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

- Creating an authoritative body to which important questions relating to dental history could be referred for factual verification.
- Stimulating more thorough and comprehensive research in dental history, thereby extending the boundaries of dental knowledge, giving substantial support to growing professional culture.
- Increasing interest among dentists in dental history.
- Encouraging both the development of historical collections on dentistry, and the offering of adequate instruction in dental history.
- Stimulating professional discussion of the facts of dental history as an aid in solving problems in dental education and practice.
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Allow me to introduce myself to the members of the Academy and the readership of our *Journal.*

I was asked by our Executive Director and former Editor, Dr. David A. Chernin, to assume the duties of Editor for our long-running flagship publication, the *Journal of the History of Dentistry.* I accepted this position in October 2013, and will be responsible for the published *Journal,* while Dr. Chernin will remain as Editor-in-Chief with a focus on managing the business aspects of the *Journal,* and to address in greater depth his role and responsibilities as Executive Director of our Academy. All manuscripts and queries regarding our publication should be directed to me at jlg@histden.org.

I have been a member of the Academy since 1981 and have enjoyed every moment of participation in our activities. In 1995 I was asked by our former Editor Hannalore Loevy to join the Editorial Board; I became an Associate Editor in 2012 before assuming my present position. I have served in the capacity of an associate or consulting editor or on the editorial board of 4 major international journals, and on the scientific review panel or as a manuscript reviewer for over 25 national and international journals. My experience in all phases of manuscript preparation, editing and publication has spanned almost 40 years. Personally I have published 3 textbooks with multiple editions and over 300 manuscripts in scientific, clinical, educational and research journals. In 2009 I was honored to receive the Academy’s highest award, the Hayden-Harris Award.

I look forward to receiving your manuscripts and to helping anyone who desires to publish in our *Journal,* especially from our international members. I encourage you to share your thoughts and graciously request your input and guidance to enhance our publication as we move forward in the coming years. While historical pursuits will not always reveal the true secrets that remain secured in the impenetrable vaults of dental antiquity, our history is our guide and our awakening for the future and you are the beacon and passion for advancing the role that it will play in years to come.
Our Academy was conceived in the late 1940's and organized in 1951 by a small group of dentists concerned that the rapid growth and technological advancements occurring in American dentistry would adversely affect the basic tenets of the profession. It was their belief, and our Academy's present position, that using the lens of historical perspective and analysis enables our profession's evolution by building on our predecessors' successes and failures.

Tonight I will speak on the importance of dental history from our past “dental sages” and my own personal belief.

In 1889, Dr. John R. Patrick, when asked why it was important to include history in dental education, responded that:

...every age should profit by the experience of the preceding ones; but without a record [and study] of what has been accomplished each investigator commences a new series of trials, and wanders over the same ground in search of truths which have long been discovered; or adopt theories that have been long ago discarded.

We know that his perspectives were neither unique nor original when delivered 125 years ago. During the development and growth of the art of writing, we have documentation that individuals throughout the ages held similar beliefs. We should view Dr. Patrick as a member of that important contingent of “beacons of light” that remind those of us who know what we do not know, and assist those of us who do not know, to know.

Dr. Charles McManus’ introduction to Dr. Vincenzo Guerini’s classic text on the history of dentistry discussed the need to study dental history to appreciate “the importance and value of the dental art and science as a humane service reaching far back in an unbroken line to the mist of antiquity.” McManus’ reference to “humane service” acknowledges that we deal with mankind’s physical pain and suffering, and that our professional intellect has evolved through the ages. We provide relief from oral afflictions by reducing the length of their morbidity, and offer a sophisticated degree of reconstructive and restorative therapies. The understanding and awareness of our predecessors’ achievements, discoveries, inventions and failures is the umbilical cord of dental professional life.
It is this noble contribution—the relief from pain and suffering—that has been our profession's universal and undeniable achievement. I refer not only to the improvement in 18th- and 19th-century extraction instruments and techniques, nor Horace Well's monumental gift of anesthesia, but our continuing commitment to scientific advancements in the treatment and prevention of the most common disease, dental caries, which unfortunately is still a health concern.

Bernard Wolf Weinberger believed that:

The entire structure of dentistry, theories, methods and results obtained by the most painstaking experimentations, even the fundamentals, are subject to constant scrutiny, revision and amendment. On the other hand, the study of the development of an art from the historical standpoint has a definite value, and is indeed indispensable to one who does serious work. No one can understand and appreciate the tendencies and movements in scientific research today until he has acquired a thorough knowledge of the origin and growth of these same tendencies and movements through a careful reading of the literature of his and other professions.

The study of dental History provides the substance whereby we are able to develop a rational philosophy of dentistry.

Now, I would not say that "those who do not read history are doomed to repeat it”—we all know that mankind continues to repeat its Faustian errors. But it is by experiencing history as a story related to our professional endeavors that we will understand the profession best.

While there is still the perennial selling of "new and improved devices," abetted by industry's successful use of cutting-edge technology, we are confronted by a new concern with grave consequences. It appears today that dental information is only perceived as current and up-to-date if available online. Additionally, as a mechanism to establish reliability, the trend du jour of "dental knowledge" is often "evidence-based medicine/dentistry." These statistical approaches, developed from epidemiology, are an attempt to aid practitioners in their decision of how best to provide treatment to their patients. Now, I do not have an issue with the employment of meta-analyses and systematic reviews. Both provide valuable in-sight and usable information. The issue that I have is the near complete support (financial, educational and political) of this particular resource alone, concurrent with the neglect of preserving and analyzing nearly 500 years of clinical practice and scientific thought.

The study of history is essential in developing that valuable skill of critical thinking, so important in personal and professional growth.

How do we convey that subtle ingredient—that academic pursuit, that self-knowledge which borders on autobiography—to clinical care?

Critical thinking, the ability to recognize a problem and strive to achieve a satisfactory solution, sharpens the diagnostician's skill by advancing the understanding of the progression of the patient's signs and symptoms, leading to a coherent, valid and reliable interpretation. This interpretation may then require additional diagnostic tests, which will support an educated diagnosis; enabling the presentation of an etiology, prognosis and treatment options.

How many of our recent graduates or students are familiar with Celsus, credited with recording the cardinal signs of inflammation: calor (warmth), dolor (pain), tumor (swelling) and rubor (redness and hyperemia)? I would venture very few; but moreover, I think we could poll our entire professional ranks and discover similar numbers. We are a healthcare profession that fundamentally deals with inflammation and infections, so eloquently stated by McManus. Are we reduced to the establishment of "best practices" based on "X"-amount of recent reviews or protocols, which always includes the caveat, "in conjunction with clinical experience"?

Is there not value in knowing about the 2,000 years of observations, findings, reports and treatment outcomes from our professional forbearers, as noted by Patrick? What is one of the fundamental bases of scientific inquiry? Is it not observation? Is it not observing changes over time? Has Weinberger missed the point, or is his perspective just dated? My embrace of such opinions and suggestions has rewarded me with a successful
and meaningful professional experience.

So, what do we mean by “dental history”? On its surface, dental generally is found to mean pertaining to tooth or teeth; history, a systematic record of past events relating to a particular people, country, period, person, etc, a continuous systematic record of past events usually written in chronological order.

But on a deeper level: from our earliest days as dental students migrating into professional practice, the cornerstone of clinical practice is our patient’s “dental history.” This “history” refers to a document containing as complete and detailed information of all aspects of the patient’s current and past oral health, general health, diagnostic test results, radiographic images/reports and previous treatments.

Are we so narrow in our outlook that our professional focus limits the connotation of these two terms to just the above interpretation?

As we embark on our professional journey the time we allot for the reading and study of dental history will provide the mental and intellectual skills to examine and re-assess the growth and direction of American dentistry, and our role in this saga. It is self-evident that our leadership and colleagues continue to labor over issues, events and ideas as if they are new dilemmas for our profession (e.g. amalgam controversy, focal theory of infection, and affordable oral care); we, on the other hand, are empowered with the knowledge and wisdom from failed endeavors and successes in our professional past.

While our profession and colleagues may perceive the continuing pressure of new and re-occurring dilemmas as just:

“The Slings and Arrows of outrageous Fortune, they take Arms against a Sea of troubles, And by opposing, hope to end them... But that the dread of something unknown, The undiscovered Country, from whose bourn they have yet to travel, Puzzles their will, And makes them rather bear those ills they have, Than fly to others that they know not of. Thus Conscience can make them Cowards, And thus the Native hue of Resolution Is sicklied o'er, with the pale cast of Thought, And enterprises of great pitch and moment, With this regard their Currents turn awry, And lose the name of Action.”

The growth and development of dentistry is part of the record of human progress, containing the stories of our accomplishments and failures. The integration of dental history as an educational component confers deeper understanding of the progress and the controversies in our profession’s development and ethical evolution.

The study of dental history enables the exploring, assessing and critiquing the path by which American dentistry endeavors to obtain, maintain and sustain the necessary credentials as a health profession. Historical research provides insight into dentistry’s adaptation to the changes in scientific, technical and educational advancements and the evolving social contract of a healthcare profession—offering guidance as we deliberate present dilemmas.

In closing, let me leave you with a thought to consider:

Knowing where to find knowledge is the most important part of scholarship.
References


6. Ibid. p. 390.

7. Shakespeare, paraphrase, “To be or not to be” *Hamlet*, Act III, Sc. 1.

Correction

In the previous issue of this publication, an image was omitted from the following article: Gutmann JL. Bernhard Gottlieb’s impact on contemporary endodontology. *J Hist Dent*. 2013; 61(2):59-80.

The image below should have been included on page 61, and captioned as follows:

![Fig. 3. Bernhard Gottlieb at the Baylor College of Dentistry, Dallas, Texas 1945. Reprinted from the Baylor archives.](image)

The following paragraph was also omitted from that article:

In the late 1930s, Gottlieb, sent his wife Stella (the daughter of Siegmund Herz) and his son Erich to the safety of London, while he fled Austria over the Black Sea to Palestine, taking as much of his histologic work with him as he could. Even though he came there with the intent of developing a dental school, the resources available to him were sparse. During this time he published a monograph on the treatment root canals that was initially published in Hebrew in 1938 by Haartz Press, Tel Aviv (subsequently translated by Dr. S. Lewin-Epstein, Jerusalem, in 1940 and published in English) (Fig. 2) while marshaling his attempts to get a foothold in England with his family. Failing to achieve the latter, he headed to the United States, where following brief periods at the University of Michigan and Columbia University he settled in Texas in the position of professor and head of the Department of Pathology and Research at Baylor College of Dentistry. (Fig. 3)
Dental Surgery in Ancient Egypt

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Many different surgical procedures have over the years been attributed to the ancient Egyptians. This is also true regarding the field of dental surgery. The existence of dentists in ancient Egypt is documented and several recipes exist concerning dental conditions. However, no indications of dental surgery are found in the medical papyri or in the visual arts. Regarding the osteological material/mummies, the possible indications of dental surgery are few and weak. There is not a single example of a clear tooth extraction, nor of a filling or of an artificial tooth. The suggested examples of evacuation of apical abscesses can be more readily explained as outflow sinuses. Regarding the suggested bridges, these are constituted of one find likely dating to the Old Kingdom, and one possibly, but perhaps more likely, dating to the Ptolemaic era. Both seem to be too weak to have served any possible practical purpose in a living patient, and the most likely explanation would be to consider them as a restoration performed during the mummification process. Thus, while a form of dentistry did certainly exist in ancient Egypt, there is today no evidence of dental surgery.

Introduction

Egypt may be considered as the oldest of the early advanced civilizations. Already at the time of the merging of the Upper and Lower Kingdoms around 3200 BC, an advanced society had developed; the birth of the Old Kingdom, around 2686 BC, initiated an era that would be characterized by significant achievements in many fields, such as art, architecture, social engineering, and medicine.1

The art of medicine was one of the areas that might be said to have first seen the light of day in Egypt. Pliny the Elder tells us that this was at least the opinion of the Egyptians themselves.2 Egyptian medicine was well respected among its neighbors, and Egyptian doctors were sought after by foreign rulers.3,4 This high regard for the ancient Egyptians has been remarkably persistent through the ages. The Napoleonic expedition to Egypt at the end of the 18th century contributed considerably to the interest, admiration, and not least to the romantic air surrounding the alleged skills of the ancient Egyptians, which to some extent still persists today. However, even if Egypt with some justification can be considered as the cradle of medicine, including dentistry, there seems to be a common tendency in the literature to try to push the ancestry back further.
and further for various procedures, giving them all an Egyptian origin. Such procedures as trephinations, tracheostomies, amputations, cataract surgery etc. have often incorrectly been considered of Egyptian origin. Pure myths or grossly exaggerated claims have been published in respected international peer-reviewed publications and often spread through the literature following their first appearance. This has created a fog through which it is difficult to discern the true surgical achievements of the Egyptians. In an attempt to provide a critical and balanced image of the surgical skills of the ancient Egyptians, a review of the original sources, as well as the modern literature regarding the different areas of surgery was necessary.

