

Royal Crowns and Historic Plaque: Dentistry in Hawaii during the 19th Century

Robert C. Schmitt

For island dentistry, 1903 was something of a landmark year, notable for the founding of the Dental Society of Hawaii and the enactment of legislation setting new, rigorous standards for professional licensing. When Dr. John Morgan Whitney, Hawaii's first resident graduate dentist, delivered the presidential address before the first annual meeting of the Society the following January, he in effect marked the beginning of the modern period of Island dentistry.

The century preceding 1903, in contrast, was a pioneering period in this field, with uncertain origins and erratic progress. When it began, what little dental care existed was crude and primitive, for foreigners as well as the native population. Honolulu did not even see its first dentist until 1847. The following decades brought important strides in dental technology and growth in the professional community. These advances, largely overlooked by island historians, are the subject of this paper.

DENTAL CARE AMONG THE HAWAIIANS

Pre-contact Hawaiians had their full share of dental problems. As early as 1884, Dr. Whitney concluded from a study of skulls found in burial caves, "that while there was plenty of jaw room and teeth were generally sound and firm, dental caries, disease of the gums and evident dental suffering were not absent." He also reported "many cases of salivary gland calculi, but the commonest affliction was dental caries. Toothache must have been frequent."¹ Later research by Chappel found that "pyorrhea seems to have been remarkably prevalent among the

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ancient Hawaiians, far more so than caries of the teeth," with advanced cases observed in 10.25 percent of the young, 35.52 percent of the middle-aged, and 87.46 percent of the elderly.² Lai's examination of Hawaiian skeletal remains noted high frequencies of malocclusion, periodontal disease, calculus, and dental caries.³

Some of their dental problems were self-inflicted. "The ancient Hawaiians had a custom of knocking out the incisor teeth of either jaw, upon the death of a chief or dear friend, as an expression of their great love for the departed and of their grief at his passing. It is said that this was done by placing a piece of wood against a tooth and then striking this with a rock." Among crania examined by Chappel, 17.2 percent showed evidence of this practice.⁴

Dental care was simple. For cleaning, the Hawaiians rubbed wood ash or charcoal on and between the teeth and then rinsed their mouths. Toothache and periodontal disease were treated with the root of the puakala (poppy), bitten into and held between the teeth. Teeth were extracted by pulling them out with a strong olona cord.⁵

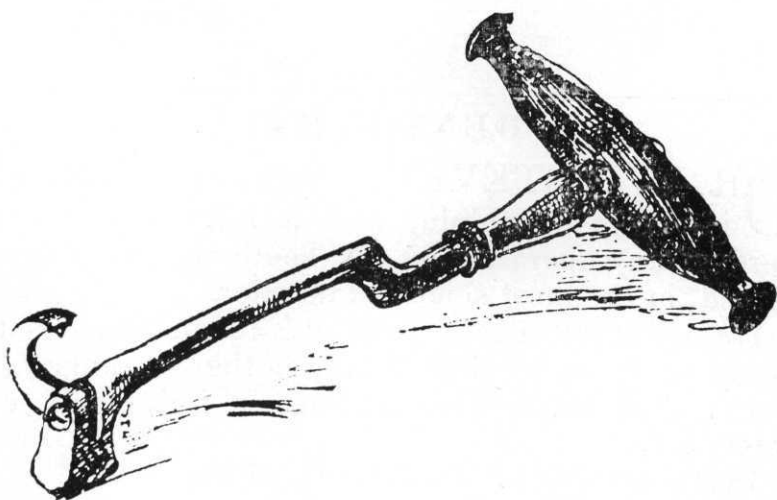
MISSIONARY DENTISTRY

Western dentistry (such as it was) appears to have been introduced to the Islands by members of the Sandwich Islands Mission. As early as 1822, Sybil Bingham wrote in her journal that "Mr. B. has almost daily calls to extract teeth, let blood, administrate medicine, etc."⁶ Hiram Bingham—a minister and not a surgeon or dentist—presumably used a tooth extractor much like the one owned by the Rev. Elias Bond in Kohala after 1841. Bond's instrument, now in the collection of the Mission House's Museum, is a 5-3/4-inch-long T-shaped device with a hook at the end of the shaft (Fig. 1).⁷

