-1940, the third 1940-1960 and the last one, 1960-1989. The articles are profusely illustrated with photos of dentists, and others, who have contributed extensively to the progress in dentistry in Illinois.

GONZALEZ IGLESIAS, J. Dental ideal of Mr. Bernardino Landete (El ideal estomatologico de don Bernardino Landete.) Rev Actual Estomatol Esp, 1989, 49(386): 67-76.

According to Landete's pupils, "dentists moved dentistry from the streets to the offices. Landete introduced it to the hospitals. They saved teeth, now the stomatologists intervene in pathological processes and save lives." Dr. Landete Arego graduated in medicine in Valencia in 1902 and in dentistry in Madrid in 1904. His work, teachings and textbooks on dentistry are discussed.


Since patients were not always willing to have painful teeth removed, Etienne Bourdet, dentist to Louis XV, in 1752 described a technique, possibly based on writings by Mouton in 1746, which became quite popular in the 18th and 19th century. According to this
method, a tooth was luxated to rupture the dental nerve
and left in place. Bourdet's text is quoted extensively,
and discussed in light of writings of other investiga-
tors of the 18th and 19th centuries (10 ref)

GYSEL, C. The face in “Margarita philosophica”. (La face
dans la “Margarita philosophica.”) Acto Odont Stomat,

During the middle ages several important books
were published as a collection of current knowledge.
One of these, “Margarita philosophica,” was used by
students of the School of Liberal Arts of the Universi-
ty of Louvain who possibly planned to study medicine.
The book was published in 1503, and was reprinted
several times during the 16th century. Since it was in-
tended as a philosophical treatise not much attention
was given in it to the anatomical sciences. There was,
however, a short discussion on the different regions of
the face, primarily for differentiation of the sensory
regions. The drawings of the face and the other body
regions have been reproduced in other texts. (62 ref)

GYSEL, C. A bicentenary: the death of Pierre Camper
(1722-1789). (Un bicentenaire: la mort de Pierre Camp
per (1722-1789).) Information dent, 1989, 44: 4389-4398.

Camper was professor of anatomy, surgery and
medicine in Holland. As a highly skilled illustrator, he
illustrated several of his articles. He also described the
facial angle used in cephalometry and prosthetics that
carries his name. His life is reviewed. (35 ref)

GYSEL, C. Centenary of the First International Dental
Congress. (Un centenaire le Premier Congres Dentaire In-
ternational.) Information Dent, 1989, 27 (July):
2413-2419.

The First International Dental Congress took place
in Paris on September 2-9, 1889 during the Universal
Exposition under the auspices of the Ministry of Com-
merce and the Dental Society of France. Several topics
were discussed in the 5 sections of the Congress. The
British and the American delegations were represent-
ed by their presidents, John Tomes and Jonathan Taft,
respectively. The sections met in the conference room
of the Trocadero with a total of 334 representatives from
18 dental societies (7 American). Registration cost 20
francs. (14 ref)

HARGREAVES, AS. Queen Elizabeth I and her teeth. Br

The problems of Elizabeth I of England and her
teeth are analyzed in a comprehensive manner. Several
sources are extensively quoted (23 ref)

HARLE, F. Development of the Study Club on Oral Sur-
urgery. (Die Entwicklung der Arbeitsgemeinschaft fur
Kieferchirurgie.) Deut Zahnarzt Zeit, 1989, 44(12):
924-931.

The development of surgical techniques and den-
tal surgery is discussed starting with Hippocrates and
his technique for repositioning of the mandible. Modern
advances in the profession in Germany and annual professional meetings of the specialty group are
reviewed. (13 ref)

KEIL, G. and GERABEK, W. A hard fight by dentists for
respect and recognition (Ein zaher Kampf der Zahnarzte
um Respekt und Anerkennung.) Zahnartzl Mitt, 1989,
79(17): 1872-1876.

Early events in dental history in Greece, Rome,
Egypt and the Arab world are reviewed. (17 ref)

LEONARD, MS. History of the treatment of maxillofa

Treatment of jaw fractures is reviewed starting with
the discussion of payment for treatment of bone frac-
tures in the times of Hammurabi and progressing to
the manner of treatment in the 19th and 20th centu-
ries. (8 ref)

our past for the nation. Forum (Baltimore), 1989, 9(2):
12-15.