The aim of this paper is to briefly present and analyze the primary sources, as well as the modern scientific and scholarly literature concerning dental surgery in Egypt, from the First Dynasty until the beginning of the Ptolemaic era, including claims regarding tooth extractions, evacuation of apical abscesses, fillings, artificial teeth and bridges.

**Materials and Methods**

The modern literature was searched for publications concerning dental surgery in ancient Egypt, including combinations of, but not limited to, such terms as: “Egypt”; “dentistry”; “dental surgery.” Relevant publications were obtained using databases such as PubMed and Google Book Search. Further, entire journals of potential interest, such as *The Journal of Egyptian Archaeology, Journal of the History of Medicine and Allied Sciences*, etc., were searched. Pertinent references quoted in consulted works were further retrieved. The selection of included works was not systematic but dependent on such factors as level of relevance.

Statements regarding dental surgery in ancient Egypt in the analyzed literature were traced to their origin and the modern literature, as well as the primary sources, were critically analyzed in order to provide a balanced image of dental surgery in ancient Egypt.

**Dentistry in Ancient Egypt**

It is clear from the osteological material that severe affection of the teeth, with associated conditions, were common in the Egyptian population, mainly in the form of attrition and abrasion. This was probably caused by the dependency on bread with a high content of inorganic material, mainly contamination from the desert sand and grinding procedure, a topic analyzed in some detail by Leek. Whatever the cause, it is evident that the Egyptian population would have been in dire need of professional dental care.

Dentistry certainly did exist as one of the subspecialties of medicine. During a later period, the 5th century BC, Herodotus tells us that the Egyptians did benefit from physicians specializing in the treatment of teeth:

*The art of medicine among them is distributed thus:—each physician is a physician of one disease and of no more; and the whole country is full of physicians, for some profess themselves to be physicians of the eyes, others of the head, others of the teeth, others of the affections of the stomach, and others of the more obscure ailment.*

The art of dentistry has claimed Egypt as its birthplace, and at least the first known doctor in history is also the first known dentist, Hesy-Re, “chief of dentists and doctors” during the reign of Djoser. Considering that he had an additional 13 titles, it is perhaps not likely that he was a practicing dentist. In four other cases during the Old Kingdom and in one later case, specialists in the field are identified. However, even if some persons were seen as subspecialists in various fields of medicine, it is not clear that the field of dentistry was seen as distinct from the field of medicine in general, a question further obscured by philological disputes beyond the scope of this review. It does seem as if the Egyptian dental practice was quite far from what we today associate with the field of dentistry. The dentistry of Egypt was of a medical nature, as opposed to the dental surgery with which it is mainly identified today.
Dental Surgery in Ancient Egypt

About sixteen recipes for various dental disorders, such as toothache, for fixing a loose tooth, infections etc., have been preserved in the medical papyri, mainly in the Ebers papyrus, but also in the Kahun, Berlin, and Hearst papyri. The evidence for more invasive procedures is limited. The Edwin-Smith surgical papyrus is often mentioned in relation to dentistry. It has been said that we here learn of “abscessed teeth,” “dental operations” and “oral surgery.” In reality we learn little more than how to treat a dislocated jaw, and that we should not treat an infected open fracture of the mandible. It seems as if the first mention of an invasive dental procedure in Egypt is as late as a Coptic manuscript from around the 10th century AD.

There is thus nothing of interest regarding dental procedures in the literary sources, nor has any procedure been documented in the works of visual art from this period. Therefore details must be obtained from the archeological/osteological material.

Tooth extraction

Positive statements regarding tooth extractions are sometimes encountered in the literature. It is difficult to rule out other causes than extraction (at least when dealing with an already loose and diseased tooth) when facing an empty space where a tooth was expected in a mummified head/cranium. It is rather a question of extraction being a more or less probable possibility, based on several different factors. No clear case of tooth extraction has been reported in the literature regarding ancient Egypt. The few suggested cases are either highly questionable, or based on a misinterpretation of the modern literature: Miller investigated more than 500 heads, and found one possible extraction. This interpretation was, however, only based on a missing first molar without signs of disease, whereas the second and third molars did not display any signs of periodontal disease. Forshaw quotes a reference to Quenouille regarding possible tooth extraction. Quenouille did not, in reality, find a single case of tooth extraction in the 2285 skulls he examined. He did, however, state that according to Harris, extractions had been performed on Pharaoh Merenptah. This was also repeated by Nataf, and by Bardinet, who did not mention Harris. Both of them are probably relying on Quenouille. Unfortunately, Quenouille’s quotation is not correct, since Harris clearly states that they did not find any signs of dental interventional procedures in any of the royal mummies. Neither did the examination, including X-ray of the mummy of Merenptah by Bucaille reveal any signs of tooth extraction.

One of the most often quoted sources concerning the lack of extractions is Leek, who reported that he had investigated 3000 skulls without finding a single example of tooth extraction. However, somewhat paradoxical, Leek is also in more modern publications the main source in support of evidence for the extraction of teeth. This is based on his paper “Dental health and disease in ancient Egypt with special reference to the Manchester mummies” presented at the “Science in Egyptology” symposium held in 1979, and on the later publication of the presentations from that meeting. In his presentation he mentions a possible extraction in the mummy of Ta-aath (21st-25th dynasty). The arguments for this were, however, completely without any substance, and he himself abandoned them in a publication the same year. The other example from the Manchester mummies is constituted by the mummy of Demetria. Here, Leek finds that:

The lower left first molar is missing from the dentition and the right one is represented only by its abscessed roots. These probably represent the result of a successful and a not quite successful attempt to extract them. For what reason is difficult to imagine as no imperfection appears on any other part of the dentition and even the cuspal design shows very little wear.

This suggestion was based on a conventional X-ray, why it must be considered as purely speculative, and it is further not of interest here since the mummy belonged to the Roman period, ca. 100 AD. More ambiguous is, however, the first part of his presentation regarding the Junker
collection of dried skulls from the mastabas in Giza. Here he found 18 skulls with incomplete dentition, and further down he wrote:

The amount of space, the inclination of the adjacent teeth, and the contour of the intervening alveolar bone, are the criteria used to judge whether a tooth has been removed deliberately from a dentition and in a number of instances this has undoubtedly happened.54

Before this presentation Leek had clearly stated that he had found no example of a tooth extraction in any of the 3000 skulls he had examined and that he was not aware of any such example from ancient Egypt.49-51 It would be erroneous to interpret the above statement as referring to some of the 18 skulls. This statement is a general comment in line with his previous opinion that it is difficult to imagine that the Egyptians never extracted a tooth, even though we have no evidence for this.17,50 This interpretation is also supported by his presentation of exactly the same material in 1984, where he found not a single case of possible tooth extraction in these same skulls.22 Thus, Leek cannot be quoted as a support for the extraction of teeth in Pharaonic Egypt.

Ruffer’s statement seems to be an appropriate summary regarding teeth-extraction in Egypt:

It is not rare to find in Egyptian cemeteries diseased teeth almost dropping out of abscess cavities, or carious teeth which have caused extensive disease, and yet the patient was allowed to die without the relief that would have been afforded by a very simple operation. It is difficult to believe that extractions were not practiced at times, but the evidence on that point is nill.19

Evacuation of apical abscesses

The support for other invasive procedures is also limited. Reisner found a mandible in Giza from the Old empire (4th dynasty), currently in the Peabody collections in Harvard (Figure 1). The mandible demonstrates two circular orifices close to the apex of the 1st right lower molar.

In 1917 Thoma suggested that this might be the result of a therapeutic procedure for drainage of pus,57 such as cortical trephination. This was analyzed in detail by Hooton, who came to the conclusion that two small holes in connection with an apical abscess must be caused by a therapeutic drainage using a drill.41 This statement and a photo of the specimen was later reproduced by Breasted and has since often been repeated.32,34,35,58-70 Contrary to what has been stated,71 Breasted did not suggest that this was done using a fire-drill, which was made of wood and would have been completely unsuitable.

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As early as 1921, Todd suggested this to be a case of an accessory mental foramen and a pathological opening through which the abscess had drained itself.72 Later, Leek pointed out that it is difficult to imagine such advanced procedures, necessitating a certain level of knowledge and technical skill, being performed at that time, especially since a simple gingival incision would probably have been sufficient to release the pus as well as to alleviate the pain. Nickol et al.53 have further pointed out that the interpretation of this find as a surgical procedure is dependent on a procedure that was mainly used in the early 20th century, cortical trephination.73

While the suggested drilled holes could of course have been artificially made for evacuation of abscesses they can, however, be more easily explained as sinuses for spontaneous drainage. According to Leek this kind of channels are very frequent in the Egyptian material, occurring in a number of locations and directions, where it would have been impossible to perform a burr-hole.51,74,75 This view seems also to have been widely accepted today in more serious publications.42,50,51,76,77

The most important exception here, regarding the burr holes, would be Quenouille
who in 1975 claimed that he had evaluated in his patients if the impossible burr-holes could not be performed and came to the conclusion that it should be possible. He did further present two other cases, which he considered as likely examples of drilling for abscesses (Crâne du Musée de l’homme no. 3986, dated to the New Kingdom, and 7268, dated to the 4th dynasty). His suggestion regarding no. 3986 was later supported by Bardinet who, however pointed out that none of the cases were certain. Later re-examinations of the no. 3986 have not supported the suggestion of Quenouille. The technical argument of Quenouille is not convincing, especially since he did not describe his evaluation in any detail, nor performed a burr-hole in a patient or on an experimental model. Concerning the suggested procedure, it seems highly unlikely that this was ever performed, taking into account the arguments of Leek as well as the primitive level of surgery in general in Egypt.

Fillings and artificial teeth

It is common in older publications to find statements regarding the Egyptian use of gold fillings and artificial teeth. The sources behind these were extensively reviewed already in 1909 by Guerini, who found no support for these statements; neither did Weinberger in 1948, or Becker in 1994. One of the most common sources quoted concerning such statements is Belzoni. However, according to Weinberger, (and the present author’s own investigations) there is no mention of either gold fillings or artificial teeth in his work; therefore, this must be a misinterpretation that was latter propagated and corrupted in the literature. As late as 1998 Schneider provided a reference to the supposed findings of Belzoni. In further consulting of the edition referred to (John Murray, London, 1820, p. 187) no such information was identifiable. It seems plausible that this reference may have been quoted from one of the previous erroneous accounts.

Trillou claimed that one of the X-rays performed by Gray on one of the mummies in the Leyden museum (Leyden No. 2, 26th dynasty) clearly demonstrated an artificial tooth. This was supported by Bardinet, who, however, considered it to be a work of the embalmer. Unfortunately, what was suggested to be a tooth was actually analyzed in the quoted publications by Gray. The artifact was identified and removed under fluoroscopy and proved to be a solid disc of gold located at the surface of the lips. Similar findings have been described previously.

Possibly artificial teeth might have been used during mumification, in accordance with the use of other known prosthetic devices. Likewise, the embalmers used pieces of wood or ivory to restore the integrity of the “arc of teeth”, and to make small teeth of wood. These statements are, however, never supported with any references and no such artifact is known today. However, bridges might have been used for the same reason, as discussed below. Furthermore, the traces of gold found on the teeth of some mummies are not fillings but artifacts from the embalmment procedure.

Bridges

There are some examples in history that suggest that the Egyptians performed prosthetic dentistry. Unfortunately, as Becker has previously pointed out, all these findings lack a proper description regarding the actual archeological context of the find. The dating of the different artifacts is therefore often uncertain, and many of the suggested dates in the literature are provided without documentation.