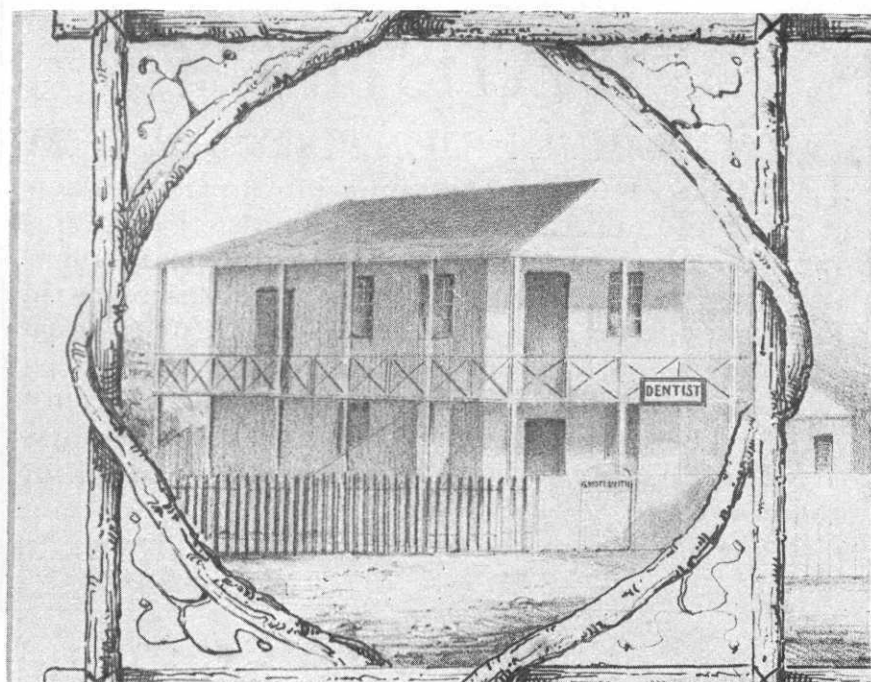
One of Mr. Bingham's patients was his wife, a fact recorded in two of her journal entries for 1822:

Feb. 5th. I have some confidence in the skill of my dear husband, or I could hardly have been prevailed on to sit down, as I did yesterday, to the extraction of a badly decayed tooth, given up as hopeless, a long time since. It was an eye tooth and almost broken down to the gum; but it came out without damage, though with profuse bleeding.

FIG. 1: *Above.* Rev. Elias Bond's tooth extractor. Drawing by Juliette May Fraser. Reproduced from Ethel M. Damon's *FATHER BOND OF KOHALA* (1927), p. 103. *Below.* Dr. John Mott Smith's dental office on Fort Street, occupied from 1853 to 1858. Lithograph by Paul Emmert in 1853. "Views of Honolulu, No. 3". Margin cut no. 1. Hawaiian Historical Society Collection.



A FRIEND IN NEED



DENTISTRY.

DR. M. B. STEVENS, SURGEON DENTIST, is now in Honolulu, and is fully prepared to perform any operation on the Teeth that may be required, in the most scientific manner.

He will insert Teeth from one to an entire sett, either on Pivot or Gold Plate, as the case may require. Fill teeth with gold or tin foil, clean, extract, &c.

Please inquire of Mr. John G. Munn.


Dec. 11.


tf.

DENTISTRY!

DR. COLBURN, DENTIST, from NEW YORK, would respectfully inform the citizens of Honolulu and the adjacent Islands, that he has opened his rooms over the old Polynesian Office, adjoining the residence of Capt. Snow, near the THEATRE, where he would be pleased to see those who may require his services.

TEETH EXTRACTED with the **FORCEPS** only.

 The soreness removed from the most-sensitive Teeth, so as to be filled without pain or killing the nerve.

 Families waited upon at their residences, if required.

[sep29tf20]

Feb. 8th. Much distressed again, night before last, with the toothache. The seat of the pain was a large black tooth, so much decayed that I thought I never should have resolution to have it extracted. But encouraged by the good success of Monday, I closed school last night and sat down as before, to the operation. Much to my surprise, like the other, it came safely out. I had taken an opiate—now went to bed—slept and was refreshed, and, today, find myself well and free from pain.⁸

More serious cases were handled by the mission's physicians and surgeons. Early in 1835, for example, Dr. Alonzo Chapin recorded his treatment of Sheldon Dibble, also a member of the mission: "Jan. 16: Mr. Dibble called after I had retired and fallen asleep, in considerable trepidation, a tumor growing from the socket of the tooth I extracted for him the other day and he has considerable apprehension about the result. I succeeded in pacifying him somewhat, but fear that a painful and formidable operation may yet be necessary: no less than break up the cheek bone, to come at it so as for removal."⁹

Newspaper advertisements for toothbrushes and dentifrices began to appear toward mid-century. The earliest seems to have been one placed by E. Espener in *The Polynesian* on August 29, 1840, announcing "just received per Barque Forager direct from London . . . Hair and Tooth Brushes. . . ."¹⁰ Nine months later, Marshall & Johnson likewise included toothbrushes among their wares.¹¹ The first mention of tooth powders and pastes came a decade later. In 1850, Dr. Geo. A. Lathrop's drug store advertised "tooth brushes, orris dentifrice, a very superior article, aromatic tooth wash," and in 1853 Dr. E. Hoffmann's pharmacy carried "toothpowder and paste."¹²

