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HISTORY OF MEDICINE
IN THE
UNITED STATES

HISTORY OF MEDICINE IN THE UNITED STATES

By
FRANCIS R. PACKARD, M.D.
Editor, *Annals of Medical History*

103 ILLUSTRATIONS

VOLUME II



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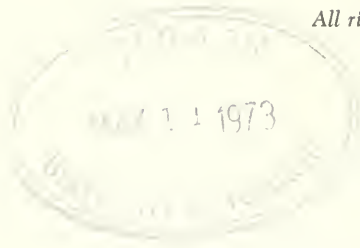
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CHAPTER X

HISTORY OF THE MEDICAL DEPARTMENT
OF THE UNITED STATES NAVY

CHAPTER X

HISTORY OF THE MEDICAL DEPARTMENT OF THE UNITED STATES NAVY

R. P. PARSONS, LIEUT. COMM., M.C., U. S. N.

Then swore Lord Thomas Howard: " 'Fore God I am no coward;
But I can not meet them here, for my ships are out of gear,
And the half my men are sick. I must fly, but follow quick;
We are six ships of the line; can we fight with fifty-three?"

—Tennyson, Ballad of the "Revenge."

THE practice of naval medicine in America began late in 1775 when, as a result of acts of the Continental Congress, the first American fleet was placed in commission. But almost the entire pattern of that practice, customs, traditions, methods, problems, ideals, struggles, vernacular, had its origin in the British Navy. And for about a hundred years afterwards, nearly every step in the progress of American naval medicine followed some years after similar steps had occurred in the British Navy.

The medical staff of a naval vessel in the days of the Revolution consisted of a surgeon and a surgeon's mate. These titles had their origin at least as early as 1512, during the reign of Henry VIII, when each of his ships carried a surgeon and surgeon's mate. "Surgeon" was a fitting title in those days, as the principal function of the ship's medical men was to arrest hemorrhage during engagements. Every armed ship, even many of the pirates, would not put to sea without a surgeon and surgeon's mate. In the seventeenth century the British sailor who carried food to the sick and wounded and who attended to other non-medical needs of the patients was known as the "loblolly boy" because of the porridge (than called "loblolly") which he served them. Thus, we find a loblolly boy in the American

Navy until about 1841. A Navy regulation in 1814 describes the duties of the loblolly boy. He rings a bell about the decks in the morning, announcing sick call; he fills a wash tub of sand to catch the blood during surgical operations so that the deck will not be stained; he washes, shaves and feeds the sick.

The surgeons who came aboard the ships of our fleet in 1775 found conditions but little improved over those described by Smollett in 1748 in his first novel, "Roderick Random." Smollett served as surgeon's mate aboard H.M.S. *Cumberland* in the siege of Cartagena. He described the cockpit, in which the wounded were accommodated, "a dismal gulf, filling him with horror and astonishment, approached by diverse ladders and as dark as a dungeon." He was less surprised that the wounded should die than that they should recover.

Many advances, however, came into British naval medicine in the latter part of the eighteenth century and these elements were soon adopted in the American Navy. These advances followed the epochal works of three Scotchmen, medical officers in the British Navy, who have been called the "founders of naval hygiene." These men were James Lind (1716-1794), Thomas Trotter (1760-1832) and Gilbert Blane (1749-1834). Lind, who has been known as "the father of naval medicine," contributed three epoch-making treatises, those on scurvy (1754), naval hygiene (1757) and tropical medicine (1768). Lind, Trotter and Blane fought for better living conditions, better hygiene, better medicine in the Navy. They "dared challenge tradition,"¹ they "struggled against stupidity, ignorance, prejudice from the admiralty to the forecandle."^{*} They shared the opinion of Sir Ronald Martin that "more men died from water within than without the ship." Lind proposed distilled water for drinking pur-

Quoted from *The Founders of Naval Hygiene*, by J. S. Taylor, *U. S. Nav. M. Bull.*, 14: 563, 1920.

poses aboard ship, and devised a practical apparatus for this. Together, these men agitated for better ventilation, proper clothing, a better diet, the lime juice ration, a pay scale for medical officers such as to attract a better class of physicians to the Navy, compulsory vaccination against smallpox, cleanliness and a soap issue to sailors, and isolation of contagious cases. They were against the venereal fee (a fee taken from the pay of sailors suffering from venereal disease, and given to the ship's surgeon). They were farsighted enough, compassionate enough to find no sense or justice in penalizing a man for his misfortunes. This nefarious custom of venereal fees was perpetuated in the American Navy until about 1840, and was opposed and finally abolished by those of the highest standing in the corps, such as Cutbush, Barton, and Heermann.

