CHAPTER II

GENERAL HISTORY OF DENTAL EDUCATION IN THE UNITED STATES

A. EDUCATIONAL STATUS OF THE PRACTICE OF DENTISTRY SHORTLY BEFORE
THE ESTABLISHMENT OF THE FIRST DENTAL SCHOOL IN 1840

a. Types of practitioners and the nature of their preliminary training

Before 1840 improvement in the quality and in the status of dentistry in the United States had long been hindered by the activity of quacks and charlatans. During the fifth decade of the nineteenth century, however, dentistry was steadily raised to the level of a profession by two general types of honorable practitioners. The larger group gave attention to dentistry as a trade or as an accessory to another mechanical vocation. Most of them were uneducated, drawn chiefly from the ranks of craftsmen skilled in the use of small tools, and especially interested and adept in the reconstructive phases of dentistry. They gave earnest and faithful service in useful every-day practice, but, with a few notable exceptions, contributed little of abiding value to the development of dentistry, and did practically nothing to promote its educational advancement or its biological improvement.

The smaller group, who were physicians in fact or in spirit, practised dentistry as though it had been an accepted specialty of medicine, and were usually men of high character, broad intellectual interests, engaging personality, and special influence. Pre-eminent among those who had originally been general practitioners of medicine, but were led by their appreciations and aptitudes to specialize in dentistry, was Chapin A. Harris (1806–1860), the founder of the first journal of dentistry. Others of the group, among them Horace H. Hayden (1799–1844), who organized the first national society of dentists, began their professional work as mechanical dentists, but, realizing the medical import of dentistry, subsequently studied medicine to improve their practice of it as a specialty of the healing art. These dentists with medical understanding and the instinct for health service, led by Harris and Hayden, laid the foundations of organized dentistry and of dental education; and, conceiving their art as a specialty of medicine, they endeavored to elevate it to that status in character, usefulness, and appreciation.

b. Unsuccessful efforts to develop dental education under medical auspices

The first attempt in the United States to teach dentistry in an educational institution appears to have been made by Horace H. Hayden, who, in 1837–38, gave a series of lectures to the students of medicine at the University of Maryland, but, as his effort was not appreciated by the Medical Faculty, the course was not repeated. At that time every other American medical school, the first of which was organized in 1765, had been
ignoring dentistry, although occasional lectures on dental science and dental surgery had been given regularly, since about 1797, at the School of Medicine of Guy’s Hospital, London, by Joseph Fox and other leading English practitioners.

Harris and Hayden, and a number of associated physicians and dentists, influenced no doubt by the more favorable professional conditions in England, and stimulated probably by the important advances in the micro-anatomy of the teeth that had then recently been made abroad by improvements in histological technique, saw clearly that dentistry required special educational promotion. In 1839, aiming to develop such training under medical auspices, they suggested that dentistry be taught formally at the University of Maryland, which at the time consisted mainly of a school of medicine; but their proposal was rejected, the Medical Faculty expressing the opinion, that “the subject of dentistry was of little consequence and thus justified their unfavorable action.” That the attitude of the Medical Faculty was affected somewhat by divisions among the Baltimore physicians in their support of competing local proprietary medical schools, and by unfortunate personal influences, seems to have been well known at the time, but the judgment was none the less decisive. Subsequent efforts to establish a chair of dentistry in one of the medical schools in New York met a similar fate, and all other suggestions of this character, from whatever quarter, were flatly rejected by the medical authorities concerned. Ignorance, intolerance, and professional vanity achieved another of their woeful triumphs. When the time was ripe for training in dentistry to pass from the apprenticeship stage to the institutional status, and for dentistry to become an accredited specialty of the practice of medicine, and when leading physician-dentists urged these consummations, the medical profession, through its representatives in several medical schools, refused to countenance the training of dentists under medical auspices or in medical affiliations. Rejecting the view that dental surgery was or could be important enough to deserve such educational attention, medicine declined to admit dentistry into the fraternity of the healing art, and presented conditions that forced dentists to conclude that such fellowship was unattainable. Fortunately, however, dental leadership adhered faithfully to its convictions and refused to acquiesce in the public disservice of medicine’s formal and emphatic refusal to advance the knowledge, treatment, and control of the disorders of the teeth.

c. Dental education, disdained by medicine, created an independent system

When it was found that training in dentistry could not be developed under medical auspices or in association with medicine, Harris, Hayden, and their associates, accepting the best of the remaining alternatives, established an independent dental school and initiated the development of formal education in dentistry as a separate system. The first dental school was located in Baltimore, where Harris and Hayden lived, and was named
the Baltimore College of Dental Surgery. It is significant of the abiding medical purpose of its founders that they named it a college of dental surgery, and based their curriculum on the medical sciences. The American Society of Dental Surgeons, composed of the leading physician-dentists and dentists in all parts of the country, reacted constructively to organized medicine's disapproval of dentistry by giving to this first dental school the Society's unqualified approval and support.

B. PROGRESS IN DENTAL EDUCATION FROM THE ORGANIZATION OF THE FIRST DENTAL SCHOOL, IN 1840, TO THE BEGINNING OF THE PERIOD OF PUBLIC REGULATION OF DENTAL PRACTICE IN 1888

a. First dental school

On February 1, 1840, the General Assembly of Maryland chartered the Baltimore College of Dental Surgery as an independent educational institution, under proprietary conditions similar to those then prevailing for medical schools. The founders and first faculty named in the charter were four doctors of medicine, two of whom, also dentists, had recently received the honorary degree of Doctor of Dental Surgery from the American Society of Dental Surgeons:

Horace H. Hayden, M.D., D.D.S., Professor of Dental Pathology and Physiology, and President of the College;
Chapin A. Harris, A.M., M.D., D.D.S., Professor of Practical Dentistry, and Dean of the Faculty;
Thomas E. Bond, Jr., A.M., M.D., Professor of Special Dental Pathology, and Therapeutics;
H. Willis Baxley, M.D., Professor of Special Anatomy and Physiology.