THE FIRST DENTISTS

Hawaii's first professional dentist of record was Dr. M. B. Stevens, who appeared on the local scene in December 1847, advertised his services over a twelve-week period, and then dropped out of sight. His ad (Fig. 2) first appeared in *The Polynesian* on December 11.¹³ Dr. Stevens was followed by George Colburn, who arrived in Honolulu on September 20, 1849,¹⁴ ran an advertisement (Fig. 3) from September 29 to December 1, and then, like his predecessor, apparently moved on.¹⁵ A news item called attention to the advertisement and noted that "his stay will be limited to a short period."¹⁶

FIGS. 2 & 3: Advertisements placed in *The Polynesian* by Hawaii's first two dentists. Dr. M. B. Stevens' ad appeared Dec. 18, 1847, p. 124 and Dr. Colburn's ad appeared Oct. 6, 1849 p. 83.

Hawaii's third dentist, and the first to settle permanently in Hawaii, was John Mott Smith. Dr. Smith (who eventually acquired a hyphen between his middle and last names, becoming John Mott-Smith) was a New Yorker who studied dentistry by himself, using the textbooks of a friend who was then attending dental college. After passing the State dental examinations, he located in Albany and practiced there for three years. He moved to California in 1849 and late in 1850 sailed to Hawaii. He arrived early in 1851 and remained an Island resident until his death 44 years later, after a distinguished career as a dentist, editor, and government official.¹⁷

The earliest extant reference to Smith appears to have been a newspaper advertisement, published initially on April 26, 1851, for "Dr. J. Mott Smith, of Albany, N.Y., Dentist. Office corner of Beretania and Smith Street, opposite Rev. L. Smith's native church."¹⁸ Later, in August 1852, *The Friend* noted that "Dr. J. Mott Smith, Dentist, hitherto occupying an office on Dr. Newcomb's premises has removed to a more central location. He has now opened an office in the building near the French Hotel, in Fort Street."¹⁹ He remained there until moving with Dr. Hillebrand into a two-story wooden building at the corner of Hotel and Fort Streets.²⁰

Dr. Smith maintained a full practice until 1866 and followed his profession on a part-time or intermittent basis for still another decade, before becoming Minister of the Interior in 1876.²¹ As noted by a later biographer, "for many years he did virtually all the dental work in Honolulu."²²

How good was Dr. Smith's work? Dr. Whitney later offered this evaluation:

Dr. Mott-Smith, after a long and most successful practice, had given up the dental profession, and gone into government employ under the king, Kamehameha V. Much of Dr. Smith's practice fell to me, and considering that his knowledge had been gathered many years before from one dental office, it was much of it very commendable. He evidently knew little about the treatment of teeth with devitalized pulps, but his soft gold fillings were above the average of his day, and his mechanical work was excellent. But the best thing he did for his people was strongly impressing them with the value of their teeth, and the necessity of frequent and continued watching and caring for them.²³

At least three other dentists competed with Dr. Smith at one time or another before Whitney's arrival, but none stayed very long. These were D. C. Stocking, A. N. Clarke, and W. H. Richards.

Stocking resided in Honolulu from May 3 to August 16, 1853 and again from July 1, 1854 to August 29, 1855.²⁴ His "business card" ("D. C. Stocking, Dentist, Office on Fort Street, 3 doors below Hotel

Street") ran in *The Polynesian* from January 6 to May 5, 1855, and was notable chiefly for its omission of the title "Dr."²⁵

Dr. A. N. Clarke (or Clark) arrived October 15, 1859 and departed August 9, 1860.²⁶ His rather flamboyant newspaper advertisement announced:

DENTISTRY! DENTISTRY!

DR. A. N. CLARKE,

Would respectfully inform the inhabitants of Honolulu and vicinity, that he has located himself for the practice of Dentistry in all its branches.

TEETH EXTRACTED BY ELECTRICITY, without pain. In this operation Electricity is used in the place of Chloroform or Ether, and without the danger attending the use of them.

OFFICE next door to J. H. Wood's Boot and Shoe store, on Merchant Street, up stairs.²⁷

Exactly how Clarke made use of electricity in pulling teeth is unclear. To a modern reader, Clarke's ad may vaguely suggest a dentist's chair having something in common with that later death-row fixture, the electric chair. If so, it was presumably less lethal.