In both the American and British Navy most of the reforms made in the direction of more humane conditions for the sailors were instituted by the medical officers. They cried loudest against the practice of flogging (which went out of the American Navy in 1850); they brought to the Navy an ever increasing consideration for the enlisted man, a constant tendency toward more attention to the sick sailor, better treatment, medical and non-medical, for the sick members of the crew. For the instigation of the reform that provided equal medical attention to all members of the crew we were indebted to another great pioneer outside our own Navy. Jean Dominique Larrey (1766-1842), surgeon in the French Navy, later in Napoleon's Army, and considered by Napoleon "the most virtuous man I have ever known," brought the idea of first-aid to all the wounded, not just to the commanders, as was the custom with Ambroise Paré and his colleagues at Vendôme. Much of the traumatic surgery in our early Navy was originated and inspired by the work of Larrey.

The medical men in our early Navy, as in the British Navy, though generally obstructed in their reforms, often had strong support in the highest places. Lord Nelson was a constant agitator for measures to improve the health and comfort of his crews and demanded greater recognition of, and more encouragement for, his medical staffs. In 1840 the Duke of Wellington again improved the Medical Corps (this event, like most others, was later felt in the American Navy) in his report that "The conditions and prospects of this class of public servants [medical officers] are not such as to afford encouragements to meritorious individuals who are engaged in that department." In our early Navy such men as Decatur, Porter and Rodgers were always behind the improvements recommended by their medical officers.

The lot of the medical officer in our early Navy was hard, and one may wonder what inducements attracted men to become naval surgeons and surgeon's mates; one may wonder what sort of men these were who would enter a life of severe hardships at \$25¹ a month and with little social or other recognition. There were several considerations. Chief among these was the lure of travel and adventure. The surgeons and mates were mostly young men, just entering upon their medical careers. To gain a foothold and a living in civilian practice was no easy matter in those days. The Navy pay was small, but it was sure and steady. Then there was the prize money. By an Act of Congress, January 6, 1776, all members of the crew received a share of the prize money when a vessel was captured. Sometimes the shares amounted to large sums, and the rule applied to captured pirates as well as to enemy vessels. The prize money custom was abolished after the Spanish War. Throughout the nineteenth century the Medical Corps included always among its members several able

¹ In 1794 the pay of a surgeon was increased to \$50 per month.

naturalists, who were doubtless held in the Navy by their desire to study and collect specimens of the flora and fauna of distant lands. Some of them had fine literary talents, and to many of these we are indebted for some of the best descriptions in American literature of life in the Orient, in South America, Africa and the Arctic in the nineteenth century. Notable among these is Elisha Kane's book on the Arctic, which could be found in thousands of American homes after the Second Grinnell Expedition in 1855. A large number were attracted to the Navy because of the extensive surgical experience the life offered. In this they were well rewarded, finding a large amount of traumatic work and often finding opportunity to make extended visits at the surgical clinics of our East coast cities and those of Paris and London.

Until 1801 a commission as surgeon did not insure a life career in the Navy. Until that date a surgeon was simply appointed for duty aboard a certain ship, and when that ship was placed out of commission he had no further employment or pay in the Navy until he could secure a berth on another ship. In 1801 the status of a naval officer became much more permanent by a Congressional Act which provided for half-pay during these furlough periods when assignment to the next ship was awaited.

There are but scant records of the surgeons in our first naval period, from 1775 to 1785. Joseph Harrison became the first American naval surgeon, serving on board the *Alfred* in 1775 when John Paul Jones, her first lieutenant, hoisted the first American flag to be flown on an American ship of war. This was the famous "Don't Tread On Me" flag. Ezra Green, a graduate of Harvard and a practitioner at Dover, N. H., entered the Navy in 1777, serving as surgeon of the *Ranger* when Jones was in command. When the *Drake* surrendered in the engagement with the *Ranger*, Green

attended many of the wounded on board the *Drake* as well as those on the *Ranger*. Lawrence Brooke, a young Virginian, served as surgeon on the *Bonhomme Richard* during the encounter with the *Serapis* in 1779. Half the members of the crew of the *Bonhomme Richard* were killed in this battle, Brooke being among the survivors.