Of the fifteen members of the Board of Visitors named in the charter, nine were physicians, and five were clergymen. The charter specified that there should be at least one annual term of instruction not less than four months in length. The Faculty was empowered to confer the degree of Doctor of Dental Surgery upon the graduates, and also upon practitioners after examination or as an honor.

The first academic year opened, on November 3, 1840, with five students; instruction was continued until the latter part of February; and the first class of two students graduated on March 9, 1841. The facilities for practical instruction were very poor until 1846, when the first dental infirmary was established. The lectures were delivered in a small room publicly situated, but, as instruction in practical general anatomy required close privacy in those days, a secluded stable loft was used for the purpose. In 1843 a demonstrator of mechanical dentistry was added to the teaching staff, and in 1846 a dem-
onstrator of operative dentistry. In 1852 the chair of "practical dentistry" was divided between two new chairs of mechanical dentistry and operative dentistry. These conditions were similar to those then prevailing in most of the medical schools.

b. Early growth of dental schools

Although the first dental school manifestly met, on a small scale, an important public need, two persistent conditions—one in dentistry, one in medicine—prevented prompt and rapid increase in the number of dental schools, either as independent institutions or as parts of medical schools and universities. In the first place, many dentists of this period, trained as apprentices, and preferring to reap the harvests of fees as private preceptors and to continue to profit from the assistance of their pupils, selfishly discouraged institutional teaching of the practice of dentistry. Secondly, physicians everywhere held dentistry in low esteem, disregarded it obsoletely as well as its presumptive relationships to health service, continued openly to subject it to disparagement, and discouraged all efforts to elevate it to a plane of equality with medicine. Under these unfavorable conditions the number of dental schools increased slowly and the attendance was small. For a time schools were founded only where there was exceptional demand for them. Twenty-five years after the establishment of the first dental school there were but four in existence, with a total of only 81 graduates for the year 1865. The total number of graduates of the first school, by the end of its twenty-fifth year (1865), was only 369, an annual average of less than 15. Nevertheless, leading dentists, realizing the importance of the institutional method of training, continued throughout this period to urge both increase in the number and improvement in the quality of dental schools, and sought repeatedly to interest medical schools in the cause of dental education. Finally, in 1867, in response to public suggestions by Nathan C. Keep, M.D., D.D.S., President of the Massachusetts Dental Society, a dental department was established at Harvard University, in close association with the medical department; and, for the first time in this country, dentistry was given an important educational status in a university and brought into formal affiliation with medicine.1

c. First dental school in a university and associated with a medical school

The first academic year of the Dental School of Harvard University was four months in length, extending from November, 1867, to March, 1868. There were no educational requirements for admission. Graduation was conditioned on evidence of three years of private apprenticeship with one or more dentists; on attendance for two academic years of four months each at the School's course of lectures; and on defense of a thesis, successful examination in the subjects of the lectures, presentation of a specimen of dental or

1 The Dental Department of Transylvania University (1850–59) was not important (page 42).
pathological interest prepared during the period of instruction, and demonstration to the professors of operative and mechanical dentistry of adequate practical ability. The dental students took the lecture courses in anatomy, chemistry, physiology, and surgery that were required of students of medicine; and with these had access to the dissecting rooms, library, and museums of the medical school, and to the hospitals of Boston. The dental infirmary was located in the Massachusetts General Hospital, where, during the school’s first year, about one thousand patients were given treatment for dental disorders.

### Table 1

<table>
<thead>
<tr>
<th>Name of School</th>
<th>Location</th>
<th>Year in which instruction was begun</th>
<th>Year in which students were first graduated</th>
<th>Total number of graduates before 1869</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltimore College of Dental Surgery</td>
<td>Baltimore</td>
<td>1840</td>
<td>1841</td>
<td>437</td>
</tr>
<tr>
<td>Ohio College of Dental Surgery</td>
<td>Cincinnati</td>
<td>1845</td>
<td>1846</td>
<td>177</td>
</tr>
<tr>
<td>Pennsylvania University, Dental</td>
<td>Lexington,</td>
<td>1850</td>
<td>1851*</td>
<td>2</td>
</tr>
<tr>
<td>Department</td>
<td>Kentucky</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philadelphia College of Dental Surgery</td>
<td>Philadelphia</td>
<td>1852</td>
<td>1853</td>
<td>63</td>
</tr>
<tr>
<td>New York College of Dental Surgery</td>
<td>Syracuse</td>
<td>1853</td>
<td>1853</td>
<td>?</td>
</tr>
<tr>
<td>Pennsylvania College of Dental Surgery</td>
<td>Philadelphia</td>
<td>1856</td>
<td>1857</td>
<td>268</td>
</tr>
<tr>
<td>Philadelphia Dental College</td>
<td>Philadelphia</td>
<td>1863</td>
<td>1864</td>
<td>86</td>
</tr>
<tr>
<td>New York College of Dentistry</td>
<td>New York</td>
<td>1866</td>
<td>1867</td>
<td>18</td>
</tr>
<tr>
<td>Missouri Dental College</td>
<td>St. Louis</td>
<td>1866</td>
<td>1867</td>
<td>16</td>
</tr>
<tr>
<td>St. Louis Dental College</td>
<td>St. Louis</td>
<td>1867</td>
<td>1868</td>
<td>?</td>
</tr>
<tr>
<td>Harvard University, Dental Department</td>
<td>Boston</td>
<td>1867</td>
<td>1869</td>
<td>...</td>
</tr>
<tr>
<td>New Orleans Dental College</td>
<td>New Orleans</td>
<td>1867</td>
<td>1869</td>
<td>...</td>
</tr>
<tr>
<td>Boston Dental College</td>
<td>Boston</td>
<td>1868</td>
<td>1869</td>
<td>...</td>
</tr>
</tbody>
</table>