Dr. W. H. Richards came to Hawaii on January 23, 1865 and soon afterwards opened an office at the corner of Fort and Merchant Streets. He left, apparently for good, on November 2, 1869.²⁸

These early island dentists had to obtain most of their supplies from mainland firms. The local market apparently was promising enough to justify a rather large advertisement by the San Francisco and Sacramento supply house of R. H. M'Donald & Co., run in the *Advertiser* from May 19 to August 4, 1866. "We especially invite the attention of DENTISTS," it stated, and went on to list a wide variety of offerings—dental and surgical instruments, vulcanite and plate teeth, dental chairs, gold foil, forceps, pluggers and scales, excavators, drills, nerve bits and sockets, dental lathes, and mirrors, among other items.²⁹

DR. WHITNEY

John Morgan Whitney, M.D., D.D.S., was for more than fifty years regarded as Honolulu's leading dentist. Accompanied by his wife, he arrived on September 7, 1869, and a few weeks later was in business above Dr. Hoffmann's drug store at the corner of Kaahumanu and Merchant Streets.³⁰ His "business card" appeared initially in the *Advertiser* and then regularly for over 37 years in *The Friend*.³¹ He finally retired in 1923 and died, at the age of 92, in 1927.³² In 1950 he was honored by the Hawaii Territorial Dental Society as "dentist of the half century" in the Islands.³³

Dr. Whitney was often described as "the first graduate dentist to practice in Honolulu."³⁴ Born in Vermont in 1835, he was educated at Oberlin College and the Pennsylvania College of Dental Surgery (D.D.S., 1868).³⁵ He later noted:

When I first came to my practice in Honolulu it was the custom for the physicians to give instructions to the dentist what to do. This I resented with considerable spirit, for as I said to them, "I have spent as many years in preparing for my specialty as you did for your general practice and under as severe discipline, and it is but common sense that I should know more about it than you do who did not probably give it an hour of time in your full course." I had so much of this to contend with that I resolved to see for myself the foundation upon which they built their sense of such superior knowledge.³⁶

Whitney thereupon returned to the mainland, entered Starling Medical College in Columbus, Ohio, and graduated as an M.D. in 1874. Two years later he returned to the Islands to resume his practice.³⁷

"Soon after his arrival in the Sandwich Islands he was appointed dentist to the royal family and has been retained in that capacity since," reported an interviewer in the San Francisco *Examiner* in 1888. Describing Whitney as "toothpuller to royalty," the article went on to quote the doctor at length:

"King Kalakaua," Dr. Whitney said, "has an excellent set of teeth, although several have been filled with gold. His teeth, however, are troubled with what is known to dentists as Rigg's disease, which is quite common in the tropics, and arises from a debilitated system. It affects the gums, chiefly, and causes the teeth to become loose.

"When in the operating chair the King almost invariably either goes to sleep or dozes. He stands the pain of dentistry well."

"The deceased King Kamehameha V., or 'the Lonely One,' had a remarkably fine set of teeth, and withstood pain with the greatest fortitude."

Dr. Whitney went on to discuss the teeth of the late Queen Emma, the late Princess Likelike, and Princess Kaiulani, noting that the latter received checkups every three months and had "beautiful ivories."³⁸

This concern with royal crowns and palace plaque extended to commoner patients as well. A 16-year-old student, for example, recalled sitting in Dr. Whitney's dentist's chair at 10 o'clock on Christmas morning, 1880, for treatment of a toothache.³⁹

At first the only dentist in Honolulu, Whitney soon found himself part of a small but growing professional community. Dr. William Newcomb arrived on November 22, 1869 and for more than a year occupied Mott Smith's former dental office at Fort and Hotel.⁴⁰ Mott Smith, who had discontinued his practice in 1869, resumed it in 1872 for four more years before giving up for good in 1876.⁴¹ Theo. W. Gulick maintained a dental practice at Fort and Merchant Streets in 1873-1874, and Dr.

E. H. Thacher arrived from Oakland early in 1880, advertising "Artificial Work—Gold, Celluloid and Vulcanite, used for Base Plates, Making Use of a Recent Patent for their successful retention in the mouth."⁴² The 1884 census, the first to contain detailed occupational statistics for the Kingdom, reported four dentists at work.⁴³ Eight years later the city directory listed nine dentists practicing in the Islands, seven in Honolulu and two in Hilo.⁴⁴ Numerical trends are traced in table 1.

TABLE I
PRACTICING DENTISTS: 1851 TO 1910

Year	Number	Rate*	Year	Number	Rate*
1851	1	1.2	1884	4	5.0
1860	2	2.8	1892	9	9.4
1865	2	3.1	1896	9	8.4
1870	2	3.4	1900	21	13.6
1875	1	1.8	1903	20	12.3
1880	2	3.1	1910	22	11.5

* Number of practicing dentists per 100,000 inhabitants, based on population counts and estimates in Robert C. Schmitt, *Historical Statistics of Hawaii* (Honolulu: University Press of Hawaii, 1977), pp. 8-10.

Source: 1851-1880 from present study. 1884, 1900 and 1910 from census data in Robert C. Schmitt, "Health Personnel in Hawaii, 1820-1974," *Hawaii Medical Journal*, 34, no. 2 (February 1975), 53-55. 1892, 1896 and 1903 from classified business directories in *Directory and Hand-Book of the Kingdom of Hawaii* (San Francisco: F. M. Husted, 1892), p. 405; *Husted's Directory and Hand-Book of Honolulu and the Hawaiian Islands* (San Francisco: F. M. Husted, 1896), p. 477; *Husted's Directory of Honolulu and Territory of Hawaii* (Honolulu: F. M. Husted, 1903), p. 578.