With the sale of the *Alliance* (the last of the ships of the Revolution) in 1785, the American Navy passed out of existence until 1794.

In 1789 the War Department was established. The Secretary of War was given supervision of the Navy, and the President, Washington, was declared "Commander in Chief of the Army and Navy." Thus, the Secretary of War supervised, and Washington was Commander in Chief of a Navy that did not exist.

In 1794 the Navy made its reappearance. The piratical operations of the Barbary States were then assuming serious proportions, and Congress appropriated for several ships for service in the wars with Tripoli and Algiers. In 1797 three formidable frigates were launched: the *Constitution*, *Constellation* and *United States*.

The *Constellation* seems to have been especially sought after as a berth for the surgeons, as many letters are on file in which the naval surgeons of that period requested assignment to her.

In 1798 the Navy Department was established and the first Secretary of the Navy (Benjamin Stoddart) appointed. This event of course put the Navy on a firm footing and greatly enhanced its development. In this new Navy the surgeon's pay was increased to \$50 a month, and with the hope of prize money from captured English, French, Algerian, Tripolitan and pirate vessels, several young men of unusually high type were attracted to the medical corps. The number varied

with the exigencies of the moment. In 1812 there were twenty-six, in 1815, forty-seven, and in 1825, thirty-four.

Almost during the first fifty years of this "second" Navy there was no Medical Department. The Medical Corps was not organized in any sense; it consisted simply of its individual members, the surgeons and surgeon's mates. In 1798 the surgeon's mates were given the status of commissioned officers, and in 1828 their title was changed to "Assistant Surgeon," a title still in official use to designate the grade of newly commissioned officers in the Medical Corps.

Until 1842 the history of the medical department is merely a history of the activities of the several members of the corps.

Several of these pioneers in the corps attained considerable prominence and distinction. If we follow the fortunes of some of them we shall see incidentally some bits of American Naval history, some side lights on American medicine in the first half of the nineteenth century, and we shall see how the medical department of the Navy finally came into being in 1842.

These doctors gained prominence by quite a variety of routes: some by professional attainments; some by daring and heroism during explorations and military exploits; some by the pen, their wide travels, countless adventures and colorful life furnishing a wealth of material for their writings; some because they were good politicians; some because they were good organizers and administrators; and finally, some because they were born lucky. A combination of several of these factors was present in many of them and was responsible for their achievements and recognition, as the case has been throughout the later history of the corps.

In the first half of the nineteenth century they had as guides in their practice, the British works on Naval

Medicine by Lind,¹ Trotter,² Blanc³ and Turnbull,⁴ and those from their own Corps by Edward Cutbush,⁵ William Barton,⁶ and Usher Parsons.⁷

Edward Cutbush has been properly called "the Nestor of the medical corps of the Navy." Born in Philadelphia, 1772, he entered the Philadelphia College at twelve, studying mathematics and the classics. Later he studied art under his father, who was a sculptor, and in 1790 entered the Pennsylvania Hospital as a medical student, under the patronage of James Hutchinson and the teachings of Adam Kuhn, William Shippen and John Foulke. In 1793 an encounter between British and French vessels off the Delaware Capes resulted in a number of the wounded being brought to the Pennsylvania Hospital. Acquaintance with some of these patients aroused Cutbush's interest in naval life and naval surgery. During the 1793 yellow fever epidemic in Philadelphia he rendered distinguished service and received the official thanks of the city.

Graduating in 1794, he became a charter member of the Philadelphia Medical Society, and the same year joined the troops at Carlisle, to serve in the Whiskey Rebellion. Here he acted as Surgeon General of the Pennsylvania State troops, and made the acquaintance of Washington. Returning from the Whiskey Rebellion, he found that he had lost his popularity among his many Quaker friends on account of his participation in a military activity. This caused some difficulty in

¹ On the most Effectual Means of Preserving the Health of Seamen. London,

1774.