Number of graduates: 1841–68, inclusive 1065–4

---

1. Amalgamated in 1863 with the School of Dentistry of the University of Maryland.
2. Affiliated in 1863 with the University of Cincinnati.
3. Discontinued in 1863.
4. It is uncertain whether the student graduated in 1851 or 1852.
5. Discontinued in 1854. The faculty then organized the Pennsylvania College of Dental Surgery.
6. The property was destroyed by fire in 1855 and the school discontinued, the attendance having been too small to encourage its reestablishment.
7. There are no available records of the number of graduates, although it is known that the number was very small. Among the graduates (1853) was W. W. Allport, a distinguished Chicago practitioner, who in 1861 was one of the founders of the Stomatological Section of the American Medical Association (page 4), and in 1863 of the Chicago Dental Influence, now the Dental School of Loyola University of Chicago.
8. United in 1869 with the Dental School of the University of Pennsylvania.
9. The Dental School of Temple University since 1867.
10. The Dental School of New York University since June, 1865.
11. The Dental School of Washington University since 1862.
12. The name was changed at short intervals successively to the Dental Department of the Homeopathic Medical College of Missouri and to the Dental Department of the Missouri Medical College. Classes were graduated until 1873, when the school was discontinued.
13. The first permanent dental school in a university and associated with a medical school.
14. Although the school was opened in November, 1861, its work was interrupted by the Civil War, but was resumed in 1867. The School was discontinued in 1877. A successor having the same name was organized in 1899, and became the Dental School of Tufts University in 1919.
15. The Dental School of Tufts College since 1899.
16. The total number of dentists in the United States in 1870 was 7899.
d. Statistical data regarding the dental schools in existence when public regulation of dental practice was begun in 1868

The name, location, year of establishment, year of initial graduation of students, and number of graduates, of each of the dental schools founded in the United States from 1840 to 1868, are given in Table 1 on page 42. During this period, the annual number of graduates of these schools rose slowly from 2 in 1841 to 89 in 1868; and the cumulative total numbers of graduates up to 1850, 1860, and 1870 were, respectively, 115, 592, and 1305. The total number of dentists in the United States in 1870 was 7839.

e. Influences that terminated the apprenticeship system of dental training, and initiated public regulation of the practice of dentistry

Before 1868 there were no special educational prerequisites to the study of dentistry and practically no legal restrictions of its practice. During the thirty years from 1840 to 1870, the number of active dental schools in the United States slowly increased to ten, but the total number of their graduates during the whole of that period was only 1305; and in 1870 the proportion of graduates in the total number of practitioners was certainly less than 15 per cent. Many of the dentists of this period were notorious incompetent and irresponsible, and their superficiality and commercialism evoked earnest protests from their self-respecting colleagues. The earliest dental societies formally recorded the desire and purpose of their founders to "elevate the profession from the degraded condition to which it had sunk," and the objects of the American Society of Dental Surgeons, as stated in its constitution, included the aim "to give character and respectability to the profession, by establishing a line of distinction between the truly meritorious and skillful, and such as riot in the illegitimate fruit of unblushing impudence and empiricism."

For nearly three decades after the establishment of the first dental school, the efforts of the better trained and more earnest dentists to prevent continual increase in the number of unworthy and unscrupulous practitioners were comparatively unsuccessful. By 1867, the year in which the Harvard Dental School was established, conditions had grown serious enough to demonstrate that relief from an intolerable situation could not be obtained without recourse to state control. In December, 1841, shortly after the opening of the first dental school's second year, Alabama enacted a law that nominally restricted dental practitioners in that state to those who were formally adjudged by medical examiners to be qualified, but the law was indifferently enforced. For nearly three decades, nothing more was accomplished to control the practice of dentistry, but in 1866, Kentucky, New York, and Ohio, under the guidance of progressive dentists, enacted statutes that put the practice of dentistry within their respective boundaries under public defensive regulation.
HISTORY OF DENTAL EDUCATION IN THE UNITED STATES

The original Alabama statute, which was adopted in December, 1841, and became operative a year later, provided that applicants for admission to the practice of dentistry should be examined and licensed by "medical boards of the state," under the general restrictions that applied to admission to the practice of medicine, but no educational qualifications were specified. Enforcement of these provisions seems to have been neglected from the beginning; and during the progress of the Civil War and thereafter until 1881, when a new statute was substituted, this original dental act was practically inoperative.

The original dental law of the State of Kentucky was enacted by the Legislature in February, 1868, in response to a petition from a number of resident dentists, who declared that dentistry was "a specialty of the healing art"; that "at least two years of close application to study with competent instructors" were necessary for the acquisition of adequate knowledge and proficiency; and that "the people of this Commonwealth are being grossly imposed upon by the most pretenders to dental science, without possessing a knowledge of the first principles requisite to its successful practice; hence much suffering, discomfort, and ill health, results that might and should be averted." The first Kentucky statute incorporated the Kentucky State Dental Association and authorized the Association to appoint a Board of Dental Examiners having power to license graduates of dental schools without examination, and also any others found by examination to be competent. This plan followed that long in vogue for the control of medical practice.

The original New York statute, adopted in April, 1868, established the Dental Society of the State of New York, and gave it the duty of maintaining a Board of Censors. This Board, as the agent of the Society, was empowered to examine applicants who received diplomas from dental schools in the State of New York, and also any "student who shall have studied and practised dental surgery with some accredited dentist or dentists for the term of four years"—or for a shorter period under various specified circumstances, including an allowance of one year for "attendance at a complete course of lectures of any incorporated dental or medical college in this state or elsewhere." The Society's diploma or certificate of license was awarded to all who passed the examinations, in accordance with the analogous procedure for physicians adopted several decades earlier.