Plans for the National Museum of Dentistry are dis-
cussed. The new museum will be located in an addi-
tion on to the fifth floor of the Baltimore College of
Dental Surgery. Plans for the construction and the col-
lection are discussed.

MANDEL, I. Changing dental images - from stone tablets

The changes in the role of the dentist through the
centuries are reviewed. (28 ref)

Many well known writers have had something to say about dentistry. Short quotes of Anthony Burgess, Paul Valery, Francisco Quevedo, Robert Burns, Wilhelm Busch, Sigmund Freud, Woody Allen, Milan Kundera, George Bernard Shaw, Graham Greene, Horacio Quiroga, Gabriel Garcia Marquez, Victor Hugo, and others are discussed.


Dental chairs used since 1832 are illustrated and technological advances in dentistry are discussed. Various other dental devices used since 1838 are also illustrated. The author looks back on dentistry and its changes in the last 125 years. (20 ref)


Johann Bartholomaus Trommsdorf (1770-1837) is considered by many to be the father of scientific pharmacy. He was a reformer and innovator in pharmacy and the author of books on the manufacture of cosmetic pharmaceuticals. He also described several dental powders and tinctures for dental use, and pills and liquids for improving mouth odor. His book "Kallopistrin or the art of grooming for the elegant world" (1805) should, therefore, be included in the dental literature.


The fight against pain is an old one. The history of pain and its treatment were discussed as part of a symposium organized by the pharmaceutical company, Grunenthal, in Germany.

PEDERSEN, PO. Dentists and dental care in Greenland prior to 1940. (Tandlæger og tandpleje i Gronland for 1940.) Tandlægebladet, 1989, 93(7): 244-257.

The first dentist to work in Greenland was Kamma Budtz-Jorgensen (1875-1942). Dr. Budtz-Jorgensen had worked in Christianssted, St. Croix in 1908-1909, and in West Greenland in 1913-1914 where she returned in 1923. She established herself in West Greenland and practiced in several cities. In July 1929 an advertisement was published to attract more dentists to Greenland since there seemed to be a great need for dental care. By 1932 money was appropriated by the government to support dentists in Greenland. Among the dentists who went, in answer of the advertisement, was Peter Chr. Larsen, the first male dentist to practice in Greenland. He remained only a short time and returned to Denmark in 1935. Several others followed. Most were helped by Greenland natives but returned to Denmark after a short stay. The type of service rendered is discussed. (29 ref)


Several forceps used in Roman times have been found at different sites in Europe. Some of these have been analyzed for chemical composition, and many others are described. The varying characteristics and the places they were found are presented.


Leewenhoeck, Pasteur, Koch, Lister and others were active in the development of microbiology and have called attention to immunological causes in many diseases. Semmelweis and others were active in the development of asepsis, an important aspect in the treatment of periodontal disease. These researchers have been honored on stamps which relate directly or indirectly to periodontics. (17 ref)


When one thinks of important persons of scientific dentistry, several names come to mind, particularly those of G.V. Black and W.D. Miller. The life and work of Miller are reviewed.


The question of the existence or not of an intermax-
illary bone in man apparently was first discussed in ancient Rome by Claudius Galenus. Vesalius did not accept the view of the existence of the bone. Many other anatomists studied the problem. Goethe, the German poet, was also interested in the problem and wrote extensively on its existence. Several of the drawings documenting the existence of the intermaxillary bone are reproduced. (22 ref)


The history of dentistry is reviewed starting with Hesy-Re and ending with the works of W.D. Miller, Leonard Koecker and Otto Walkhoff. (11 ref)


The French revolution brought with it a series of new laws based on the feelings of physicians towards surgeons and those who should perform surgery. In 1790 the Royal Society of Medicine through Vicq d'Azyr sent a report to the Committee on Health, specially created by the Assembly, to look at problems of health. These reform laws, the problems associated with them, and their indirect impact on dentistry are reviewed.


The development of prosthodontics is discussed from the era of Hesy Re to modern times. Illustrations of Etruscan bridges, as well as prostheses manufactured in the 15th century in Switzerland, and in the 17th and 18th century in the United States and Japan are presented. Modern achievements in the improvement of dental prosthesis, particularly the research of Alfred Gysi, are discussed.


Changes of the dental chair since mid 19th century, when mass production started, are reviewed and illustrated.

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