² *Medicina Nautica*. London, 1791.

³ *Observations on the Diseases of Seamen*. London, 1785.

⁴ *The Naval Surgeon*. London, 1806.

⁵ *Observations on the means of Preserving the Health of Soldiers and Sailors, with Remarks on Hospitals and their Internal Arrangement*. Phila., 1808.

⁶ *A Treatise Containing a Plan for the Internal Organization and Government of Marine Hospitals in the United States, together with Observations on Military Hospitals and a Scheme for Amending and Systematizing the Medical Department of the Navy*, Phila., 1814. Ed. 2, 1817.

⁷ *Physician for Ships*. Phila., 1820. Ed. 5, 1867.

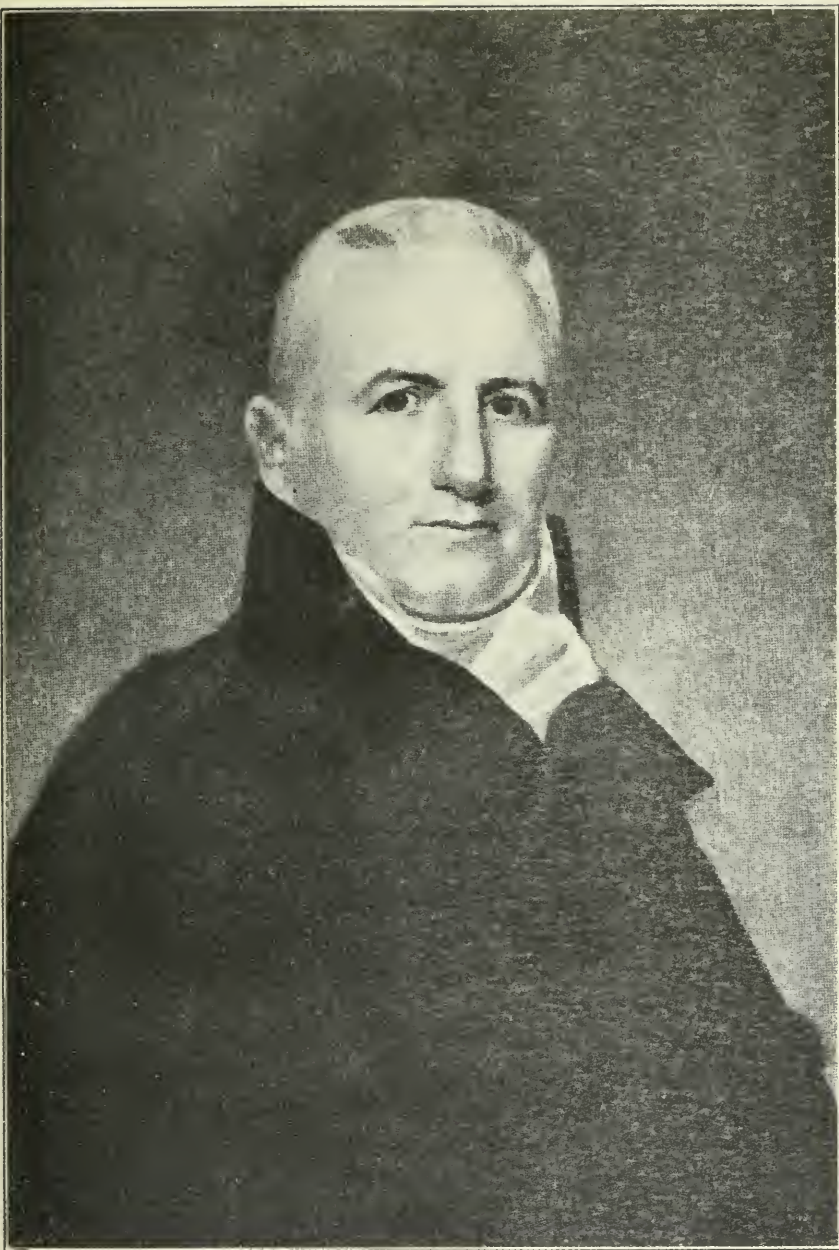


FIG. 68. Edward Cutbush (1772-1843), Surgeon, United States Navy.