The Bridge from Giza

For example, the Bridge from Giza consists of a second mandibular (or perhaps a first molar) molar linked by a thin (0.35mm in diameter) tubular gold-wire to a third lower molar where the crown demonstrates extreme attrition and the roots are largely absorbed (Fig. 2). The wire is applied to the teeth in a figure of eight with additional twists around the constriction of the loops and the teeth are separated by a distance of about 8mm. The bridge is currently in the Roemer-Pelizaeus Museum, Hildesheim, Germany.
old broken gold wire is today replaced with a new gold wire and the teeth imbedded in a plaster cast.\textsuperscript{77}

This bridge was found by Junker during his excavation in Giza in 1914. This find was done in shaft 984, which had been disturbed by later activities on the site. The details provided regarding the actual circumstances of the find are sparse. It was not found in a clear relation to a skull/jaw or other teeth, but among the debris of the corpse.\textsuperscript{100} Contrary to what has been sometimes stated it was not said to have been found in the midst of a fragmented skull.\textsuperscript{69}

In the same shaft a “replacement head” of mud was found (Fig. 3), but its relation to the bridge is unclear. Sallou claimed that the text of Junker had not been correctly understood and that these teeth were found “incorporées dans une fausse tête en boue du Nil”\textsuperscript{101,102} (“incorporated into a false head of Nile mud” (author’s translation)). This is, however, not in accordance with the original text by Junker: “an der Grabkammer des Ersatzkopfes aus Nilschlamm fanden sich zwei Zähne kunstvoll durch einen dünnen Golddraht verbunden”,\textsuperscript{103} [“In the grave chamber of the replacement head of Nile mud were two teeth, intricately connected by a thin gold wire” (author’s translation)], and should therefore be disregarded.

The teeth were, partly based on the replacement head, dated to the 4\textsuperscript{th} or 5\textsuperscript{th} dynasty.\textsuperscript{100,103} The circumstances of the find has led some to question the actual dating,\textsuperscript{78,104,105} which perhaps is somewhat overzealous. Junker initially considered this to be a procedure performed during the mummification, even though he suggested the possibility that it might have been used in life.\textsuperscript{100,103} He did therefore leave the bridge to Euler, who analyzed the find in 1928. Euler decided that the bridge consists of two adjoining teeth (the second and third molar from the left mandible), demonstrating similarities in appearance and color. He did further identify tartar on the neck of both teeth, which to him suggested not only that the teeth came from the same mouth, but that the bridge had been used \textit{in vivo}. As Hoffman-Axthelm has pointed out,\textsuperscript{77} and contrary to what has often been claimed,\textsuperscript{15,36,46,50,51,63,69,75,79,99,106-108} perhaps as a misinterpretation of the third point in his concluding remarks, he never does mention the existence of tartar on the gold wire. Euler considered this to be a functioning bridge created to support the pathological second molar.\textsuperscript{109} This opinion has later often been repeated.\textsuperscript{15,60,61,70,102,106,108,110,111}

The most important argument for Euler was the presence of tartar, indicating that the procedure had been performed \textit{in vivo}. Leek’s analysis of this finding indicated that the separation of the teeth was due to breakage of the wire.\textsuperscript{75} He pointed out that tartar could either have been created during the previous intraoral existence of the teeth, or could be pseudopathological artifacts.\textsuperscript{22,50} His doubts are further founded in the absence of a skull or other teeth; the much more pronounced attrition of the third molar (he is, however, of the opinion, that the alteration of the gross anatomy of this tooth are so pronounced that its location in the dentation cannot be decided), as compared to the second, contrary to what would have been expected; the unnaturally large distance of wire separating the teeth, as seen in Fig. 2; and that this construction with the thin gold wire of 0.35mm in diameter would have been too unstable to serve any therapeutic purpose. He noted that the knot around the junction of the loops would
in his experience, be impossible to perform in vivo due to lack of access. Leek therefore, found it more likely that the owner had simply preserved these teeth when they have fallen out, and perhaps he had kept the teeth as some sort of amulet.

Sallou made an analysis of the remains of the bridge in 1973 and suggested that the second molar might in reality be a first molar. This would perhaps explain the distance separating the teeth, but this explanation has been met with limited support. His interpretation of the finding is also partly based on his incorrect statement that the bridge was found in the replacement head, as discussed above.

The dominating opinion regarding this bridge is that it would have been of limited practical value. (For an extensive analysis concerning the technical aspects of this and other suggested bridges the reader is advised to consult the work of Schneider). Whatever the reason might be for joining these teeth together in this fashion, the opinion of Leek that this is not a therapeutic device inserted in vivo is convincing and seems to be the dominating view today, with additional arguments being added to this opinion.

The original suggestion of Junker, that this is a case of restoration during the mummification, provides the most simple explanation and should according to my personal opinion be preferred. There are frequent examples of restorations of mummies by the embalmers, for example the formation of prostheses evidently not intended for use in life, like hands made of linen and resin. The mummy of Nesi-Amun from the 25th dynasty was stabilized by a bamboo rod traversing the whole spinal channel and entering the posterior fossa of the skull. In the mummy of a priestess from the 21st dynasty, bedsores had been covered with leather patches sewn to the skin, and an open abscess closed with a suture. From pharaoh Siptah to Ramses IV it was customary to sew up the evisceration wound with a strip of linen in the royal mummies. When the mummy of Ramses IV lost his right hand after mutilation by plunderers it was replaced with two foreign right hands. Considering these and similar examples, it would not be surprising if the embalmers at some occasions decided to restore a tooth that had fallen out during the mummification process.

**The Bridge of el-Quatta**

This bridge (Fig. 4) consisted of a maxillary right canine abutment enclosed by a double strand of gold wire forming a distal loop. Another gold wire was attached to this loop. To this second gold wire two artificially prepared teeth were attached. The first tooth is a central incisor traversed by the wire through a drilled hole. Parallel to the hole is a buccal groove for the wire and the root has been scraped. The second tooth is a lateral incisor encircled by the wire. The tooth has a labial groove for the wire and the root has been scraped. Thus, these teeth have evidently been prepared outside the oral cavity. Tartar was found on the canine and lateral incisor. This was interpreted as an anterior four-unit bridge, where the left central incisor abutment had been lost. The bridge is currently in the Cairo museum. A more recent photo of the bridge is available online at http://www.nature.com/bdj/journal/v206/n9/fig_tab/sj.bdj.2009.355_F3.html.

![Figure 4. Dental bridge from el-Quatta. Modified from Schneider 2000.](image)

Even though this bridge was not properly examined until 1974, it was discovered in 1952 by Farid in a mastaba (Tomb No. 90) belonging to the 4th dynasty. The cemetery of el-Quatta has, however, been frequently used for secondary burials in later times. According to Iskander et al., the tomb seemed to be intact. However, according to others, this specific tomb had been re-used during the Ptolemaic/Roman era. While the bridge was...
found among human remains, it was not in a clear relationship to a cranium or jaw. Thus, whether this bridge should be dated to the Old Kingdom or to the Ptolemaic era cannot be decided based on the available literature, but caution seems indicated regarding its possible ancestry in the Old Kingdom. Even if we were to accept such a dating, it cannot be used as evidence of dental procedures during the Old Kingdom. Hoffman-Axthelm has presented a detailed analysis concerning why this device, like the bridge of Giza, would have been too unstable to have been used in vivo. The main argument here being that the roots of the artificially prepared teeth were not cut off. Schneider has further elaborated why this device would have been of no practical or aesthetic use. Similar to the bridge from Giza, no tartar was found on the gold wire. Hoffman-Axthelm finds it more likely to be a case of restoration during the mummification process, which seems indeed to offer the most plausible explanation.

**The Bridge from Tura el-Asmant**

This bridge, also known as the bridge of Hérouan, has not been put into question regarding its use in vivo. It was found in a skull in tomb 121. The replaced tooth was a right central incisor that had been prepared outside the mouth with shortening of the root and drilling of two holes. A silver wire was passed through the holes and attached to the two adjoining incisors. It is, however, of no interest here since it belongs to the Ptolemaic era and currently its location is probably in the Cairo Museum.

**The Bridge from Alexandria**

This bridge is like the bridge of Tura el-Asmant a “true” bridge, but of no interest here, since it is of a late date, originating from a Roman tomb in Ibrahima. Little is known concerning the actual circumstances of this find, and the specimen seems to have been lost.

These late bridges from the Ptolemaic and Roman period with their more elaborated international contacts cannot be taken as suggesting a pre-existing local Egyptian tradition, since they might have been performed in other parts of the Mediterranean area or as a result of skills imported with the new masters of the country. Further, if one were to speculate in foreign influences, then it would be more adequate to suppose a spread from the earlier and more advanced bridges from Etruria and Phoenicia than vice versa. The opposite speculation has, however, often been the case regarding two bridges found in Phoenicia.

**The Sidon bridge**

This bridge, also known as the Phoenician specimen in the Louvre, was found in a tomb in Sidon in 1862. Some artifacts of Egyptian origin were also found, including 12 small statuettes representing Egyptian deities. While the dating has been put into question, it seems reasonable to assume it to be close in time to the Ford bridge.

**The Ford bridge**

This bridge (Fig. 6) was discovered during an excavation in 1901 close to Sidon and is dated to the 5th or 4th century BC. It was found in an un-opened
sarcophagus of typical Phoenician origin. In the
tomb, however, not in the sarcophagus of the Ford
bridge, some small Egyptian faïences representing
Egyptian deities were found. The specimen is in the
Archeological Museum, American University of
Beirut.106 The Egyptian artifacts associated with the
Sidon and Ford bridges have led several authors to
suggest the “patients” to be of Egyptian origin, and
the bridges hence performed by an Egyptian, while
others have argued that if the Phoenicians had this
knowledge, then we might assume the same to be
true of the Egyptians.60,63,89,106
Concerning the Egyptian artifacts found in
the tombs, these seem to have been somewhat mixed
up in some publications regarding what was found
with the Sidon bridge and what with the Ford bridge,
and what was found in the tomb of the bridges, and
what was found in other nearby tombs. The interested
reader is advised to consult the original publications
for a comprehensive account.122,123 However, those
in favor of an Egyptian origin fail to mention the
other associated finds, for example the typical
Phoenician character of the anthropoid sarcophagi
and the Roman and Greek findings, including the
Greek finger ring in the sarcophagus of the Ford
bridge, or the marking of this sarcophagus with a
Greek letter.123 The associated finds from different
parts of the Mediterranean world are an indication
of the wide-spread trading connections of this area,
rather than of the ethnic origin of the tomb-dwellers.
There is no need to suppose a foreign origin of these
bridges, but if one were to do so, then it would be
more natural to suppose an origin in other part of
the Mediterranean where similar bridges have been
found, rather than in Egypt.64 For a review of the
bridges from the eastern Mediterranean the reader
is advised to consult the excellent review by Becker.99

Concluding Discussion

Egyptian surgery has by some been described
as advanced124 and by others as primitive.125 These
opinions are not mutually exclusive, since most
authors agree on the actual level of the surgery, but
differ concerning against the background to which
they compare it. No people can more rightly claim
to have taken the first steps in the field of medicine,
and no other contemporary culture reached the
same level. However, these achievements will seem
modest when compared to the discoveries later done
in Alexandria during the Hellenistic era.
Concerning surgery in general, the
procedures described in the medical papyri are of
a very simple nature. Further, they seem to have
been very uncommon. Not a single surgical incision
has been found in any of the tens of thousands
investigated mummies from the Pharaonic
period. This is also true regarding dental surgery.
No indications of dental surgery are found in
the medical papyri or in the visual works of art.
Regarding the osteological material/mummies,
even though we are dealing with a huge number of
specimens from a period of nearly 3000 years, the
possible indications of dental surgery are few and
weak. There is not a single example of a clear tooth
extraction, nor of a filling or of an artificial tooth.
The suggested examples of cortical trephination
for evacuation of apical abscesses seem to have few
serious proponents today.73 The procedure is difficult
to conceive considering the general low technical
level of the Egyptian surgery, and the specimens
may be more readily explained as draining sinus
tracts. Regarding the suggested bridges, these
are constituted of one find likely dated to the
Old Kingdom and one possibly—perhaps more
likely—dated to the Ptolemaic era. Both of these
seem to be too weak to have served any possible
practical purpose in a living patient, and the most
likely explanation would be to consider them as a
restoration performed during the mummification
process. Thus, even though a form of dentistry did
certainly exist in Ancient Egypt, there is today no
evidence for the existence of dental surgery.