This increase in trained dentists was matched by growing public awareness of the need for tooth care. Alarmed by the westernization of the native diet and its inevitable consequences, Walter Murray Gibson wrote, in *Sanitary Instructions for Hawaiians* (1880):

But many Hawaiians are commencing the unwise habits of foreigners, which promote bad teeth. They chew tobacco;—they eat hard bread; and partake of hot food and drinks, along with pickles and candies, instead of their ancestral cold soft poi, and raw fish. And swallow many drugs. All of which helps to corrode, and to coat their teeth with hurtful matter, which leads to decay and painful toothaches. So that by and by, the dentist, that unfortunate result of an advanced civilization, may be as much required by Hawaiians, as by English and Americans, and other enlightened nations.

But the decay of the teeth may be prevented, or stayed at least, by taking great pains in regard to their cleanliness. Cleanse the teeth thoroughly in the morning when you

get up, and before going to bed. A mere rinse with a mouthful of water, and a rub with a finger, will not thoroughly cleanse the teeth. A small brush is needed. And if you have not one, the frayed end of a rag, or corner of a towel moistened with soap and water, and well rubbed on to your teeth, will help to cleanse them.

This practical advice was followed by a long discussion of the etiquette of picking one's teeth in public, apparently a common native practice.⁴⁵

LICENSING

Notwithstanding the growth in sophistication regarding dental care, standards for dentists remained low or nonexistent through most of this period. Licensing had been instituted for foreign physicians in 1859 and all physicians in 1865, for example, but until the last decade of the century no restrictions were imposed on the practice of dentistry.⁴⁶

This era came to an end on December 19, 1892, with the approval of "An Act to Regulate the Practice of Dentistry in the Hawaiian Kingdom." Under the terms of this legislation, a three-member Board of Dental Examiners (one physician and two dentists) was created, and standards for licensing were established. The Board was empowered for an initial sixty-day period to issue certificates of qualification to any person currently in practice, if that person had been in active practice in the Kingdom for two or more years, as attested by two reputable citizens. After sixty days, certificates could be issued only to applicants either passing "a creditable examination before the Board upon dental medicine and surgery" or presenting "a diploma from a reputable Dental College." Unlicensed practitioners were subject to fines of \$100 to \$500.⁴⁷

Dr. Whitney was appointed president of the new Board. Robert W. Anderson was designated secretary, and was later succeeded by M. E. Grossman.⁴⁸

The first six certificates were awarded on January 21, 1893. Two—to Elias Kaululaau Wright and E. A. Lundy—were given on the basis of the act's grandfather clause. The remaining four—R. I. Moore, A. E. Nichols, Whitney and Anderson—were by virtue of the applicants' having diplomas from recognized dental colleges. Three more certificates were awarded in February.⁴⁹

All in all, 26 dentists were licensed during the ten-year life of the 1892 law. Twenty-three certificates were awarded on the basis of education (including six from the University of California and three from the Pennsylvania College of Dental Surgery), three by reason of having practiced at least two years in the Islands, and none on examination. Most of the 26 successful applicants were haoles, but at least two

(Wright and George H. Huddy, the latter a California graduate) were Hawaiian or part Hawaiian, and one (M. K. Asahina) was Japanese.⁵⁰

A new, much stricter "Act to Regulate the Practice of Dentistry in the Territory of Hawaii" was approved on April 25, 1903. The new law established a Board of Dental Examiners, consisting of three practicing dentists, to be appointed by the Governor upon the recommendation of the Dental Society of Hawaii. While providing for the automatic re-licensing of persons licensed under the old law, it greatly tightened the requirements for new applicants. Such persons were now required to be at least 21 years of age, have a good moral character, possess a diploma from a reputable dental college, and moreover had to pass "an examination satisfactory to the Board." Penalties were specified for falsifying qualifications, gross negligence, indecent conduct, and other infractions.⁵¹

The passage of this act took place only three months after the Dental Society of Hawaii was organized. The Society was formed in Honolulu on February 13, 1903. Not surprisingly, Dr. John Morgan Whitney was elected as its first president.⁵²

Twenty-seven dentists were licensed by the Board between June 4, 1903 and April 12, 1904, seven of them on the first day. License No. 1 under the new law was awarded to Dr. Whitney.⁵³

DENTAL TECHNOLOGY

Dental technology, painfully primitive when the first dentists stopped off in Honolulu, underwent marked improvement during the last third of the 19th century. Some idea of its progress during this period can be gleaned from Dr. Whitney's first presidential address to the Dental Society of Hawaii, delivered in January 1904. Describing his college training (1866-1868) and early practice, he said:

Cohesive gold had but recently been introduced, and all students were trained in the use of soft gold and tin, a legacy I have valued above price. The use of the rubber dam had not been introduced into the college curriculum and all our longest and most difficult operations had to be performed with napkins without the use of the siphon. . . .