The Ohio statute, resulting from the activity of the State Dental Society and approved in May, 1868, made it unlawful for any person to practise dentistry in that state who had not received a diploma from a dental school, or who had not received a certificate of qualification from the Board of Examiners of the Ohio State Dental Society or from an associated local society; but physicians and surgeons were specifically authorized to extract teeth.

Most of the earlier dental acts empowered state boards to issue licenses, without
PROGRESS FROM 1840 TO 1868

examination, to applicant graduates of dental schools; but all of the statutes required the boards to determine, by examination, the competency of any person who, desiring to begin practice after the enactment of the corresponding state law, had not graduated from a dental school. Cumulatively effective enforcement of the dental laws, after their adoption successively in all of the states by 1899, gradually led prospective dentists to understand that the safest as well as the best route into dental practice was through a school of dentistry, and the preceptorial method of training general practitioners consequently fell into disuse, although it survives for specialists. As recently as 1901, however, about 40 per cent of the number of dentists in the United States had acquired all of their preliminary training as apprentices; of the 28,142 dentists who, then in active practice, had been admitted since 1840, exactly 16,881 were graduates of dental schools and 11,261 were not. The largest relative number of graduates were then in practice in the District of Columbia (81.2 per cent), and the smallest in Idaho (13 per cent). The number of dentists who are not graduates of dental schools has been decreasing so rapidly that it is now probably less than 3 per cent of those in active practice.

C. THE PERIOD BETWEEN 1868 AND THE ESTABLISHMENT OF THE FIRST ASSOCIATION OF DENTAL SCHOOLS IN 1884

During the years in which enforcement of the educational requirements of the various dental practice acts gradually brought about the ascendancy of formal instruction in dental schools over the earlier preceptorial system, the demand for the training afforded by the schools became greater and more general, but the indiscriminate award of the honorary D.D.S. degree to an enlarging number of mediocre practitioners, which had been begun by the Baltimore School, was a growing menace. Attendance at the dental schools increased steadily, especially in those of lower academic quality, and, as the need for more schools developed, their number rose from ten in 1868 to twenty-two in 1884. At Harvard, where the first permanent school of dentistry in affiliation with a medical school had been established in 1867, the number of graduates during the period from 1869 to 1884, inclusive, ranged annually between 3 and 15, averaged 7, and totaled 123. Although this attendance was comparatively small, owing to advanced scholastic requirements, the general desirability of including dentistry in the university program had been clearly recognized, and by 1884 nine other universities, following Harvard's example, had founded dental schools. The years from 1868 to 1884 were notable for the fact that a large proportion of the dental schools organized during that period were created in universities. All but one of these university schools, unlike most of their independent contemporaries, have survived.

The name, location, year of establishment, and year of initial graduation of students, of each of the dental schools founded in the United States during this period, are given in
Table 2. Of the ten schools named in Table 1 (page 42) that survived after 1868, the St. Louis Dental College was discontinued in 1873 and the New Orleans Dental College in 1877. At the beginning of the academic year 1884–85, there were twenty-two active dental schools in the United States. In Canada, the first successful dental school, now that of the University of Toronto, was organized in 1875, began to graduate students in 1879, and was the only school in the Dominion until 1892. The total number of dentists annually graduated in the United States, during this period, rose steadily from 89 in 1868 to 417 in 1884; and the cumulative total numbers for 1870, 1880, and 1884 were, respectively, 1805, 3146, and 4712. The total number of dentists in the United States in 1880 was 12,314; in 1884, approximately 14,387.

### Table 2

**Data Pertaining to the Dental Schools in the United States That Were Established Between 1868 and 1884. (See Table 1)**

<table>
<thead>
<tr>
<th>Name of School</th>
<th>Location</th>
<th>Year in which instruction was begun</th>
<th>Year in which students were first graduated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maryland Dental College</td>
<td>Baltimore</td>
<td>1873</td>
<td>1874</td>
</tr>
<tr>
<td>University of Michigan, College of Dental Surgery</td>
<td>Ann Arbor</td>
<td>1875</td>
<td>1876</td>
</tr>
<tr>
<td>Western College of Dental Surgeons</td>
<td>St. Louis</td>
<td>1877</td>
<td>1878</td>
</tr>
<tr>
<td>University of Tennessee, Dental Department</td>
<td>Nashville</td>
<td>1877</td>
<td>1878</td>
</tr>
<tr>
<td>University of Pennsylvania, Dental Department</td>
<td>Philadelphia</td>
<td>1878</td>
<td>1879</td>
</tr>
<tr>
<td>Indiana Dental College</td>
<td>Indianapolis</td>
<td>1879</td>
<td>1880</td>
</tr>
<tr>
<td>Vanderbilt University, Department of Dentistry</td>
<td>Nashville</td>
<td>1879</td>
<td>1880</td>
</tr>
<tr>
<td>Kansas City Medical College, Dental Department</td>
<td>Kansas City</td>
<td>1881</td>
<td>1885</td>
</tr>
<tr>
<td>University of California, College of Dentistry</td>
<td>San Francisco</td>
<td>1881</td>
<td>1882</td>
</tr>
<tr>
<td>University of Maryland, Dental Department</td>
<td>Baltimore</td>
<td>1889</td>
<td>1883</td>
</tr>
<tr>
<td>University of Iowa, Dental Department</td>
<td>Iowa City</td>
<td>1892</td>
<td>1893</td>
</tr>
<tr>
<td>Chicago Dental Infirmary, Collegiate Department</td>
<td>Chicago</td>
<td>1883</td>
<td>1884</td>
</tr>
<tr>
<td>Minnesota College Hospital, Dental Department</td>
<td>Minneapolis</td>
<td>1883</td>
<td>1885</td>
</tr>
<tr>
<td>Howard University, School of Medicine, College of Dentistry</td>
<td>Washington</td>
<td>1884</td>
<td>1885</td>
</tr>
<tr>
<td>St. Paul Medical College, Dental Department</td>
<td>St. Paul</td>
<td>1884</td>
<td>1885</td>
</tr>
<tr>
<td>National University, Dental Department</td>
<td>Washington</td>
<td>1884</td>
<td>1885</td>
</tr>
</tbody>
</table>