Acknowledgements

I would like to express my gratitude to
Professor Marwan Hariz for reviewing the language
of this manuscript.
References


35. Weinberger BW. Did dentistry evolve from the barbers, blacksmiths or from medicine? *Bull Hist Med.* 1940; 8:967-974, 983-988.


54. Leek FF. Dental Health and Disease in Ancient Egypt with Special Reference to the Manchester Mummies; in: Science in Egyptology (eds.) David AR. Manchester Manchester University Press. 1984.


60. Weinberger BW. Further evidence that dentistry was practiced in ancient Egypt, Phoenicia and Greece. Bull Hist Med. 1946; 20:188-195.


62. Weinberger BW. The fundamental changes in dental practice from its concept in 3000 BC. Dent Items Interest. 1943; 118-123.


86. Cigrand BJ. The Rise, Fall and Revival of Dental Prosthesis. Chicago: Severinghaus & Beilfuss. 1892.


During the 1960s, the dental school at the University of Buffalo underwent a profound change, as a result of its merger with the State University of New York (SUNY), and, very importantly, because of the outstanding leadership provided by Dean James A. English. This article contrasts what the school was like in 1960 before Dean English’s arrival, and what it had become in 1970 when his deanship ended. It also recounts the leadership qualities of Dean English and the measures he took to transform the dental school into a leading educational institution. During his tenure, the school experienced profound change, including integration of medicine with dentistry in the curriculum; “internationalization” of dental education and research; organization of the first Oral Biology Department and PhD graduate program in a dental school in the United States; insistence on “knowledge-driven” dental practice—a concept we now term “evidenced-based dentistry”; the establishment of novel approaches to dental education including the “diagonal” curriculum; incorporation of prevention in practice; elective courses for dental students; and comprehensive clinical care. All of these accomplishments were novel for the day and greatly influenced incorporation of similar innovations in many schools around the world.

How the Insightful Leadership of James English Transformed a Traditional Dental School into a Leading Educational Institution

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Introduction

James Andrew English (Fig. 1) was “The Right Man, for the Right Job, at the Right Time.” He was Dean of the University of Buffalo (UB) School of Dentistry from 1960 to 1970, during which time profound changes took place in dental education, patient care and research. Dean “Jim” English, who passed away on October 21, 2004 at the age of 94, left a legacy that deserves to be remembered and honored. The changes that took place during that period were a direct result of Dean English’s wisdom, farsightedness, leadership and energy. While Dean at Buffalo, Jim English brought about several important changes in the school and in dental education:

- Converting a provincial, clinically-oriented school into an internationally recognized research-oriented school of dental medicine.
- Encouraging the integration of medicine with dentistry in the curriculum.
- Promoting the “internationalization” of dental education and research.
- Providing significant resources to organize the first Oral Biology Department and PhD graduate program in a dental school in the United States.
- Encouraging “knowledge-driven” dental practice—a concept now termed “evidence-based dentistry.”
- Establishing novel approaches to dental education including the “diagonal” curriculum, prevention in practice, elective courses for fourth-year dental students and the comprehensive clinical care of patients.

This article will recount that history, remind dental educators and the dental community of Dean English’s role in these changes, and, in that way, honor his memory and inspire others to move the discipline forward.

Early Life and Military Career

Jim English was born in Harrison Valley, Pa., in 1904, was a 1936 graduate (with first honors) of the University of Pennsylvania School of Dentistry, and a veteran of World War II. He spent 24 years (1936-60) as a dental officer in the US Navy, retiring with the rank of Captain. While in the Navy, he earned an MS degree in Pathology and a PhD degree in Biochemistry, and was awarded a commendation from the Surgeon General of the Navy for outstanding performance of duty. Among his many assignments, he served as Science Liaison Officer, Office of Naval Research in London, England. While on duty in London he presented many papers and lectures and was admitted as a member to the Royal Society of Medicine, London.

Jim English was an accomplished and productive scientist, having published numerous articles in respected journals such as Science and the Journal of Dental Research. His scientific stature was such that he was elected to the board of directors of the International Association for Dental
Research (IADR), serving as President from 1961-62. Among the other organizations and societies of which he was a member were the American College of Dentists, American Association for the Advancement of Science, Association of Military Surgeons, American Academy of Oral Pathology, American Dental Association, and Omicron Kappa Upsilon. Prior to his retirement, Captain English was Head of the Medicine and Dentistry Branch, Office of Naval Research, with additional duty as Head of the Dental Research Branch, Dental Division, Bureau of Medicine and Surgery. These extensive and diverse experiences allowed him to develop numerous relationships with dental educators, investigators and policy makers around the world. Thus, by 1960, when he was appointed Dean in Buffalo, he possessed a wealth of knowledge and experience in patient care, public health, clinical and basic research, and administration, both in the United States and in many other countries.

**Deanship at Buffalo**

In 1960, the University of Buffalo (UB) was a small private university, struggling for existence. While it had a strong local following with a large number of its students commuting from their homes in western New York, things were about to change. Nelson Rockefeller had been elected governor of New York in 1959 and was in the process of expanding and upgrading the State University of New York (SUNY) system. In addition, Clifford C. Furnas, an author, Olympic athlete, scientist, former Director of the airplane division of Curtiss Wright during World War II, and a former Assistant Secretary of Defense, had become Chancellor of UB in 1954. He guided the University though the difficult political and technical tasks of merging UB with SUNY. In 1962, Dr. Furnas became the first President of SUNY at Buffalo, fully supporting Dr. English’s agenda and making it possible for him to accomplish so much during his deanship.

In 1960, the clinical faculty of the UB Dental School consisted of a group of very dedicated men—and one woman—who had kept the school going during very difficult times, including the Great Depression and World War II, when a consolidated year-round curriculum of three years was instituted. The clinical faculty had also raised funds to build new dental clinics and classrooms on the Main Street campus after the school moved there in 1953. Although the faculty received a meager salary for teaching, their dedication to the well-being of the dental school was visible and tangible. Despite these very admirable qualities and activities, all members of the clinical faculty were UB Dental School graduates, part-time teachers, and made their living by conducting private dental practices in the local community. Furthermore, very few had formal residency or graduate training in the discipline they were teaching. They used the information gained in their practices and were strongly influenced by their immediate colleagues. Thus, as time went on, their teaching did not keep up with the advances being made in their fields. In some courses, the faculty member would merely read his notes or read from a book while the students wrote down the words.

By the standards of the day, the school provided good dental care for its patients. However, if a potential patient had a medical or systemic condition, they were considered a “non-teaching case” and were not accepted as patients. Thus, application of the excellent basic science knowledge imparted to the dental students in the medical school, was rarely, if ever, used or reinforced in the clinical years. Furthermore, there were no research programs in any of the dental departments at the as all research activity was conducted in the basic science departments of the School of Medicine. This was the clinical and academic environment in the dental school when Jim English arrived as Dean in 1960.

As his one of first priorities, Dean English set out to recruit full-time clinical and research dental faculty. This included the traditional disciplines of operative and prosthetic dentistry, as well as Periodontics, Endodontics, Pediatric Dentistry, Oral Surgery, Orthodontics, Oral Pathology, and Dental Materials. He also recruited full-time faculty in the expanding areas of Oral Diagnosis and Oral Medicine.
Due to the breadth of his experience and contacts, Dean English was able to recruit some faculty from the retirement ranks of the U.S. Navy, the Armed Forces Institute of Pathology, other U.S. dental schools, and a few dentists from the local community. Moreover, Dean English was convinced of the need for global cooperation in dental education and research; therefore he made sure that accomplished full-time faculty were also recruited from countries such as Denmark, England, Japan and Norway. In several cases, Dean English encouraged young part-time clinical faculty to obtain extra training and make academic dentistry a full-time career. He would often help that person fund their training by finding them work as co-investigators in ongoing clinical studies and, in so doing, helped to establish a cadre of well-trained clinical researchers. Collectively, these efforts resulted in the recruitment of 60 full-time faculty who were educationally and culturally diverse, in contrast to what had previously existed. Dean English’s leadership was able to forge this diverse group into a cohesive faculty with excellent esprit de corps. The high morale and motivation was greatly enhanced by Jim English’s “going to bat” for the faculty. For example, in the 1960s, the University at Buffalo was in the early stages of becoming a major research university and its promotions policies began to reflect this reality. As a result, academic advancement for dental faculty became a problem until Dean English was able to explain to the President that the dental faculty needed time to achieve the expected academic progress. One of the most creative and far-reaching things that Dean English did was to establish a Department of Oral Biology, the first in the United States. He gave himself the academic title “Professor of Oral Biology” and recruited a top scientist from Columbia University to chair the department. Oral Biology went on to recruit a group of very competent researchers, both dentists and non-dentists, and, in 1963, developed the first PhD Program in Oral Biology in the US. That program became extremely successful and produced many top scientists in the US and around the world. The Department of Oral Biology also became very successful in obtaining external funding for research and research training. During one year alone, Oral Biology’s level of external funding was higher than any other department in the entire SUNY system. The department went on to achieve national and international recognition. Its graduate program recently celebrated its 50th anniversary, and continues to educate interested students in state of the art research methods applied to problems important to oral and systemic health. It is clear that Dean English foresaw the need to build a respectable research effort within the dental school that equaled that of other schools in the university.

Dr. English also considered the basic sciences departments of the Medical School as departments of the Dental School and acted accordingly. The Chairs of those departments, or their designees, were invited to be full voting members of the Executive Committee of the Dental School, a move that greatly enhanced communication between the clinical and basic science departments.

Dean English’s emphasis on basic understanding, research and the development of new knowledge began to permeate the school. He urged all faculty members to be inquisitive, think creatively and understand the principles or phenomena underlying all clinical methods or techniques. One of his favorite expressions was, “you should read the label before opening the can.” He encouraged “knowledge-driven” dental practice—a concept now termed “evidence-based dentistry.” He would often take the time to walk through the clinics and speak with faculty, staff and students. If he encountered faculty members chatting or just standing around, he would gently suggest that they “read something useful instead.” After appointing someone as a department chair, Dean English would ask, “What are you going to do now?” If the reply was, “I’m going to be a department chair,” Dean English would respond by saying, “That’s your title, but what are you going to do?” He also asked any of the new department chairs having specialty education in their field to take Board Exams and become Board Certified (a Diplomate) in that field.
How the Insightful Leadership of James English Transformed a Traditional Dental School into a Leading Educational Institution

During his tenure, the dental school expanded the number of clinical post-graduate programs and initiated its first research-oriented MS graduate program (in Orthodontics). Dean English also placed a great emphasis on prevention and urged each department to apply this to its patient care and teaching. Associated with this was the formation of a Department of Behavioral Sciences that was expected to initiate studies in the human dynamics of motivation and preventive activity. Soon after stepping down as dean in 1970, his commitment to prevention led him to establish a formal didactic and clinical program preventive dentistry in which first- and second-year dental students provided basic, hands-on preventive care to patients.

Dean English was credited with initiating an “Honor System” and a student-administered honor court to address any honor system violations.\(^7,8\) This system, in addition to its attempt to curtail unprofessional behavior by very competitive dental students, was intended to reinforce their ethical behavior as they cared for patients after graduation. Collectively, these actions reflected Dean English’s value system, which he constantly reinforced throughout the school.

Dean English was always open to suggestions from young faculty who, he recognized, represented the future of the school. Student class officers were invited to serve on school committees. He also made a point, sometimes publicly, of discouraging the expression of ethnic stereotypes. There was a tangible movement to recruit women as dental students and faculty. Most importantly, he took the first steps to identify and recruit dental students from minority and disadvantaged groups.