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his becoming established in practice in Philadelphia, and in 1799 he entered the Navy.

He kept a careful diary throughout most of his naval career. We find in this diary for May 28, 1799, the following item:

Appointed Surgeon in the Navy of the United States and received orders to join the Frigate *United States*, 50 guns, Commodore Barry; James Barron, Captain. Now commences a new scene of life.

This diary, during 1799, contains many notes on the prevalence of venereal diseases and diarrhea in the Navy, the diarrhea existing "chiefly among landmen, in consequence of extreme inattention to their persons, and drinking the water alongside when at New Castle." Those of the crew who had not had smallpox, he vaccinated by the inoculation method.

On November 2, 1799, the *United States* sailed for France, carrying the envoys, Judge Ellsworth and Governor Davy, appointed by President Adams to treat with France. In a letter from Cutbush to a friend, he expresses the hope that after the envoys leave the ship, an English Indiaman might be captured, thus enabling Cutbush to pay off his debt to his friend.

Many of his descriptions of life aboard naval vessels and of visits to foreign ports during this period (the *United States* called at Lisbon and Coruña) sound like descriptions from Smollett's novels.

During 1802 and 1803 he served on board the much coveted *Constellation*, cruising between Gibraltar, Algiers and Tunis during the operations against the Barbary States. The Mediterranean squadron was based at Syracuse, Sicily, and here Cutbush established and conducted the first United States Naval Hospital. Here he remained until 1806, building up a reputation for hospital administration, learning Italian, forming cordial relations with the Sicilian physicians, and visiting other Sicilian cities.

In 1806 Commodore Rodgers wrote to the Secretary of the Navy (Robert Smith) praising the services of Cutbush and recommending him for appointment as Consul at Tunis or Tripoli.

Rodgers' letter was unproductive, and during the next few years Cutbush remained at the Philadelphia Navy Yard, examining men for enlistment, vaccinating them against smallpox, agitating for better sick quarters, more adequate medical and surgical supplies, and preparing his "Observations on the Means of Preserving the Health of Sailors and Soldiers, with Remarks on Hospitals and their Internal Administration." This was published in 1808, and formed the first American contribution to literature on naval medicine. It covered 337 pages and discussed the subjects of recruiting examinations, shoes and clothing, food and water, overcrowding, military hospitals, "preservation of health," and included a proposed scheme for the organization of a Naval Medical Department.

The Naval Hospital Fund, established in 1799 and made from the payment of twenty cents per month by every person in the naval service, could not at this period be applied to the maintenance of naval hospitals, since none existed. The sick sailors on shore were admitted either to the marine hospitals or to the miserable frame shacks that served as sick quarters in or near the navy yards. Cutbush, Barton and others made frequent representations to the Secretary of the Navy, urging the construction of naval hospitals. In 1810, Paul Hamilton, then Secretary of the Navy, wrote to Mr. Bassett, chairman of the House Naval Committee, stating that "The friends of the Navy indulge the hope of soon seeing a Greenwich commenced in our city." ("Greenwich" was then the principal Naval Hospital in England, established at Greenwich in 1691). The following year Congress authorized the construction of naval hospitals and appropriated \$60,000 for the

OBSERVATIONS
ON THE MEANS OF
PRESERVING THE HEALTH
OF
SOLDIERS AND SAILORS;
AND
ON THE DUTIES OF THE MEDICAL DEPARTMENT OF THE
ARMY AND NAVY.
WITH
REMARKS ON HOSPITALS
AND THEIR
INTERNAL ARRANGEMENT

BY EDWARD CUTBUSH, M. D.
Of the Navy of the United States.

Let us endeavour to preserve the health of those who bravely enter the
field of battle, or expose themselves on the boisterous ocean in defence of
their country.

PHILADELPHIA:
PRINTED FOR THOMAS DOBSON,
At the Stone House, No. 41, South Second Street
Fry and Kammerer, Printers
1808.



FIG. 69. Facsimile reproduction of the title page of Dr. Cutbush's "Observations on the Means of Preserving the Health of Soldiers and Sailors." (1808.)



purpose. Cutbush had personal consultations with Secretary Hamilton on the question of these constructions, and frequent correspondence with him on the subject; but the political currents of the time retarded the progress of the hospital program, and it was not until 1822 that hospital sites were purchased in Boston, New York, Philadelphia and Norfolk. The first of these constructions began at Norfolk, in 1827.