1. Absorbed in 1879 by the Baltimore College of Dental Surgery.
2. Graduated five students in 1878 and then was discontinued.
3. Now situated in Memphis.
4. The Dental School of Indiana University since June, 1905.
5. Became the Kansas City Dental College in 1890, and was united with the Western Dental College in 1893. The Kansas City College of Dental Surgery, an illegal school that was opened in 1888 and closed several years later, was not counted with any of the dental schools in Kansas City.
6. Originally a graduate school of dentistry for physicians. In 1884 it was reorganized as an undergraduate dental school, and named the Chicago College of Dental Surgery, which has been the Dental Department of Loyola University of Chicago since 1925.
7. Became the Dental Department of Minnesota Hospitals College. In 1887, amalgamated with the Dental Department of St. Paul Medical College, which had been founded in 1856, it became the College of Dentistry of the University of Minnesota.
8. The first dental school for Negroes.
9. In 1903 it was united with the Dental School of the Columbian University, now George Washington University, but it was discontinued in 1911.
DEVELOPMENT SINCE 1884

D. DEVELOPMENT OF DENTAL EDUCATION, SINCE 1884, UNDER THE GUIDANCE OF ORGANIZATIONS ESTABLISHED FOR ITS PROMOTION

a. Rise and fall of commercialism in dental education

Most of the dental schools that were created before 1890, and now survive, were founded to meet real needs, but many, established during the past thirty-five years, were mercenary ventures which deserved the extinction that awaited them. In the early days of dental education it was found, by the commercially alert, that the ownership and conduct of dental schools could be developed into a very lucrative business. Later, the dental statutes, making graduation from a dental school a prerequisite for admission to practice, accentuated the opportunity of the proprietory college. Accordingly, with the example of honored practitioners of medicine in all parts of the country to guide them, prominent dentists established dental schools that frequently were formed primarily for private gain rather than for the educational and professional service that could be rendered through them. Most of these schools, although quite as profitable financially as their owners expected them to be, were very poor educationally and many were disgraceful professionally. In this regard dentistry made the mistake of following the leadership of medicine. Happily for dentistry, however, the degradation of dental education through unworthy mercantilism seems never to have touched the depths reached in medical education; and fortunately also, for dental education, many of the commercial schools were too weak to survive for more than a few years.

The number of dental schools in the United States increased slowly, in response to normal educational demands, until about 1880. In accordance with the expanding commercial opportunities created by the growing enforcement of dental practice acts, dental schools multiplied excessively during the period from 1881 to 1900, but since 1900 their number has gradually decreased.

<table>
<thead>
<tr>
<th>Decade</th>
<th>1841-50</th>
<th>1851-60</th>
<th>1861-70</th>
<th>1871-80</th>
<th>1881-90</th>
<th>1891-00</th>
<th>1901-10</th>
<th>1911-20</th>
<th>1921-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net gain</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>3</td>
<td>21</td>
<td>23</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Net loss</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Total number that survived</td>
<td>9</td>
<td>8</td>
<td>10</td>
<td>13</td>
<td>34</td>
<td>57</td>
<td>54</td>
<td>48</td>
<td>44</td>
</tr>
</tbody>
</table>

The correlation between the multiplication of dental schools and the growing number of states in which dental laws were enacted may be noted from the list of the states in the sequence and for the periods in which the original statutes became operative:
1842-70. Alabama, Kentucky, New York, Ohio (4).
HISTORY OF DENTAL EDUCATION IN THE UNITED STATES


1881-90. West Virginia, Illinois, Mississippi, Vermont, Iowa, Michigan, Maryland, California, Delaware, Kansas, Minnesota, North Dakota, South Dakota, Wisconsin, Virginia, Arkansas, Massachusetts, Oregon, Florida, Missouri, Rhode Island, Colorado, Oklahoma (28).


Under the conditions that encouraged the formation of many dental schools, primarily for profit to their owners, there were chartered in Illinois alone during the period from 1880 to 1902, inclusive, the twenty-eight dental schools named below:  

Chicago Dental Infirmary, Collegiate Department (1880); rechartered as the Chicago College of Dental Surgery (1884)

Illinois Dental College (1885)

Northwestern College of Dental Surgery (1885)

American College of Dental Surgery (1885)

Northwestern Dental College of Chicago (1887)

University College of Dental and Oral Surgery (1887)

University Dental College (1887)

German-American Dental College of Chicago (1888)

Chicago College of Dentistry (1889)

American and European Dental College (1890)

United States Dental College (1890)

Illinois College of Dentistry (1891)

Northside Dental College and Infirmary (1892)

North American College of Dental Surgery (1899)

Northern College of Dental Surgery (1899)

Chicago Tooth-Saving College (1892)

Columbian Dental College (1894)

National College of Dental and Oral Surgery (1895)

Standard Dental College (1896)

Instituto Dental Colombian (1897)

International College of Dental Surgery (1898)

Illinois School of Dentistry (1898)

American University of Medicine and Dentistry (1901)

Chicago Post-graduate School of Prosthetic Dentistry (1901)

Prarie State College of Dental Surgery (1901)

American Post-graduate College of Dentistry (1905)

Haskell Dental College of America (1908)

Haskell Post-graduate School of Prosthetic Dentistry (1909)

Union Dental College (1909)

Some of the dental schools of this period were busy diploma mills, which, created under the sanction of indifferent state laws, conducted with the collusion of unworthy dentists, and protected by unfaithful practitioners in posts of public responsibility, freely sold the degree of doctor of dental surgery at home and abroad, to the disgrace of the profession and to the dishonor of dental education. One of these schools, selling its diploma for ten dollars, found a ready market in Germany. Fortunately, when the import of this situation was fully comprehended, organized dentistry promptly brought

1 Most of these chartered schools were never organized, and in some instances practically identical corporations obtained more than one of the charters.