We had been taught the destruction of the nerve and the treatment of nerve canals, filling them with gold or gutta percha, but as the germ theory was then unknown, much that we did was empirical. Nothing was then taught about pyorrhea chorolaris, though I soon found thorough cleansing of the teeth and roots and treatment with oxychlorid of zinc very helpful. . . .

The first dental machine was invented by a Dr. Green. He lived in Milwaukee, Wisconsin, if my memory serves me right. This was pneumatic and the burs and drills screwed into the hand piece. I possessed the fourth one that crossed the Rocky mountains, and found it of very great help. After some two or three years that was superseded by the present machine invented by Dr. Morrison of St. Louis, which was the same

as the one now in use excepting the great improvement given it by the steel cable, an invention of Mr. A. H. Kennedy . . . first used for shearing sheep. . . .

Silver alloys have been greatly improved since I began practice. Arrington's was probably as good as any, but then as now they proved a very uncertain material upon which to rely. . . .

The whole subject of antiseptic mouth-washes has grown up since my graduation—I am not quite sure but to the serious injury of the mouth and teeth. There is no question about the great care which should be given to cleansing the teeth as thoroughly as possible with brush and silk, using if necessary a carefully prepared tooth powder once a day at night. But to be constantly washing the mouth at all times of the day with strong, pungent aseptic mouth washes seems to me to weaken and put to sleep nature. . . .⁵⁴

Two of the greatest advances in dentistry, anesthesia and X-rays, were not mentioned in Dr. Whitney's address. Other sources likewise remain silent on the dates and circumstances of their introduction in Hawaii. The same is true of another important innovation, the electric dental drill, although Whitney referred to it in passing.

Anesthesia was probably adopted for dental extractions in Hawaii sometime after 1850, the year of its earliest recorded use by an island physician. The first application of an anesthetic in dentistry had occurred in Hartford, Connecticut, on December 11, 1844, when Dr. Horace Wells sacrificed one of his own molars (pulled by Dr. John M. Riggs) while under the influence of nitrous oxide.⁵⁵ Less than six years later, on February 16, 1850, Dr. Charles Wetmore of Hilo used ether in the delivery of his own son.⁵⁶ Dr. Clarke's 1859 advertisement—"Teeth extracted by electricity . . . in the place of Chloroform or Ether, and without the danger attending the use of them"—has already been referred to; Clarke's mention of anesthetics in this context suggests they may have already made their appearance in Honolulu dental offices. Two more decades passed, however, before another dentist's advertisement or "business card" referred to anesthesia. This occurred in January 1881, when Dr. E. H. Thacher, with an office on Fort Street, advertised "Nitrous Oxide Gas administered for painless extraction of teeth."⁵⁷

Similar uncertainty exists regarding the initial appearance of dental X-rays in Hawaii. In December 1895, only two weeks after Roentgen's announcement of his discovery of the X-ray, Otto Walkhoff in Braunschweig, Germany, had made an X-ray photograph of his own teeth with a 25-minute exposure. Within a year Dr. C. Edmund Kells of New Orleans had introduced that technique to America.⁵⁸ The earliest demonstration of the X-ray in Honolulu took place on September 8, 1896, and by 1899 at least one Island institution, the Honolulu Sanitarium, owned an X-ray machine.⁵⁹ Dental radiography presumably was introduced to Hawaii sometime during the next decade or so. Careful research

has so far failed to uncover any references to dental X-rays in Hawaii before the early 1920s, however.⁶⁰

Dental drills underwent considerable improvement during this period. Early island dentists probably used drills powered by a foot-treadle, invented in 1790 and still found in many offices as recently as 1910. The first electric dental drill was a rather cumbersome battery-powered instrument patented by George F. Green of Kalamazoo (not Milwaukee, as incorrectly stated by Dr. Whitney) in 1875.⁶¹ This apparently was the drill acquired by Dr. Whitney soon after its first manufacture and used by him in his Honolulu practice.

Notwithstanding these advances, dental charges remained relatively low. In 1902, for example, Honolulu's New York Dental Parlors advertised sets of teeth for \$5.00, gold crowns for \$5.00, gold fillings at \$1.00, and silver fillings for 50¢.⁶²

Dental technology continued to advance during the 20th century, but by 1903 its pioneering period had passed. Unlike their predecessors of the 1840s and 1850s, island dentists were reasonably well trained, regulated by law, and equipped with a wide range of tools and techniques unknown to an earlier generation. Whitney, in his presidential address, expressed it well: dentistry had become a respected profession.

NOTES

¹ As paraphrased in Stanley D. Porteus, *A Century of Social Thinking in Hawaii* (Palo Alto: Pacific Books, 1962), pp. 45 and 217.