In 1813 Cutbush assumed charge of what passed for a naval hospital in Washington, and during the few years he remained in Washington he proposed several matters to the Secretaries (William Jones and Smith Thompson) none of which were adopted until many years later.

In 1815 he proposed a scheme for the organization of the medical department, which was adopted some twenty-seven years later. In 1823 he recommended the introduction into the Navy of a pharmacopeia then compiled by various medical institutions in the United States.

In 1824 began the first serious endeavor to conduct professional examinations for candidates for the medical corps. A permanent board was appointed, of which Cutbush was senior member. The sessions were held in Philadelphia. The other members of this first board were Samuel Marshall, William Barton, Thomas Harris and Bailey Washington. Two of the members, Barton and Harris, became some twenty years later the first two Chiefs, respectively, of the Bureau of Medicine and Surgery.

At this period as well as during most of the nineteenth century, it was not unusual for naval officers to campaign openly and vociferously for the candidates of their political party. When they made the mistake of supporting the wrong candidate they were ordered to sea immediately after the election, and in an undesirable billet. In 1828 Cutbush campaigned for Adams'

party. Thus when Andrew Jackson was elected, Cutbush was ordered to sea. He protested to the Secretary, but was simply told "you must go."

He resigned forthwith, and soon after was given the Chair of Chemistry at Geneva College, New York. In 1834 he became Dean of the Medical School at Geneva.

He died, 1843, at the age of seventy-one.

Jonathan Cowdery, born at Standisfield, Mass., 1767, studied under his father, Dr. Jabez Cowdery, at Tunbridge, Vt., and later graduated from Dartmouth, about 1789.

In 1800 he was appointed surgeon's mate in the Navy, and sailed on board the frigate *Philadelphia* in June, 1801, when that ship, in company with the frigates *President* and *Essex*, and the schooner *Enterprise*, were to prosecute the war against Tripoli.

On October 31, 1803, the *Philadelphia* was wrecked near Tripoli (the city), and all hands captured and held for ransom. These included Surgeon John Ridgely and Surgeon's Mate, Jonathan Cowdery. The officers and crew remained captives until peace was signed and their delivery negotiated nineteen months later. Ridgely remained as chargé d'affaires at Tripoli, later resigning and returning to Annapolis where he became established in practice.

During the period of "captivity" Cowdery had the run of the town, since his medical skill had come to the attention of the pasha, who made him his personal physician.

Cowdery kept a journal of everything that came to his notice. After his return to the United States in 1805 this journal was published (in Boston, 1806) and served as one of the finest accounts of the highly romantic historical episode of our war with Tripoli, and of life in the Barbary States at that period.

Although Cowdery served in the Navy for fifty-two years, and at the time of his death held the oldest

commission in the Navy, very little of record can be found of him after his return from Tripoli. He appears to have been in constant ill-health and avoided active duty at sea. Most of his service was spent at the shore establishments in Norfolk, there being then no prescribed rotation between shore and sea, as at present.

In 1807 he was promoted to Surgeon, and in 1829 served (on board the *Ontario*) for a short period as fleet surgeon of the Mediterranean forces.

He appears to have played no part in the organization of the Medical Department.

He died at Norfolk, in 1852.

Lewis Heermann was quite another sort. He loved action and managed to find a good amount of it through most of his days. He differed from most naval officers in possessing a sizeable fortune. Of this he made good use, pursuing his cultured tastes for literature, for travel, for professional and general education.

He was born in Cassel, Germany, in 1779. After completing his medical education in Germany, he came to the United States, when about twenty years old, and was appointed surgeon's mate in the Navy in 1802.

Late in 1803 he sailed in Commodore Preble's squadron to the Mediterranean, serving on the *Enterprise*, Decatur commanding.

Two days after the *Philadelphia's* wreck and capture, she was floated by the Tripolitans and taken to Tripoli harbor, there to be repaired and used against the American ships. On the night of February 16, 1804, Decatur, with three lieutenants and Dr. Heermann, entered Tripoli harbor on the *Intrepid*,* and successfully performed the daring exploit of setting fire to the *Philadelphia*, escaping from the Tripolitan forces, and arriving at Syracuse, February 19.