By the time Dr. English stepped down from his position as dean in 1970, major curriculum changes were underway. The existing curriculum where only medical school basic sciences courses were taught during the first year and none were taught after the second year was changed to the so-called “diagonal curriculum,” in which dental courses, such as Dental Anatomy, Occlusion and Dental Materials were moved to the first year, and the medical school’s course in Pharmacology was moved to the third year. A Senior Elective Program was also introduced, and, by 1969-70, the first Comprehensive Care Clinic had been initiated for the second semester of the senior year.\(^9,10\) Within a year, the Comprehensive Care Clinic was expanded to the entire senior year and, eventually, the entire third year of the curriculum. These changes in the environment in which patient care took place and students learned were much more than mere scheduling adjustments. Comprehensive Care was a more realistic model of general dental practice, providing greater efficiency resulting in fewer patient visits. It greatly enhanced the immediate solving of inter-disciplinary problems and, as a result, faculty from different disciplines learned from each other. Comprehensive Care also provided the framework upon which all patents could be accepted, regardless of their medical condition. This became extremely important as the patient population aged and more systemic diseases and orofacial problems had to be diagnosed and managed. Many other dental schools soon adopted the Comprehensive Care Model for clinical education.

The Result of Jim English’s Efforts

By the time Jim English left the deanship in 1970, the school had built a full-time clinical and research faculty; developed a genuine partnership with the medical school’s basic science departments and other health sciences departments and programs; revised the dental curriculum; developed new pre-doctoral, post-doctoral and graduate programs; opened opportunities to all qualified individuals irrespective of nationality, gender, race or ethnicity; and built an infrastructure for research and enhanced the opportunities to gain external research funding. As a result, the school earned a very positive national and international reputation. Finally, and very importantly, the dental school gained recognition as a valuable and respected academic component of the parent university and of the State University of New York system. This recognition is significant since, at the time, many regarded dentistry and dental education only as a narrow technical field.
In summary, James English’s insightful leadership transformed The University of Buffalo Dental School into a leading educational institution, and he was undoubtedly “The Right Man, for the Right Job, at the Right Time.” He was also a friend, mentor and role model... and he is missed.

References


Twentieth Century Influences on Queensland Dental Practice: A Tangential View

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Political scientists, historians and journalists intermittently suggest that, within the Australian context, public policy and its administration in Queensland are different. Significant evidence suggests that, from colonial times, distance and decentralization have influenced Queenslanders’ demographic profiles and collective identity. Using historical analysis to qualify and quantify both the alleged difference and its social significance warrants caution. Nonetheless, some developments in public dental policy and the practice of dentistry across Queensland provide intriguing contrasts. This study, a literature review, uses historical method. The authors focus on pivotal proceedings that affected both the dental profession and dental practice in the twentieth century. These events embraced the genesis and evolution of dental education and influenced fluoride politics and policies controlling the delivery of public dental services. These developments reflected not only the contemporaneous social and political fabric but also the broader influences on Queensland history, namely: area, distance, decentralization, groundwater, isolation and topography. The events and observations in this report lend some support to hypotheses concerning a Queensland difference within the Australian context of public policy and its administration.
Introduction

Diverse views from political scientists and historians posit that, *inter alia*, distance and decentralization influence social and political behavior. Indeed, within the Australian context, some even suggest that public policy and its administration in Queensland are different. Qualifying and quantifying difference from historical analyses warrants caution. Nonetheless, public dental policy and the practice of dentistry across Queensland provide some intriguing contrasts. For instance, the topographic and demographic profiles of Queensland and Queenslanders influenced legislation and associated policy that controlled dental education, the delivery of public dental services, and implementation of adjusted water fluoridation. This review provides new interpretations of several issues that intermittently affected the administration and practice of dentistry across Queensland during the twentieth century. The authors acknowledge, but ignore for the purposes of this paper, over 40,000 years of indigenous occupation of the land now known as Queensland.

Australia and Queensland: Geographical and Historical Background

The Commonwealth of Australia embraces a vast mainland continent involving five states and two territories, an island state, and several offshore territories. Australia is positioned between latitudes 10°41'S and 43°39'S, and longitudes 113°09'E and 153°39'E. Climates range from tropical to temperate. Land area is 7,682,300 square kilometers. Much of the inland endures scant annual rainfall and, throughout the twentieth century, high expectations for widespread inland development failed to materialize. The vast, harsh, and under-endowed interior remains sparsely populated. A predominantly urbanized population is domiciled mainly along the narrow, well-endowed and more comfortable coastal corridors. Queensland occupies 1,727,200 square kilometers of the northeast of Australia. It is the second largest state and has the largest inhabited area.

By European and Asian standards, Australia is a young nation. French-English rivalries during the eighteenth century primed interest in Terra Australis, and in 1770, Lieutenant James Cook proclaimed New South Wales to be a British colony. In 1788, Captain Arthur Phillip and the First Fleet arrived, and a British penal colony was established. Throughout the nineteenth century, the partitioning of the continent into six self-governing British colonies was based on British policy, shipping access, and problems associated with "taming the tyranny of distance." Free settlers gradually extricated themselves from direct English rule and achieved self-government; however, the path to federation was slow and riddled with contention. Inter-colonial diversities, disparities and suspicions undermined the arguments for a federation. Nevertheless, in 1901, five parochial British colonies derived from New South Wales, together with the separately annexed Western Australia, became states and a federation. The Commonwealth of Australia came into being.

At this juncture, a brief explanation of some Queensland history is appropriate because it partly explains Queenslanders’ collective traits and psyche. In 1859 on separation from New South Wales, colonial Queensland had inadequate treasury funds and was sparsely populated. The early economic focus was “Gold, Sugar and Cattle.” Pastoral interests soon followed. A perennial “Call of the Land” based on the yeomanry ideal (agrarian society provides economic growth and community security) had begun and continued throughout much of the twentieth century. However, labor shortages, disproportionate gender ratios, an inadequate taxation base, scattered settlement and vast areas intensified administrative and financial problems for colonial and state governments. Immigration, population growth and infrastructure became high priorities. This social context, together with contemporaneous difficulties associated with communication and transport, explain two features in colonial history: the emergence of scattered, independent communities across Queensland, and
the genesis of Queenslanders' allegiances to region.

Climate, topography and geology contributed to decentralization. The long coastal perimeter was accessible to colonial shipping and experienced regular rainfall. A pre-federation commitment to inland railheads from ports underpinned regional and hinterland development. In the west, groundwater from the world's largest aquifer, the Great Artesian Basin, extended southward from the Gulf of Carpentaria. It covered one-fifth of the continent, but approximately two-thirds of its surface area (124,000 square kilometers) was in Queensland. Groundwater buttressed regional development and Queensland's agrarian-based economy. It allowed isolated municipalities at otherwise inhospitable locations. Moreover, state-sponsored policies and funding, usually directed at agricultural, mineral and pastoral development and tourism, promoted regional and western population growth. Hence throughout much of the twentieth century, climate, government policy, groundwater and topography were the cornerstones for a decentralized and difficult-to-access population.

Decentralization and the vast area of Queensland generated social and political consequences. Given the comparatively small areas of Tasmania and Victoria, the failure to divide the colony of Queensland into multiple colonies, together with the eccentric (south-east corner) location of the capital city Brisbane, also infiltrated the Queensland psyche. Queenslanders' sense of isolation intensified their loyalty to region, dependence on local authority, and resentment of outsiders' intrusion into state affairs. Queenslanders often believed that non-Queenslanders did not understand Queensland and its inhabitants. Furthermore, provincial Queenslanders intermittently believed that other Australians had abandoned them. One example was the wide acceptance, in 1942, of a “Brisbane Line”: the unproven claim that, in the event of a Japanese invasion, most of the state would be conceded and Australia defended from Brisbane. These perceptions of desertion and isolation enhanced Queenslanders' parochialism.

An agrarian-dominated economy generated an employment profile with political implications. Many rural and provincial communities were reliant on a single industry that engaged seasonal and itinerant labor. Workers were heavily unionized, primarily with the Australian Workers Union (AWU). Until an internecine split in 1957, the AWU had a powerful and lasting connection with the Australian Labor Party (ALP). Dismissing several interludes, twentieth-century state government is classified simply into two eras: ALP (1917-1929, 1932-1957) followed by Liberal-Country (renamed National in 1974) and National Party (1957-1989) dominance. Throughout both eras, state governments relied heavily on agrarian and provincial-based electoral support. These two long periods in office and, to a lesser extent, the electoral malapportionment from 1949 to 1989 were atypical developments in Australian political history.

These events have attracted a wide range of comment. Historians and political scientists have analyzed environment, demography, lifestyle and political personalities to justify the interpretations of both the character of Queenslanders and events in Queensland history. These assessments allegedly explain Queenslanders' autonomy, ingenuity and resolve, and their disinterest in education, acceptance of populism, and tolerance of authoritarian political regimes. Queenslanders have been more concerned about “the politics of development... things and places rather than people and ideas....” While these assertions are not new, linking them to developments in Queensland dental history is innovative reasoning.

**Constitutional Background**

The national background is also relevant to the evolution of Queenslanders’ identity and dental education and practice. The Commonwealth of Australia Constitution Act (1901) established an entrenched framework for the hybrid dispersal of authority between one national and six state systems of government. In simple terms, constitutional powers can be exclusive (delegated
to commonwealth), concurrent (joint, shared) and retained (by state). At Federation, education and health (excluding quarantine) became autonomous state powers. This meant poor national coordination of state health and education systems. Other problems emerged. Commonwealth powers and involvement in welfare increased after World War II (WWII). Federal initiatives for dentistry included establishing of the School Dental Schemes (1974-1982) and financing the Cleft Palate (1981-2000) and Commonwealth Dental Health Schemes (1993-1997). However, the federal government’s post-WWII contribution to dental services was irregular and haphazard. Moreover, at the turn of the century, it steadfastly argued that the states were responsible for community oral health. Hence, the Australian constitution left a legacy: minimal and erratic federal involvement in planning, funding and delivery of dental services.

Divisions in organizations representing dentists evolved from the commonwealth-state dichotomies in the Australian constitution. After 1908, a National Dental Association functioned loosely until 1928. In that year, state dental associations created a “federation of state branches” known initially as the Australian Dental Association (ADA). Its Articles of Association confirm that ADA policy relating to dental legislation in any state needed unanimous state branch approval. Additionally, the ADA required the approval of the majority of branches to either “formulate” or “carry out” any “schemes for the betterment of the dental profession and the health of the public.” Moreover, along the eastern mainland of Australia, each state independently published a dental journal. Each provided a forum that focused on state solutions to nationwide dental issues. A national journal, The Australian Dental Journal, did not appear until 1956. Hence, the sovereignty of the ADA was fragmented and limited. These constitutional, national and state contexts provided the stage for players involved in developments relating to adjusted water fluoridation (hereafter fluoridation), dental education and the delivery of public dental services.

### Fluoridation

Fluoridation is a widely endorsed population-based measure to partially prevent dental caries. One obvious feature in a comparison of dental policy across Australia is the status of fluoridation in Queensland. By 1984, of the 850 Australian towns and cities that had introduced fluoridation, only seven were in Queensland. In 2001, 69.1 per cent of Australians had access to fluoridation, only 4.7 per cent of Queenslanders had similar access, and Brisbane was the only sub-optimally fluoridated state or territorial capital in Australia. Another feature is the comparatively high incidence of defluoridations (cessation of adjusted fluoridation): Gold Coast (1979); Gatton Agricultural College (1979); Allora (1982); Killarney (1983); and Proserpine–Whitsunday (1992). Successive state governments and local authorities virtually ignored the implementation of fluoridation throughout the second half of the twentieth century. Moreover, in 2001, 50.1 per cent of Queensland children experienced “tooth decay in deciduous teeth,” the highest percentage in Australia. When compared statistically to the rest of Australia, Queensland was different.

Developments in fluoride politics across Queensland have also been different, since fluoridation was first formally mooted at Bundaberg in 1953. In that year, Forgan Smith, the Chairman of the Queensland Sugar Cane Prices Board and former Labor Premier (1932-42), approached the Dean (1938-1964) of the University of Queensland (UQ) Dental School, Professor Sydney Lumb, to ascertain interest in fluoridation. Lumb regarded fluoridation in Queensland as “experimental” and courteously refused to promote the interest expressed by the sugar industry. The Colonial Sugar Refining Company later countered these opinions by citing unnamed dental experts who favored fluoridation as an alternative to the elimination of dietary carbohydrates. The Lumb-Smith liaison was an unusual development in Australian fluoride politics.