² H. G. Chappel, *Jaws and Teeth of Ancient Hawaiians* (Memoirs of the Bernice P. Bishop Museum, vol. IX, no. 3, 1927), pp. 256-257.

³ Leonard J. L. Lai, "An Oral Examination of the Early Hawaiians," in Charles E. Snow, *Early Hawaiians: An Initial Study of Skeletal Remains from Mokapu, Oahu* (Lexington: University Press of Kentucky, 1974), pp. 159-163.

⁴ Chappel, *Jaws and Teeth of Ancient Hawaiians*, pp. 253 and 266.

⁵ Mary Kawena Pukui, cited in Lai, "An Oral Examination of the Early Hawaiians," pp. 160 and 162; June Gutmanis, *Kahuna La'au Lapa'au*, 2nd trade edition (Honolulu: Island Heritage, Ltd., 1979), p. 55.

⁶ *Sybil Moseley Bingham Journal, 1819-1823*, HMCS typescript, p. 62, entry for February 14, 1822. Quoted with HMCS permission.

⁷ Mission Houses Museum, file card for Acc. No. 197, Tools & Equipment. A drawing of this instrument appears in Ethel M. Damon, *Father Bond of Kohala* (Honolulu: The Friend, 1927), p. 103.

⁸ *Sybil Moseley Bingham Journal*, p. 62. Quoted with permission.

⁹ Francis John Halford, M.D., *9 Doctors & God* (Honolulu: University of Hawaii Press, 1954), p. 154.

¹⁰ P, 29 August 1840, p. 47.

¹¹ P, 29 May 1841, p. 203.

¹² P, 16 February 1850, p. 159; P, 20 August 1853, p. 57.

- ¹³ P, 11 December 1847, p. 119. This ad ran weekly through 26 February 1848. It is also described in a brief unsigned article, "Dentistry in Honolulu—1847," PP, February 1938, p. 25.
- ¹⁴ His arrival is recorded in the AH immigration index and also in F, 1 October 1849, p. 56. Neither source shows a departure date.
- ¹⁵ P, 29 September 1849, p. 79. The ad ran weekly through 1 December 1849.
- ¹⁶ "Dentistry," P, 20 October 1849, p. 90.
- ¹⁷ George F. Nellist, ed., *The Story of Hawaii and Its Builders* (Honolulu: Honolulu Star-Bulletin, Ltd., 1925), pp. 163–165; "Death of an Early Pioneer," PCA, 12 August 1895, p. 6; "A Prominent Public Man Gone," F, September 1895, p. 68. Several sources show Smith's arrival date as 1850.
- ¹⁸ P, 26 April 1851, p. 199.
- ¹⁹ F, August 1852, p. 32.
- ²⁰ Thos. G. Thrum, "Honolulu in 1853: Supplementary Paper," HAA 1899, pp. 80–104 (p. 90); Gorman D. Gilman, "Streets of Honolulu in the Early Forties," HAA 1904, pp. 74–101 (at p. 85); F, October 1858, p. 79, advertisement.
- ²¹ PCA, 12 August 1895, p. 6; F, September 1895, p. 68; F, November 1872, p. 91, advertisement.
- ²² Nellist, ed., *The Story of Hawaii and Its Builders*, p. 163.
- ²³ J. M. Whitney, "Earlier Practice of Dentistry," PCA, 23 January 1904, p. 5.
- ²⁴ AH immigration index.
- ²⁵ P, 6 January 1855, p. 137; P, 5 May 1855, p. 205.
- ²⁶ AH immigration index; "Dentistry," P, 22 October 1859, p. 2. Both sources spelled his name "Clark."
- ²⁷ P, 22 October 1859, p. 3. This ad ran weekly through the issue of April 28, 1860.
- ²⁸ AH immigration index; advertisements in PCA, 18 March 1865, p. 1, and 6 October 1866, p. 1.
- ²⁹ PCA, 19 May 1866, p. 2, advertisement. This ad appeared weekly through the issue of August 4, 1866.
- ³⁰ AH immigration index; PCA, 25 September 1869, p. 1, advertisement. Whitney's arrival was dated September 6 in PCA, 11 September 1869, p. 2; he himself later recalled the date as September 12 (Whitney, "Earlier Practice of Dentistry").
- ³¹ PCA, 25 September 1869, p. 1; F, February 1885, p. 1. The latter notice ran, with only minor modifications, through the issue of June 1922, p. 140.
- ³² "Good and Purposeful Living for Ninety Years Brings Heritage of Happy Old Age," HA, 1 October 1925, p. 1; "Dr. Whitney Dies After Long Service," HA, 18 November 1927, pp. 1 and 2.
- ³³ "Dr. Whitney Chosen as Dentist of Half Century for Hawaii," HSB, 6 June 1950, p. 3.
- ³⁴ See, for example, John William Siddall, ed., *Men of Hawaii* (Honolulu: Honolulu Star-Bulletin, Ltd., 1921), II, 421; anon., "Dr. Whitney is Ninety: His Poinciana is Forty," PP, July 1926, pp. 23–24; HSB, 6 June 1950, p. 3; anon., "Historical Sketch, Organized Dentistry in the Territory of Hawaii, February 1903 to June 1952," in Hawaii Territorial Dental Society, *Anniversary Meeting, Fiftieth Annual Session . . . 1952*, pp. 4–27 and 34–43, at p. 22.
- ³⁵ Siddall, *Men of Hawaii*, II, 421.
- ³⁶ Whitney, "Earlier Practice of Dentistry."
- ³⁷ Siddall, *Men of Hawaii*, II, 421.
- ³⁸ "Toothpuller to Royalty," PCA, 8 September 1888, p. 3, quoting an interview originally published in the San Francisco *Examiner*.