* The *Intrepid* was a 60 ton ketch, formerly the Tripolitan *Mastico* captured by Decatur in 1803.

In that day it was a frequent practice of the commanding officer of a ship to retain the same surgeon when he shifted his flag to another ship. Thus we find Heermann shifting from one ship to another with Decatur during the latter's thrilling activities in the Mediterranean.

Heermann was promoted to the grade of Surgeon in November, 1804. Arriving at Norfolk, in November, 1805, he wished to thank the Secretary (Robert Smith) in person for this promotion. Direct correspondence with and even personal calls on the Secretary seems to have been quite in order in that day. Heermann wrote from Norfolk in these dignified phrases of the time: "I wait for your permission to make my respects in person and proffer on this occasion my thanks for the confidence you have been pleased to repose in me by sending me a surgeon's commission. With sentiments of profound respect I have the honor to be, Sir, Your most obt. and humble svt. Lewis Heermann."

A few months later he applied for eighteen months' leave in order to spend that period at the European clinics. That he was something of a politician may be surmised from the wording of his request: "Emboldened with the pleasing hope that you will pardon my intrusion on you . . . I decline to comment on the advantages arising from such indulgences; your zeal for the department over which you preside makes it unnecessary." The request was granted.

After two years in the London clinics, Heermann returned to Norfolk, where he remained until 1810. From Norfolk he wrote long letters to the Secretary (Paul Hamilton) complaining about the inadequate sick quarters there, and submitting appealing arguments for the construction of naval hospitals.

In 1810 his commanding officer, Captain Shaw, like Decatur, wanted to keep Heermann in his command. Shaw was being transferred from Norfolk to the



FIG. 70. Lewis Heermann (1779-1833).