Other Queensland influences on fluoride politics have been extensively researched. These include, among other things, a 1928 vaccination
tragedy at Bundaberg, widely-publicized artesian fluoride problems (List 1), sub-tropical climate, cane-cutters’ high fluid intake, legislation controlling water treatment and Social Creditors’ (followers of CH Douglas’s economic theories) actions. Moreover, the 1957 ALP split was a watershed event in Queensland political history. It ushered in decades of coalition government, which further influenced Queensland’s fluoride politics by respectively allocating the health and local government portfolios to Liberal and Country (later National) Party. To Liberal Parliamentarians, fluoridation was generally a state health issue. To the Country (National) Party Parliamentarians, fluoridation was a local authority and water treatment issue. Hence in Queensland, the pre-1957 scientific reservations were replaced by a post-1957 political background that, for decades, stalled prospects for widespread fluoridation across the state.

The timing and circumstance of the promulgation of The Fluoridation of Public Water Supplies Act (1963) (hereafter The Act) influenced its nature. Parliamentary debate occurred in late 1963 at a time when the legality of fluoridation was being challenged both in the Privy Council in London and at Sale in Victoria. The timing and circumstance explain why The Act gave local authorities a discretionary power to fluoridate and why, unlike other legislations across Australia, it provided only limited state indemnity to local authorities. The Act also ignored supra-optimal concentrations of fluoride in groundwater, which for instance at Julia Creek, was used as potable water. Furthermore, the connection between The Act and The Local Government Acts (1937-1962) was unique within Australian fluoride legislation. Moreover, throughout the Coalition era, the key figure in Queensland fluoride politics was the Country (National) Party’s Minister for Local Government, not the Liberal Party’s Minister for Health. This reflected the evolution of the influence and political importance of both regionalism and local government across Queensland.

There were other peculiarities in public policy regarding fluoridation. In 1997, The Brisbane City Council’s Lord Mayor’s Taskforce on Fluoridation investigated “many issues arising from the fluoridation debate” and would not support the introduction of fluoridation for Brisbane “until the recommended Australian research has been carried out.” This finding was out of step with recommendations from medical and dental authorities. Furthermore, after 1997, several Queensland governments augmented the fluoride legislation with a policy that states in part: “...it is a principle of ethical public health that mass, involuntary medication must never proceed without the express consent of the community.” No other government in Australia equated fluoridation with “mass involuntary medication.” For fluoride advocates, fluoride politics across Queensland encapsulated debates about state difference. Moreover, within the confines of Australian fluoridation legislation, significant evidence suggests that the nature and the administration of The Act were dissimilar.
Pre-1940 Problems with the Dental Act (1902)

Under the auspices of the Australian constitution, the registration and training of dentists and dental auxiliaries were discrete state responsibilities. Each state established its own dental board, dental association, department of health, educational institution and curriculum for a dentist’s training. After considerable debate and five attempts to either promulgate or pass Dental Bills (1891, 1892, 1896, 1897 and 1900), Queensland was the last state to implement a dental act, The Dental Act (1902). While similar views (Table 1) appeared across Australia, The Dental Act (1902) reflected and generated some peculiar circumstances in Queensland.

The political setting influenced the protocol for dental education in Queensland. Throughout the era of ALP control of government, the “conservative Australian Workers Union reacted against the apparent intellectualism and wealth of professional workers, especially medical officers.”20 Moreover, Queenslanders’ agrarian ethos and their focus on enterprise and survival, together with the late development of a middle class, meant that they were slow to accept opportunities for education.21 Hence, “The provision of education was never a major political concern between 1915 and 1957.”22 This socio-political backdrop explains some developments in dental education throughout the early part of the twentieth century.

Table 1. Parliamentarians’ Views

<table>
<thead>
<tr>
<th>Pro-Legislation and Registration</th>
<th>Anti-Legislation and No Registration</th>
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<tr>
<td>• Need to protect the public from unregistered practitioners</td>
<td>• Distant citizens would be denied access to dental treatment</td>
</tr>
<tr>
<td>• Need to protect dentists’ livelihoods</td>
<td>• Dentists would become an elite</td>
</tr>
<tr>
<td>• Dentistry was a profession</td>
<td>• Dental care would become more expensive</td>
</tr>
<tr>
<td>• Changes in dentistry warranted standards of education</td>
<td>• Registration and education increased costs of practice</td>
</tr>
<tr>
<td>• There were precedents in other states</td>
<td>• Why was there a need for change?</td>
</tr>
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<td></td>
<td>• Dentistry required little formal training</td>
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Presumably reflecting Parliamentarians’ suspicions (Table 1), and mirroring restrictions on Dental Boards in other states, The Dental Act (1902) limited the Dental Board’s autonomy. The Minister from Home Affairs could appoint four of seven Board Members and could hear appeals from either disgruntled applicants or disciplined registrants. Moreover, Section 8, known colloquially as the “Ministerial veto,” allowed the Minister to dispense with a Board ruling regarding an applicant’s suitability for registration and educational qualifications. Moreover, registrants and applicants could appeal Board decisions in the Supreme Court. University dental education in Queensland would have both a difficult genesis and an episodic progression.

Implementing The Dental Act (1902) was problematic, as the Dental Board established, controlled and annually published a register of qualified dentists. This raised questions about evaluating the qualifications of current and prospective practitioners, which involved assessments of not only overseas and interstate qualifications but also the credentials and experience of current practitioners. The latter involved applicants from an apprenticeship system where, “the master… was expected to counsel a lad not only in his work, but in morals, religion, good manners and general education.”23 The apprenticeship system was important to Parliamentarians because it allowed assistant dentists to train and practice in provincial Queensland. The Minister used Section 8 to regularly overrule Board decisions regarding
credentials and competence. Hence, the Board’s adjudication of applicants’ personal attributes and its acceptance of qualifications for registration were opaque, vexatious, and time-consuming processes.

Enforcing The Dental Act (1902) was also difficult. Firstly, life in Queensland was austere and required enterprise and resourcefulness. Distance, decentralization and the scarcity of accredited practitioners meant that many Queenslanders either could not or would not access a dentist. Accordingly, attempts to register dentists “were treated with an indifference almost amounting to contempt.”24 Secondly, until an amendment in 1916, the Act defined “Dentistry” as “The extracting and stopping and other treatment of natural teeth, and the fitting and adjustment of artificial teeth.” Teeth “extracting”, “stopping” and “fitting” and “other treatment” were legal occupations, as long as practice was restricted to any three of the aforementioned duties, and practitioners did not call themselves “dentist.” Therefore, until 1916, a plethora of practitioners attended legally to Queenslanders’ teeth.

The Board’s appraisal of current practitioners’ credentials generated a corollary. The Board had to devise the curriculum, method and standard of assessment for prospective practitioners, including apprentices. Again the circumstances were thorny. The frontier society left another legacy: a thirty-year preamble before establishing the (University of Queensland) UQ.25 Queensland, in 1911, was the last state on the eastern and southern seaboards of Australia to launch a university. A dental faculty did not emerge until 1935, almost thirty years after its counterparts in New South Wales and Victoria. From 1903 to 1926, when the apprenticeship system was formally abandoned, the Dental Board was the sole examining body in dental and allied subjects.26

The low priority given to education explains another development in dental education in Australia. The Dental, Opticians and Pharmacy Act (1923) allowed Junior Examination rather than Senior Matriculation as the prerequisite for entrance to professional training at the UQ.27 This widely publicized and controversial bill attracted the ire of Dental Board President Dr. A.R. Menzies.28-31 In defending the bill, Home Secretary James Stopford (ALP, 1915-1929, 1932-1936) stated that he did not want dentists in Queensland creating an “even bigger monopoly than they had a right to expect.” However, this act diluted educational standards for registration of dentists in Queensland.

From 1926 to 1935, a Joint Board of Dental Studies involving the Dental Board, the Odontological Society of Queensland (known after 1928 as the Australian Dental Association Queensland Branch (ADAJQ)), the Queensland College of Dentistry, the Brisbane and South Coast Hospitals Board, the UQ Senate, and the employer were responsible for the education of dental students. Financial problems, conflicts between personalities and institutions, and concerns regarding curriculum, training and standards are well documented.32 Within the national context of dental education, this dispersal of responsibilities was atypical.

Intermittent friction between dental boards and Ministers was common across Australia. In Queensland, these tensions were protracted and relationships were extremely poor. Matters came to a head in the mid-1930s. Labor Member for Ithaca (1926-1952), Home Secretary (1935-1944), Treasurer (1944-1946) and Premier (1946-1952) Edward (Ned) Hanlon was an emerging influence on Queensland politics, particularly the Home Affairs portfolio, which embraced health. To the medical and dental professions, Hanlon was a dual-edged sword: not only pragmatic, resolute and committed to nationalization of hospitals and health services, but also visionary and astute.33 In 1934, Hanlon expressed his views regarding dental education:34

There is no place in Australia, or perhaps in the world, where dental students are getting the same practical experience before they commence practice as is available to them in Brisbane. It is no use Professor Goddard pulling his own leg when he talks about the University being able to equip these people. It can only give them a limited amount of theoretical education; the practical education of value takes place in the Dental Hospital.

Two years later, when referring to difficulties for provincial dentists accessing university education, Hanlon stated: “We do not intend to let a
few Professors govern the state.”35 The “theory versus practice” debate continued throughout 1936 (List 2). Hanlon’s comments typify historians and political scientists’ cultural hypotheses regarding Queensland difference: namely, a “Queensland factor” characterised by, among other things, “authoritarianism” and “anti-intellectualism.”36 Hanlon’s actions and remarks often conformed to that model.37 A commissioned historian, Jones, was blunt: “The Minister for Health... seemed to be opposed to the outlook for our profession, and efforts to maintain a register of properly trained dentists and a high standard of ethics seemed to find no place on the Minister’s horizon.”38 UQ Staff Member, Dr Elaine Marlay, was more reserved but noted a “different and somewhat unique development” of dental education in Queensland.39 It was not until 1936 that, with funding for facilities and a Chair of Dentistry, the UQ Dental Faculty took absolute responsibility for the assessment, curriculum and training of dental students. Thirty-five years of concern regarding Ministerial intrusion into standards of dental education had ended.

World War II, the Welfare State, and Hanlon Again

Throughout and immediately after WWII, paradigm shifts in federal-state relations fueled Parliamentarians’ rhetoric about nationalized health services. As early as 1935, Hanlon had promised the “nationalization of health services,”40 which was a long-held Queensland ALP government aim. Nationalization concerned dentists,41 especially dentists in Queensland.42,43 The full story is convoluted but, in 1946, Hanlon introduced the “Queensland Labor Party’s dream,”44 a “free hospital policy” (universal right to treatment in a public ward without incurring charges).45 After 1956, Queensland remained the sole state providing not only “free treatment in public wards without any means test” but also “free outpatients’ service.”46,47 The equitability and accessibility of this system were widely acknowledged as atypical developments in Australian health policy.

The prospect of a federal “government dental service” ended abruptly in 1950.48 The evolving “free hospital” policy warranted infrastructure that was relevant to the delivery of dental services across Queensland. The Hanlon and Vince Gair (Premier 1952-1957) governments prioritized clinics in “remote country areas and those without dental services.”49,50 “Hospital boards began establishing stationary dental clinics, where children living within a fifteen miles radius were expected to go for attention....”51 Circa 1951, the Department of Health and Home Affairs established “The Flying Dental Service” based at Cairns and Cloncurry and “The Floating Dentist” based on Thursday Island.52 Servicing the dental needs of outlying communities required aircraft, caravans, railway carriages, trucks, regional clinics and shipping: all controlled from an expanding network of dental clinics based at hospitals. In 1956, Gair cited 1948-1955 statistics to conclude: “Queensland is the only state where public dental services have been developed and extended in country districts.”53 That same year, Professor William Tuckfield from the University of Melbourne Dental School noted: “Queensland

<table>
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<th>List 2. Newspaper Reports</th>
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<tr>
<td>Theory and practice.</td>
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<tr>
<td>Courier-Mail. 6 June 1936:14.</td>
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<tr>
<td>The back door to dentistry.</td>
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<tr>
<td>Courier-Mail. 28 May 1936:14.</td>
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<tr>
<td>Back door to dentistry: constitutionality of Section 8.</td>
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<tr>
<td>Courier-Mail. 1 June 1936:12.</td>
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<td>Dentists and the ‘back door’: further protests.</td>
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<td>Courier-Mail. 6 June 1936:14.</td>
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<tr>
<td>Dental Act protest by dentists.</td>
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<tr>
<td>Cairns Post. 29 May 1936:14.</td>
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<tr>
<td>Courier-Mail. 27 August 1936:7.</td>
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<tr>
<td>Dental association. Dispute with Mr. Hanlon.</td>
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<tr>
<td>State Parliament minister’s reply to critics.</td>
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<tr>
<td>Courier-Mail. 7 November 1936:17.</td>
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</table>
appears to be giving its citizens the finest dental service in the Commonwealth.”