2 The Dental School of Northwestern University was organized in 1861 under the charter of the University. The School acquired the equipment of the University Dental College (1873-91), and absorbed both the American College of Dental Surgery (1892-96) and the Northwestern College of Dental Surgery (1894-97).

3 The Dental School of the University of Illinois was organized in 1876 by absorption and reorganization of the Illinois School of Dentistry (1869-71), which succeeded the Columbian Dental College (1864-68).
it to an end; but remembrance of these circumstances clings tenaciously to the reputation of American dentistry in Europe, where the most damaging consequences of these shameful conditions were experienced.

Many of the dental schools that were chartered since 1884 have been so completely worthless that presentation here of data similar to those in Tables 1 and 2 would serve no useful purpose. Registers of the existing dental schools are given in Part VI, and in the Appendix.

Early in the decade beginning in 1901, disgust with the quality of many of the dental schools, and opposition to increase in their number, became very general, and the multiplication was abruptly halted. Of the charters of dental schools in Illinois alone, seventeen were canceled in 1902, three in 1903, one in 1904, and one in 1905. Now there are only three dental schools in Chicago. This anomalous dental situation, regrettable as it had been, was rectified more promptly than the similar state of demoralization in medicine in Illinois, for in 1910 the Bulletin on Medical Education in the United States and Canada, issued by the Carnegie Foundation, referred to Chicago, with its eighteen medical schools, as "the plague spot of the country in respect to medical education," where, with the indubitable connivance of the state board, the provisions of the medical practice act of the state had long been and were then being flagrantly violated.

The dental practice acts have been effective agents for the elimination of commercial dental schools, and in many states have been properly adapted to that public purpose. Most of these statutes have been amended occasionally since 1890, so as to include, among many new provisions, additional safeguards against the admission of incompetent candidates to the practice of dentistry. The later protective regulations in this regard require the state boards to determine, by examination, the fitness of all applicants and to admit to license examinations only graduates of "reputable" dental schools. The statutory regulation of dental practice and of dental education is discussed in Chapters III and VI, respectively.

Increasing requirements in equipment, supplies, teaching, and research, in the natural evolution of dental education, not only have made it impossible legitimately to derive financial profits from the management of dental schools but also have necessitated the accumulation of endowment funds or their equivalent for the effective continuance of normal development. Dental education has ceased to be a profitable business, and as a consequence, proprietary dental schools have been steadily retiring from the field. Only three remain. This gratifying situation has developed through the cumulative constructive efforts, at successively higher levels, of the National Association of Dental Examiners (page 32), the American Dental Association (page 35), and the special national organizations for the advancement of dental education named in the succeeding section.
b. Cumulative general influence of the special associations for the advancement of dental education

1. Organizations which, with the Canadian Dental Faculties Association, were amalgamated in 1923 as the American Association of Dental Schools

(a) National Association of Dental Faculties (1884–1923)

For nearly forty-five years the dental schools in this country conducted their affairs not only without effective cooperation but also in many respects in undesirable competition, much of which gradually acquired outstanding commercial import. In 1884 when there were twenty-two active dental schools, and a strong trend toward rapid and unnecessary increase in their number had developed, the desire for direct cooperation among the better schools became strong enough to suggest the organization of a general association of dental schools. Accordingly, on August 4, 1884, representatives of ten of the schools then existing in the United States, who assembled in New York pursuant to a public call for a meeting to "bring about the adoption of a uniform standard of graduation," established the National Association of Dental Faculties, in which the schools were the units of membership.1 Mandatory powers were assumed, meetings were held annually, and the proceedings were regularly published in pamphlet form. Canadian schools were admitted to membership. For nearly thirty years after its organization, the Association was the most influential executive agency for the general promotion of dental education in this country. Its relation to the development of the dental curriculum is indicated in Chapter VII. In 1923, when it was amalgamated into the American Association of Dental Schools, its membership included twenty-eight of the total of fifty-one dental schools in the United States and Canada. Of this number nine were independent schools, two were schools in groups of associated professional colleges, one was affiliated with a university, and sixteen were integral parts of universities.

In 1901 the National Association of Dental Faculties voted to lengthen the dental curriculum, beginning in 1905, from three to four years based on completion of two years of study in a high school. Before the new requirement went into effect, the Harvard Dental School, one of the members, preferring a higher grade of preliminary education to an increase in the extent of professional training, determined to raise its educational requirements for admission to a standard approximately equal to that for entrance to Harvard College, and declined to lengthen the professional curriculum from three to four years. When the Association formally disapproved this action, Harvard resigned its membership. After a year's test of the new conditions involved in extending the period of professional study from three years to four years, many of the schools threatened to withdraw from the Association if the dental curriculum were not promptly reduced to its previous length. The threat of disruption of the Association became so strong that, to

1 See the footnote on page 177. The Association of American Medical Colleges was not organized until 1881.
meet the emergency, a special meeting was called during the summer of 1904, when it was
to restore the three-year curriculum, and also to increase the academic year from
seven months to thirty teaching weeks of six days each, beginning in 1904. The Harvard
Dental School did not reenter the Association.