- ³⁹ L. Vernon Briggs, *Experiences of a Medical Student in Honolulu, and on the Island of Oahu, 1881* (Boston: David D. Nickerson Co., 1926), p. 2.
- ⁴⁰ AH immigration index; advertisements in F, January 1870, p. 7, and September 1871, p. 71.
- ⁴¹ Advertisements in F, December 1869, p. 103; November 1872, p. 91; December 1876, p. 103.
- ⁴² Advertisements in HG, 1 October 1873, p. 1, and 8 April 1874, p. 1; "Special Notices," PCA, 13 March 1880, p. 3; PCA, 27 March 1880, p. 2, advertisement; *McKenney's Hawaiian Directory* (San Francisco and Oakland: L. M. McKenney & Co., 1884), p. 212.
- ⁴³ Robert C. Schmitt, "Health Personnel in Hawaii, 1820-1974," *Hawaii Medical Journal*, 34, no. 2 (February 1975), 53-55.
- ⁴⁴ *Directory and Hand-Book of the Kingdom of Hawaii* (San Francisco: F. M. Husted, 1892), p. 405.
- ⁴⁵ Walter Murray Gibson, *Sanitary Instructions for Hawaiians* (Honolulu: J. H. Black, 1880), pp. 65-66.
- ⁴⁶ Schmitt, "Health Personnel in Hawaii," p. 53.
- ⁴⁷ *Session Laws of 1892*, chapter LXXII, pp. 172-174.
- ⁴⁸ *Certificates of Qualification to Practice Dentistry, Hawaiian Islands* (bound volume in AH).
- ⁴⁹ *Ibid.* Wright's last name was omitted on the Board's copy of his certificate but his name was given in full in *Directory and Hand-Book of the Kingdom of Hawaii* (Oakland: Pacific Press Publishing Co., 1890), pp. 16 and 385.
- ⁵⁰ *Certificates of Qualification*. For further information on Huddy, see *Hawaii Nei* (Honolulu: The Hawaiian Gazette Co., Ltd., 1899), p. 96.
- ⁵¹ *Session Laws of 1903*, Act 40, pp. 229-234.
- ⁵² Anon., "Historical Sketch, Organized Dentistry in the Territory of Hawaii," p. 4; Whitney, "Earlier Practice of Dentistry."
- ⁵³ Letter, George H. Huddy, D. D. S. to Gov. George R. Carter, 17 January 1905, enclosing list, "Licensed Dental Practitioners," AH.
- ⁵⁴ Whitney, "Earlier Practice of Dentistry."
- ⁵⁵ Patrick Robinson, *The Book of Firsts* (New York: Clarkson N. Potter, Inc., 1974), p. 18; Sydney Garfield, *Teeth, Teeth, Teeth* (New York: Simon and Schuster, 1969), p. 48.
- ⁵⁶ "Labor Under Ether: Hilo, 1850," a letter from Charles H. Wetmore, M.D., annotated by Robert C. Schmitt, *Hawaii Medical Journal*, 40, no. 10 (October 1981), 291-292.
- ⁵⁷ HG, 26 January 1881, p. 2, advertisement.
- ⁵⁸ Garfield, *Teeth, Teeth, Teeth*, p. 61.
- ⁵⁹ Robert C. Schmitt, "Health and Medical Firsts in Hawaii," *Hawaii Medical Journal*, 40, no. 10 (October 1981), 284-289 (p. 286).
- ⁶⁰ Honolulu Dental Infirmary, *School of Dental Hygiene Bulletin [1921-1922]*, unpagged, description of a course in "radiography;" Honolulu Dental Infirmary, *Annual Report, July 1924*, p. 9, description of recently acquired X-ray apparatus.
- ⁶¹ Joseph Nathan Kane, *Famous First Facts*, 4th ed. (New York: The H. W. Wilson Co., 1981), p. 228; The Historical Museum of Medicine and Dentistry, Hartford Medical Society, and Hartford Dental Society, *A Catalogue of Selected Objects* (Hartford, Conn.: the Museum, 1979), p. 47.
- ⁶² EB, 2 May 1902, p. 5.