Post-WWII public dental policy in Queensland had notable features: attempts not only to treat “persons who are unable to afford the cost of treatment by a private dentist” but also to provide access, irrespective of income, where a dental clinic is the only service available. These attempts continued well into the Coalition era. In 1961, Professor of Preventive Dentistry at the University of Sydney, Noel Martin, observed an “organized” and “much more developed” dental service in Queensland “both in the scope of the treatment provided and the number of its clinics and the spread of services to the lower income groups in the community.” Director of Dental Services, George McKelvey, provided a map of the network of domicile and itinerant clinics that operated across Queensland in 1962. He described the clinics as “the most well developed in Australia…somewhat unique.” In terms of comparisons, these testimonials speak for themselves.

Other evidence corroborates these claims. Queensland has historically been the State with the highest proportion of salaried dentists. Throughout the 1970s, annual reports regularly confirm the skewed coastal distribution of private dental practices and statewide public dental infrastructure. In 1979, McKelvey wrote: “The relatively low population density in much of the State, the factor which makes private practice in such areas uneconomic, adds of course to the difficulties and costs of conducting public services…” Liberal Minister for Health, (1978-1980), Bill (later Sir William) Knox noted of the public health challenges in Queensland:

And there are thousands of people spread throughout some of Australia’s most isolated country, together with a large Aboriginal population. In terms of distance, providing health services in Queensland is equivalent to servicing the states of New South Wales, Victoria, Tasmania and the bulk of South Australia’s population. It also would include the Australian Capital Territory.

Knox described the Division of Dental Services as “the largest public dental service in the Commonwealth of Australia.”

Widespread access to public dentistry became a commitment for successive state governments. The National Advisory Committee on Oral Health provided 2001-2002 public dental expenditures and staffing figures. Queensland Health topped the nation in terms of expenditure and staffing levels for dentists and dental assistants. The Australian Institute of Health and Welfare confirmed that 31 percent of all 2002-2003 dental expenditure in Queensland was from government sources. The Australian average was 17 percent. The Queensland Government was the only state government to fully fund the $20 million shortfall when the Federal Government withdrew from the Commonwealth Dental Health Program in 1997. Forster confirmed that Queensland Health provided “the largest and most comprehensive oral health service in Australia in both proportionate and absolute terms.” Of course, there was a paradox: while Queensland Health delivered perennial dental care across the state, state governments virtually ignored a widely endorsed population-based prevention of dental caries, namely fluoridation.

Conclusion

Perceived differences are often inaccurate and lazy explanations for events, personalities and public policies. Divisions in constitutional power, political expediency, public apathy, and sparse resources all fragmented responsibilities for oral health across Australia. Each state was different because it developed its own approach to dental education, legislation and policy. Given the universality of difference, comparative reasoning warrants cautious interpretation. Nonetheless in the twentieth century, when it came to dental education, fluoride politics and policies controlling the delivery of public dental services, there are elements of Queensland disparity within the Australian context. Moreover, these reflect the contemporaneous social and political fabric and link to influences on Queensland history, namely: area, distance, decentralization, groundwater, isolation and topography. While “Only in Queensland” is often superficial commentary, evidence from twentieth century dental history in Queensland lends some support to difference reasoning.
References


13. Lumb SF. Personal and Confidential Sugar Board, written communication to W Forgan Smith. 2 March 1953. From University of Queensland School of Dentistry archives, in author’s possession.


50. Full-time dental clinic to be set up at Mossman. Cairns Post. 13 February 1950:5.


This unused black-and-white advertising postcard, circa 1910, was produced by Dr. Homer Julius Templeton, a 1900 graduate of the Indiana Dental College, Indianapolis (which in 1925 became the Indiana University School of Dentistry). This unusual card portrays a young girl extracting a maxillary left anterior tooth from the mouth of a young boy, who is seated on a low stool. We believe that the “dentist and patient” were Dr. Templeton’s own children.

Born in Hamilton county, Indiana, on October 5, 1877, Homer was the only child of Samuel and Mary J. (Calvert) Templeton. His father was a cabinetmaker. At age 23 he received his DDS degree after completing a three-year course at Indiana Dental College in Indianapolis. In 1901, he married Maud Bowman, and the couple had four children: Homer, Jack, Millard and Theresa. From 1908 until the end of his life, he practiced dentistry, chiefly in the Bimel Block Building in downtown Portland, Indiana. Dr. Templeton died in 1941 at age 64, and is buried in Green Park Cemetery in Portland, Indiana.

In this scene, the forceps used by the young practitioner is recognizable as a dental tool. However, the dental chair and instrument table, whose legs are made of twisted wire, do not conform to dental office furniture used at that time.

Additionally, the “patient” wears no traditional dental bib. In six-buttoned leather boots, his ankles are casually crossed. He shows no signs of distress in the chair, seconds before the upcoming extraction. He looks directly at the dentist; properly coated in white, she is intensely involved with her task at hand.

In this portrayal, could it be that Dr. Templeton deliberately reversed the accepted roles of his daughter and son in order to make a statement? Could he have been imagining a future time when his little girl might be legally and socially allowed to follow in her father’s professional footsteps?

In 1866, Lucy Beaman Hobbs, age 33, was the first woman in the world to receive a DDS degree after attending the Ohio College of Dental Surgery. However, for the next century, few other women in the US would accomplish the same. What were the barriers which prevented them from seeking careers in dentistry?

Today, the currently-enrolled Indiana University School of Dentistry Class of 2017 consists of 56 women (54%) and 48 men (45%)! What would Dr. Templeton have thought of this turnabout?

An Early Female Dentist Practices Oral Surgery
Dr. Josiah Artemas Pearson practiced dentistry in Barton, Vermont. He was born on March 23rd, 1855 and died September 22nd, 1926. Dr. Pearson married Annie Scott Pearson (1867–1955) in September 1896. He is listed in Volume I of Polk’s Dental Register (1893) and continually through the 13th Edition (1925). We could find no record of Josiah Artemas Pearson ever attending dental school, even though he listed himself as DDS in one of his presentations, and was president of the Vermont Dental Society. It would appear that Dr. Pearson was educated in dentistry through preceptorship; it is possible he had an honorary degree.

Today’s dental trade card collectors consider this one of the most prized cards of the time. This marvelous card (Figs. 1 & 2) is most telling about Dr. Pearson’s philosophies of dentistry. He had an interest in history (“George Washington wore a set of artificial teeth carved from one piece of ivory.”).
Set of Artificial Teeth carved from one piece of ivory.” And “General Warren was killed at the Battle of Bunker Hill on the 17th of June 1775, and identified by an artificial tooth.”). He also was very interested in sharing lessons about preventive dentistry, especially for children, as evidenced by his advice: “It is the duty of every parent to see that their children’s teeth are kept in good condition so that they can properly masticate their food.” ... “The temporary (primary) teeth need the same care and attention as the permanent ones.”

Dr. Pearson filled his card with many tidbits of dental information, such as average eruption dates of primary and permanent teeth, and other oral health tips: “Bad teeth make a foul breath and a bad stomach.” “There is nothing in Dentistry of so much importance as the cleaning of the Teeth.” “The deposit called tartar should be taken off, and if properly done the patient receives great benefit.”

The illustrations on both sides of the card are educational and inviting; the smiling patient, continually convulsed with laughter, is comical. The dental instruments and dentures pictured are very revealing about the dentistry and instrumentation of the time. Along with various extraction forceps, a “dental key,” used for tooth removal, is depicted.

Even though Dr. Pearson freely advertised his services on this card, and probably others, he has some negative words for advertising dentists. *Dental Cosmos* in 1898 published a paper that Dr. Pearson presented at a dental society meeting (Fig. 2). His admonishments about advertising and encouragement to his colleagues about educating the public regarding oral health have a stunning contemporary ring to them, and seem astonishing to us, considering they are 115 years old.

An internet search of Josiah Pearson’s name turned up only one entry. In 1996, Marie Browning Haskins left a bequest of $75,000 to the Barton Public Library, in memory of her grandparents, Annie and Josiah Pearson.
From the Archives: Vol. 4, Nos. 7 & 8

BULLETIN OF THE HISTORY OF DENTISTRY
official monthly publication of
American Academy of the History of Dentistry

REGIONAL MEETING OF THE A.A.H.D.

F/ From New York City comes the news that members of the Academy from New York, New Jersey, Pennsylvania, Connecticut, and Massachusetts have planned to hold meetings twice a year, and have already carried out one program at Columbia University on the 20th of June. The next meeting, which will take place in December or January at the College of Dentistry, New York University, will feature an exhibit of rare books from Dr. Blum's and Dr. Weisberger's libraries. The group proposes to prepare an extensive historical exhibit for the Centennial of the American Dental Association in 1959.

It is doubtful whether regional meetings of the Academy could be regularly held in any other part of the country. The scattering of the membership is too great. A summary of the membership by sections and states reveals the following:

New England 10: Connecticut 8; Maine 0; Massachusetts 1; New Hampshire 0; Rhode Island 1; Vermont 0.
Middle East 30: Delaware 0; District of Columbia 4; Maryland 1; New Jersey 2; New York 18; Pennsylvania 3; West Virginia 2.
South East 12: Alabama 1; Arkansas 1; Florida 1; Georgia 1; Kentucky 1; Louisiana 2; Mississippi 1; North Carolina 1; South Carolina 1; Tennessee 1; Virginia 1.
South West 3: Arizona 0; New Mexico 0; Oklahoma 1; Texas 2.
Central 20: Illinois 3; Indiana 3; Iowa 0; Michigan 4; Minnesota 0; Missouri 5; Ohio 4; Wisconsin 1.
North West 7: Colorado 1; Idaho 0; Kansas 1; Montana 0; Nebraska 2; North Dakota 0; South Dakota 0; Utah 0; Wyoming 0.
Far West 10: California 9; Nevada 0; Oregon 1; Washington 0.

It may be surprising that some states have no membership at all and that the membership from some of the larger states is exceedingly small; for instance, Illinois. Surely, there should be some persons in Iowa and Minnesota sufficiently interested in the history of dentistry to become members.

EMILE MAGITOT (1833-1897)

F/ J. F. Volker, the in-coming president of the International Association for Dental Research, on the occasion of his inaugu-ration, gave an address entitled "Emile Magitot 'The father of experimental dentistry'," which is published in the Journal of the Canadian Dental Association 22:397-403, July 1956.

Dr. Volker believes that the contribution of the great French
stomatologist entitles him to a position alongside of G. V. Black and W. D. Miller. The struggle between the stomatologists and the odontologists is alluded to. The enmity between Magitot and the non-medical dentists is evidenced by a remark at the close of the obituary by Dr. E. Suavez which he wrote for L'Odontologie: 

"Since the formation of the school there has been a constant struggle between the chief of stomatology and his adherents, and those founders of dental colleges who have consecrated so much time and energy to the one object. To-day the founder of stomatology is dead; the most powerful adversary of the schools is gone, and a new era looms before us,—a new era of fusion and peace."
(translated, Dental Cosmos 39:681 August 1897.)

While Dr. Volker's account deals mostly with the two most important contributions of Magitot--namely, his work on the development of the teeth and his investigation of caries--an article by Magitot's granddaughter, Claude Gruber-Magitot, in L'Information Dentaire 35:1480-1487 Nov. 19, 1953, recounts more of his personal life, and with Dr. Volker's article gives a fair biography.

THE TOOTHBRUSH IN ITALY

The toothbrush was very little known in Venice in the middle years of the eighteenth century and did not apparently come into common use until the middle of the nineteenth century. This is the thesis of Guido Rizzi in an article entitled "Una Galanteria Francesa del Siglo XVIII: El cepillo de Dientes" (A French Elegance of the Eighteenth Century: The Toothbrush) in Anales Españoles de Odontoestomatologia 15:270-275 April 1956. The author quotes the correspondence of one Cayetano Casali, a dentist, dated 1761, in which he says, "If one does not wish to use a handkerchief (to apply the tooth powder), one can better make use of a brush with bristles." The toothbrush was first illustrated in Italy by the dentist Maurez of Milan in 1641, and it was apparently about this time that it came into general use.