(b) Dental Faculties Association of American Universities (1908–28)

During the next four years various mandates of the National Association of Dental
Faculties, which were expressive primarily of the commercial influence of the indepen-
dent dental schools then in a large majority, not only created cumulative dissatisfaction,
particularly among representatives of state universities, but also induced several addi-
tional dental schools in universities to resign their membership. These conditions sugges-
ted to the dissenting schools the desirability of joint action for the support of university
ideals and methods of professional education. Accordingly, on July 31, 1908, in Boston,
representatives of the six dental schools at California, Harvard, Iowa, Michigan, Minne-
sota, and Pennsylvania, founded the Dental Faculties Association of American Univers-
ities, with the avowed object of promoting dental education by resisting proprietary
control, by making it a function of universities, and by furthering higher standards of
preliminary education. This Association, in which again the units of membership were the
schools, was aggressive in its advocacy of these purposes (page 104). It assumed advisory
authority only, held annual meetings, for ten years regularly published its transactions in
a dental journal and in pamphlet form, and lately issued its Proceedings complete in one
volume. It did not elect Canadian schools to membership. This Association was chiefly
responsible for the recent advance in the minimum entrance requirement from graduation
from a high school to completion of at least one year of approved work in an accredited
academic college, or the equivalent, which is now in force in twenty-eight of the forty-
four dental schools in this country and in all of the schools in Canada. In 1923, the Dental
Faculties Association of American Universities, when amalgamated into the American
Association of Dental Schools, comprised the thirteen dental schools at California, Colum-
bia, Harvard, Illinois, Iowa, Michigan, Minnesota, Nebraska, Ohio State, Pennsylvania,
Tufts, Washington, and Western Reserve.

(c) American Institute of Dental Teachers (1893–1923)

The National Association of Dental Faculties, in effect an association of the adminis-
trative officers of the dental schools, was concerned chiefly with matters of administra-
tion, methods of instruction receiving very little attention. Appreciation of the need for
better teaching in operative dental technology led fifteen teachers from eleven dental
schools, in conference in Chicago, on August 18, 1893, to organize the National School of
[Dental Technics. Membership was limited to the faculties of the dental
schools, including the Canadian, that were members of the National Association of Dental
Faculties. Subsequently all reputable schools were eligible. Decisions were advisory only, meetings were held annually, and the proceedings were published regularly in pamphlet form. At first, special attention was given to methods of teaching operative and prosthetic dental technology, but a broader view of the demands of dental teaching induced the members in 1898 to change the name of the "School" to Institute of Dental Pedagogy, and in 1914 to American Institute of Dental Teachers.

The Institute was notable for its constructive discussions of the dental curriculum, for its encouragement of higher attainment in dental teaching, and for the harmonizing influence among the officers of the Canadian and American schools that annual fraternization of the teachers at its meetings exercised in general. The Institute maintained this excellent influence because its decisions were advisory only. As the Institute did not attempt to direct or control the administration of the dental schools, disagreements in its affairs were chiefly if not wholly academic in character, and salutary in their effects. An Index of the Periodical Dental Literature, an important aid in the study of the literature of dentistry and particularly valuable to teachers, originated and edited by Dean Arthur D. Black of the Northwestern University Dental School, was published occasionally under the auspices of the Institute, and has been continued by the American Association of Dental Schools, with the aid of private subscriptions and supported by grants from the Research Commission of the American Dental Association (page 159). In 1923, when the Institute was amalgamated into the American Association of Dental Schools, practically all of the dental schools in Canada and the United States were members.

2. American Association of Dental Schools (1923–)

During the summer and fall of 1922 there arose, among the dental schools in the United States and Canada, a general desire for unification of efforts to advance dental education. In accordance with this sentiment, five officially instructed and empowered delegates each from the Canadian Dental Faculties Association, the American Institute of Dental Teachers, the National Association of Dental Faculties, and the Dental Faculties Association of American Universities, in joint session in Omaha, on January 23 and 24, 1923, unanimously amalgamated these bodies provisionally into the American Association of Dental Schools. As stated in its constitution, this Association was organized "to facilitate intercourse and conference among teachers of the dental sciences and arts in North America; to promote advancement of teaching and research in American schools of dentistry; to encourage thorough study and discussion of the needs and problems of dental education; to improve public understanding and appreciation of the quality and value of dentistry; and to maintain dental education in full accord with the highest requirements of professional education in the public service." The Association, which combines the good qualities of the Institute and the older associations of faculties, is international in character and spirit, non-mandatory in authority, and devoted pri-
DEVELOPMENT SINCE 1884

primarily to the advancement of teaching. At its first special session, held in Cleveland, on September 11, 1923, the provisional consolidation was made permanent. The Association has held successful annual meetings in Chicago since 1924, and has published successive volumes of its *Proceedings*.

This amalgamation brought into the American Association of Dental Schools all of the Class A and Class B dental schools and the two endowed dental dispensaries in the United States, and all of the dental schools in Canada. It unified the administrative and teaching forces in dental education in North America; eliminated all causes of reasonable disagreement among the schools except such as are inherent in the real problems of dental education; provided exceptional opportunity for unprejudiced consideration of procedures of administration and methods of teaching; and improved the accord, in the Dental Educational Council of America, between the representatives of the associated schools and of the national organizations of examiners and practitioners.