HISTORY OF THE ROENTGEN FILM


ODONTOLOGICAL SOCIETY OF GREAT BRITAIN

An interesting article on the various buildings in which the Odontological Society was housed is published in the Proceedings of the Royal Society of Medicine, 48:977-982 Nov. 1955. This account is an address by the president of the Section of Odontology, C. Bowdler Henry.
Vol. IV, No. 8

August 1956

BULLETIN OF THE HISTORY OF DENTISTRY

official monthly publication of
American Academy of the History of Dentistry

PROGRAM OF THE A.A.H.D.

The American Academy of the History of Dentistry will hold its fifth annual meeting Friday, September 28, in the Blue Room of the Hotel Chalfonte, Atlantic City. The program is as follows:

Morning Session, 9:30
President’s Address. John E. Gurley

"Some Early History of the Pennsylvania Association of Dental Surgeons." Harold L. Faggart

"Progress Report on the Centennial History of Dentistry."
Robert V. McCluggage

"The Early History of Dental Amalgam." George Dickson

Luncheon 12:15. Zodiac Room A
"Shakespeare and Dentistry." Gardner P. H. Foley

Afternoon Session 2:00 P.M.
"The Use of Porcelain in Dentistry from Pierre Fauchard (1728) to Charles H. Land (1847-1922)" Curt Proskauer

"The Life of Charles Henry Land (1847-1922)." L. Laszlo Schwartz

Business Session 3:30 P.M.
Report of Committees
Unfinished Business
New Business
Adjournment

Cocktail Hour 5:00 to 6:00
Sun Porch on Lounge Floor, Haddon Hall

The newly adopted seal of the Academy will be used for the first time on the program. On this seal, the three-legged pedestal, symbolic of organization, education, and literature of dentistry, surmounted by a flaming lamp, indicative of past achievement and future promise, is the central figure.

FEDERAL DENTAL MUSEUM

A Museum of History and Technology, authorized by the law signed June 13 by President Eisenhower, will include a Hall of Medical History, a Hall of Dental History, and a Hall of Pharmaceutical History. It is expected that the Museum will
be completed about 1960 and will exhibit materials now shown in the Arts and Industries Building of the Smithsonian Institution.

Dr. George Griffenhagen, Acting Curator of the Division of Medicine and Public Health, of the Smithsonian Institution, who will be in charge, is seeking assistance from members of the American Academy of the History of Dentistry in the formulation of plans for the dental exhibit. He is particularly anxious to receive offers of original specimens illustrating equipment and instruments, significant in the history of dentistry. He may be addressed at the Smithsonian Institution.

EARLY RECORDS OF THE INDIANA STATE DENTAL ASSOCIATION

In the controversy between Michigan and Indiana regarding priority of organization, Marcus L. Ward (Journal of the Michigan State Dental Association 33:37-38 Feb. 1956) wrote: "...my suspicion has grown that no records (of Indiana State Dental Association in 1858) are in existence, and that all concerned, like Dr. Gillis are relying upon Dental Newsletter, Cosmos, and Dental Register of the West." Last Dr. Ward's suspicion be accepted as well founded, Jack D. Carr writes: "...I am happy to report that I have found them (the original records of the Indiana society). They had been misfiled in the Secretary's office; however, they are now in the care of the Association's Historian. Any historian who wishes to examine them may do so if he cares to visit the Library of the Indiana University School of Dentistry."

MORE CENTENNIALS AND HISTORIES

Forthcoming centenary celebrations of several dental societies not previously mentioned in the Bulletin have been announced. A committee headed by Dr. J. E. Mahoney has been appointed to write the history of the Illinois State Dental Society for its one-hundredth anniversary in 1964. Dr. Jacob Sharp, historian of the Connecticut State Dental Association, has completed the history of that organization. It is now in the printer's hands and will be ready for distribution about October 15. The book will be published in a de luxe, limited autographed edition ($10.00), as well as in a regular edition ($5.00). There will be 19 chapters with 16 illustrations, an appendix including constitution and bylaws, code of ethics, a list of officers from 1864 to the present, and membership of 1955. Dr. Sharp, who left for the Canary Islands on August 11 to visit Spain, Portugal, and France, will continue his search in Europe for interesting items pertaining to the history of dentistry. John A. Evans, chairman of the History and Archives Committee of the Mississippi Dental Association, reports that a history of that organization since its formation in 1875 has been prepared largely by W. R. Wright. Plans for publication have not been completed (Journal of the Mississippi Dental Association 12:19-20 July 1956).
Book Shop

150 Years of the American Dental Association
Published by the American Dental Association
color, hardcover, 200 pages

For 15 generations, the American Dental Association has been recognized as the world’s largest and oldest national association within the profession. This new 200-page, full-color hardcover book explores the rich 150-year history of the ADA. The text and rare photographs offer a valuable resource for the dental historian and the dentist’s personal library. Additionally, it may offer an interesting read for patients in the reception room. Its 300 historical photographs, many of which are especially intriguing, were principally taken from the archives of the ADA.

The impressive Appendix lists every ADA annual session site, all former presidents, secretaries, executive directors and other notables of the organization.

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Tom Brown: Victorian Middlesbrough Dentist
by Dr. Anthony Brown

This biography combines “family, dental, social and local history” in telling the story of Tom Brown’s determination and ingenuity in achieving professional and economic success in the late 19th century. The inclusion of numerous images (photographed, developed and printed by Tom Brown himself), and annotations blended throughout provide additional insight into the subject’s social and cultural milieu. In addition, the author has been able to accurately describe dental practice during this period, with its emphasis on the so-called “mechanical dentistry” provided by dentists prior to the expansion and integration of the commercial dental laboratory system in the twentieth century.

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The Toothpick and its History

by Dr. Hans Sachs
Translated by Anna C. Souchuk, PhD
Published by Steven Potashnick, DDS
Soft cover, 51 pages, 86 illustrations

There have been a number of English language articles about the toothpick, J. Menzies Campbell’s 1952 paper (Campbell JM. Toothpicks and toothbrushes. Dent Items of Interest. 1952;74: 295-305) is of particular note. However, Der Zahnstocher und Seine Geschichte eine kulturgeschichtlich-kunstgerbliche studie (The Toothpick and its History: A cultural-historical and arts and crafts study) remains the premier reference resource. We must congratulate Dr. Potashnick for the time, effort and cost in providing this English translation.

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A Guide to Bone Toothbrushes of the 19th and Early 20th Centuries

by Dr. Barbara E. Mattick

While this book’s primary audience is archeologists, the subject of toothbrushes is intimately connected to our profession. A valuable reference source has been provided to those with an interest in collecting bone toothbrushes, and for anyone with an interest in dental history. Dr. Mattick has assembled, in a useable and well-visualized monograph, essential information for identifying such material.

The basis of this book is derived from research for her master’s thesis in anthropology, which proved that “bone toothbrushes are excellent dating tools for historical archaeologists.”

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A Sourcebook of Dental Medicine
Being a Documentary History of Dentistry and Stomatology from the Earliest Times to the Middle of the Twentieth Century.

by Gerald Shklar, DDS, MS & David A. Chernin, DMD, MLS
864 pages, hardcover

The aim of this book is to make available to the profession of Dental Medicine and other interested parties the extensive literature of the past dealing with the diagnosis, description, causes, treatment and prevention of oral diseases. Drs. Shklar and Chernin are presenting the original texts concerning the diagnosis and management of oral diseases ranging from ancient Egypt through the world of the 20th Century.

Many of the basic texts of the past have already been translated into English, French and German from the original Sanskrit, Greek, Latin and Arabic. However, a number of important texts have never before been translated into English. The authors are presenting all these materials to the English-reading professionals in medicine and dental medicine in this 864-page reference book.

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Intriguing and Eccentric Characters & Stories from the World of Dentistry

by Arden G. Christen, DDS, MSD, MA & Joan A. Christen, BGS, MS

In this 230-page book, the authors have glimpsed into the lives of 32 dental characters: professionals who range from the noble to the bizarre. Introducing this work is a chapter on one of the most memorable and controversial characters of all time, Dr. Painless Parker (1872-1952). All of these fascinating individuals have left indelible marks on their chosen profession. The stories from this collection may be inspiring or infuriating, ingenious or absurd, credible or questionable—but seldom are they dull.

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Limericks With A Smile:
Dental, Oral and Facial Limericks of Yesterday and Today

by Joan A. Christen, BGS, MA & Arden G. Christen, DDS, MSD, MA

The authors have compiled 188 previously-published limericks related to dental, oral and facial themes; plus they offer an additional 384 personally-composed limericks. The humorous verses in this collection are at once bawdy, whimsical, ludicrous and cynical, and though simple in format, they communicate in few words their strong, sometimes paradoxical message. 159 pages with complete index.

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A Little Treatise on the Teeth:
The First Authoritative Book on Dentistry (1563)

by Bartholomæus Eustachius
Edited by David A. Chernin, DMD, MLS & Gerald Shklar, DDS, MS

This volume presents the first direct English translation from the original Latin Libellus De Dentibus, and maintains the Latin and English texts on facing pages. His conceptual advances concerning tooth development and function were further buttressed by detailed plates of the musculature of the face, floor of the mouth, the neck, the tongue, and the roots and crowns of the teeth. In addition to giving us the first clear description of the dental pulp and root canal, Eustachius also conceived of the periodontal membrane as a gomphosis. Eustachius’ observations are an illuminating precursor to 21st-century medical science, and still represent a timely and relevant reference for any practicing dentist.

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Flower of Remedies Against the Toothache

by M. Arnauld Gilles, Operator for the Aches of the Teeth

The first French text on dentistry and the diseases of the teeth. This work was published in 1621, more than 100 years before Pierre Fauchard's classic work Le Chirurgien Dentiste. Re-discovered by Dr. Jacques R. Foure, who translated the work into English, he has provided us with an insight into the clinical treatments that were available in early 17th century France. M. Arnauld Gilles was a Parisian dental practitioner who was fully recognized by the state licensing authorities as "Operator for the Ache in the Teeth."

The printing of the book has the left-hand pages as an exact facsimile of the original French text, with the English translation on the right facing page.

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Painless Parker: A Dental Renegade’s Fight to Make Advertising Ethical

By Arden G. Christen and Peter M. Pronych

Throughout his professional life, Painless Parker—a self-promoting dental crusader and patient advocate—sought to gain respectability from the profession of which he was a member. Instead, he was rejected by his colleagues because he used the unacceptable practice of advertising blatantly to the public. The ultraconservative Profession of Dentistry regarded Painless as an outlaw, a renegade, a fraud, a charlatan, a quack, a scoundrel, a thorn in the side, and above all else—unprofessional. However, Painless may have been years ahead of his time as he can be credited with pioneering many innovative practices now accepted by modern dentistry. He developed and perfected the concept of group dental practice. As he stated, "You (the dentist) have to be organized, systematized, capitalized, advertised, standardized and specialized.” This 491 page book tells Painless’ story as he wanted it told: from his perspective, using many of his own words.

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A History of Dentistry in the US Army to World War II

By John M. Hyson, Jr., Joseph W.A. Whitehorne & John T. Greenwood
890 pages hardcover

Dental health has been a core requirement for soldiers since the earliest military history. When the muzzle-loading rifle made strong teeth critical to the operation of weapons, dentistry as a profession did not yet exist to assure this element of soldier fitness. This book documents the reciprocal influence of the maturation of the dental profession, and establishment of Army dental care programs. The theme of symbiosis of civilian and Army dentistry defines this period of dentistry’s history, in this well-illustrated volume, written by three accomplished historians. The project took over ten years and was initiated and supported by the Office of the Chief of the U.S. Army Dental Corps, and sustained during the tenures of five of the men who occupied that position.

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Use the search function where the subject, title, first author (Hyson), Stock Number (008-023-00137-5) or ISBN (9780160821592) can be entered to locate the book. PDF file version will be available for download by May 2009 at the publisher’s website (The Borden Institute).
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