3. *Dental Educational Council of America (1909—)*

For a number of years, particularly during the period when commercialism was rampant in dental education, important disagreements disturbed the relationships between the National Association of Dental Examiners and the National Association of Dental Faculties. Thus, in a variety of ways the associated examiners had been recognizing dental schools that were not regarded as reputable by the associated faculties, and had been challenging the reputation of some of the schools, and condemning the commercialism of others, that were members of the National Association of Dental Faculties. The examiners also objected to the issuance of diplomas at other times than those of the regular commencement exercises, and exacted of individual schools certain entrance and graduation requirements that conflicted with the rules of the associated faculties. In 1906 these and related differences led, at the request of the examiners, to the appointment of a standing Joint Conference Committee, for the attainment of mutual understanding and accommodation, with "power to bind the actions of both Associations" during the intervals between their annual meetings. In 1907, in order to ensure accuracy in compilation, there was also appointed a Joint Standing Committee on Tabulation of the annual results of the license examinations, expressed in terms of the percentages of each school's applicant graduates who failed to pass at their initial attempts — data that the examiners had been using in their independent determination of the reputation of individual dental schools, but which the associated faculties insisted had been recurrently and seriously in error. The appointment of these joint committees promoted greater accord between the two associations but did not remove all of the causes of friction. In 1908, the associations voted additional mandates in support of the joint committees, and thereby gave further impetus to the dissatisfaction that facilitated the organization of the Dental Faculties Association of American Universities (page 51).
In 1909, at the annual meeting of the National Association of Dental Faculties, where the members discussed the possible further improvement of the relations between the associations of examiners and faculties, special attention was given to the recent achievements of the Council on Medical Education of the American Medical Association. The discussion included suggestions of a similar development of authoritative supervision and guidance of dental schools, under the joint auspices of the associations of examiners and faculties. In this spirit, a committee of five of the National Association of Dental Faculties, appointed to consider the possibility of such cooperative procedure, met a similar committee representing the National Association of Dental Examiners. The prospect presented by this conference appeared to be favorable, and the general desire for united action having been informally demonstrated, the two committees without waiting for further instructions proceeded forthwith, on August 3, 1909, at Old Point Comfort, Virginia, to organize themselves into the Dental Educational Council of America. An invitation to the National Dental Association, to appoint five delegates to represent that body in the Council, was accepted before the next annual meeting. There was an important difference between this Council and the one for medical education: the Council for dentistry was organized as an independent body of representatives of the three national associations of examiners, schools, and practitioners, with a constitution of its own, whereas that for medicine was a standing committee of the national association of practitioners. This difference has continued to the present time.

From 1910 to 1921, the Council consisted of five delegates each from the National Association of Dental Examiners, the National Association of Dental Faculties, and the National Dental Association. The American Institute of Dental Teachers was not included because a large majority of the faculties were assumed to be represented in the Council by the delegates from the National Association of Dental Faculties. The Dental Faculties Association of American Universities, ignored at first but later urged to accept representation, for a time declined to cooperate with the Council. During 1922 and 1923, however, three delegates from the Dental Faculties Association of American Universities were seated in the Council, which in 1922 was enlarged to eighteen members, and later in the same year to twenty-four members. Since the permanent organization of the American Association of Dental Schools, in September, 1923, the Council has consisted of six delegates each from that Association, the National Association of Dental Examiners, and the American Dental Association.

The Council has concerned itself chiefly with the promotion of higher scholastic and administrative standards, and the improvement of the curriculum in dental schools. These purposes have been advanced through publicity in annual reports to the bodies.

---

1 In 1927, when three delegates from the Dental Faculties Association of American Universities were seated in the Council, the total representation for the two associations of faculties was 8, but for the associations of examiners and of practitioners it was only 1 each. The total membership was then temporarily raised to 24 by increasing the delegations of examiners and of practitioners to 8 each.
represented in it and, since 1918, by periodical classifications of the dental schools in the United States into classes A, B, and C, grade C signifying lack of educational and professional reputability. The achievements and influence of the Council are considered in Chapters VI and VII.

E. EVOLUTION OF GENERAL REQUIREMENTS IN DENTAL EDUCATION

The character and rate of advancement of some salient minimum requirements in dental education in the United States, as reflected in the main from the rules of the National Association of Dental Faculties, are shown in Table 4.

**Table 4**

SUMMARY OF DATA ON THE EVOLUTION OF SOME GENERAL MINIMUM REQUIREMENTS AS ENFORCED IN A MAJORITY OF THE DENTAL SCHOOLS

<table>
<thead>
<tr>
<th>Calendar period</th>
<th>Academic requirement for admission</th>
<th>Length of the academic year</th>
<th>Length of the dental curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Calendar period</td>
<td>Time (Months, Weeks)</td>
<td>Calendar period</td>
</tr>
<tr>
<td>1849-85</td>
<td>None</td>
<td>1840-85 3-5</td>
<td>1840-85</td>
</tr>
<tr>
<td>1885-97</td>
<td>&quot;Rudiments of an English education&quot;</td>
<td>1885-96 5 5</td>
<td>1885-91 6</td>
</tr>
<tr>
<td>1897-99</td>
<td>Equivalent to that for admission to a high school</td>
<td>1896-99 6</td>
<td>1891-03 3</td>
</tr>
<tr>
<td>1899-08</td>
<td>Completion of one year of high school study</td>
<td>1899-04 7</td>
<td>1903-04 4</td>
</tr>
<tr>
<td>1902-07</td>
<td>Completion of two years of high school study</td>
<td>1902-07 10-12</td>
<td>1904-17 8</td>
</tr>
<tr>
<td>1907-10</td>
<td>Completion of three years of high school study</td>
<td>1907-10 15-18</td>
<td>1909-12 12</td>
</tr>
<tr>
<td>1910-17</td>
<td>Graduation from a high school</td>
<td>1910-17 18-20</td>
<td>1917-20 4</td>
</tr>
<tr>
<td>1917-24</td>
<td>Graduation from a four-year high school (15 college entrance units)</td>
<td>1917-24 24-26</td>
<td>1921-24 4</td>
</tr>
<tr>
<td>1924-</td>
<td>One year of approved work in an accredited academic college; based on graduation from a four-year high school</td>
<td>1924-27 27-30</td>
<td>1925-28 3</td>
</tr>
</tbody>
</table>

1 Five years of dental practice, before admission, was accepted from 1846 to 1885 as equivalent to one academic year of work in a dental school. The courses of lectures were repeated annually during this period.
2 Dental practice before admission was no longer acceptable as an equivalent of any part of the dental curriculum. The two-year curriculum was graded and extended thereafter through two "separate" years, without repetition of lecture courses.
3 "Or its equivalent," which was often interpreted to mean very much less.
4 Teaching weeks of six days each, exclusive of holidays.
5 The standard was announced by the Dental Educational Council as a minimum requirement for its Class A rating, beginning in 1925-26; in 1932, as a minimum for its Class B rating, beginning in 1926-27. The standard has been in force in a majority of the schools since 1926-27 -- in 38 of a total of 44, in 1935-36.