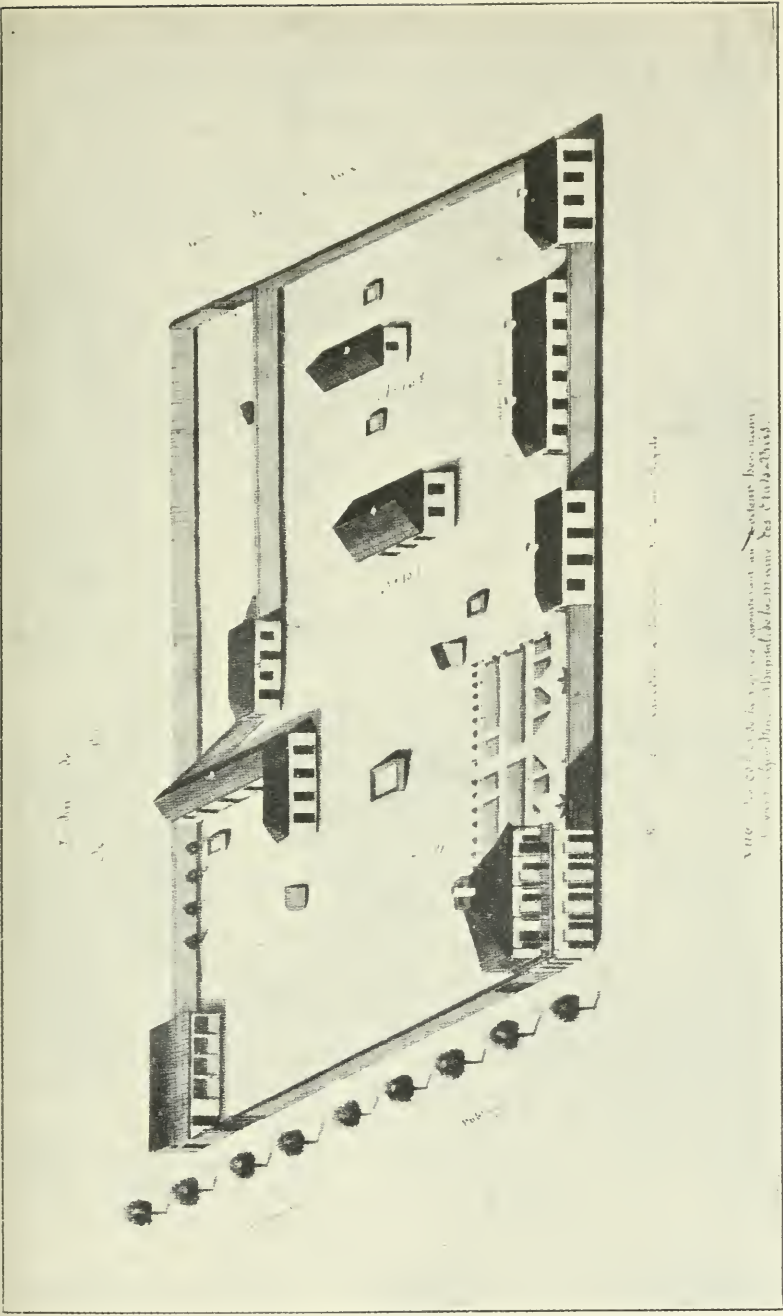


FIG. 71. Group of hospitals used by Dr. Lewis Heermann as a naval hospital in New Orleans.



station at New Orleans. Heermann applied for transfer to New Orleans with Shaw. This was approved by the Secretary.

At New Orleans, finding no naval hospital, Heermann took it upon himself to purchase a suitable building and a few slaves, and thus furnished the government with a hospital. The government paid him a rental of \$140 per month for the property. From New Orleans he again wrote long letters to the Secretary, describing the "great mortality" (yellow fever) of 1811, and the unsanitary condition of New Orleans. Many of Heermann's letters to his friends, describing New Orleans at this period, remind one of the colorful accounts of early New Orleans by Cable or Lafcadio Hearn.

In New Orleans he built up a large consultation practice and amassed a considerable fortune. Fresh from the schools of Europe, he was able to compete with the best consultants in the city.

Heermann's hospital was used as headquarters by General Andrew Jackson when he repelled the British invasion of New Orleans in 1814.

In 1828 he took an extended leave (about two years) and accompanied Professor Shepard¹ on "mineralogical excursions" in New Hampshire, Maine, and Quebec.

In 1830 we find him again in the Mediterranean, on board the *Concord*, as fleet surgeon. He obtained leave from the *Concord* and visited the military hospitals of Italy, France, Germany, and England, being especially interested in the British Naval Hospital at Haslar. He was one of the earliest in the Corps to hold the position and title of fleet surgeon. This position was established in 1828. The duties of a fleet surgeon were then very ill defined, and probably amounted to little more than physician for the commodore and staff, and consultant for the fleet, there being then no

¹ C. U. Shepard, Asst. Prof., Chemistry and Mineralogy, Yale.

attempt to coordinate the medical activities of the several units of the fleet.

His last illness began while he was at Gibraltar, in 1831. He returned to the United States, and after some two years of travel back and forth between New Haven and New Orleans in an attempt to recover his health, he died at New Orleans, about May 20, 1833.

Usher Parsons was the outstanding clinician, surgeon and scholar of the corps in the first quarter of the nineteenth century. After leaving the Navy, in 1823, he became a considerable figure in American medicine, in large part through the volume and brilliance of his contributions to medical and other literature.

Born in Alfred, Maine, 1788, and descended from an impressive line of distinguished lawyers, clergymen, physicians and statesmen, he was destined for an exceedingly full life of cultural, scientific and professional pursuits. His ideas on medical education appear to be about a century in advance of his time. He thought that ten years of preparation would about fit a student to engage in practice. Such an education for him, however, was obtained only through great difficulties, since an absence of funds necessitated many interruptions, periods of teaching school and clerking and bookkeeping in the stores of Portland and Kennebunk.

At first under the preceptorship of Dr. Abiel Hall, of Alfred, and later attendant at the anatomical lectures of Dr. Alexander Ramsay, he succeeded in 1811, in establishing himself under the preceptorship of the eminent Dr. John Warren, Boston.

After passing the Massachusetts licensing examination in February, 1812, and having no money, he decided to obtain an appointment as surgeon's mate in the Navy, the war of 1812 then being imminent. Failing at first in his attempt to enter the Navy, he went to Salem and tried to get a berth as surgeon's

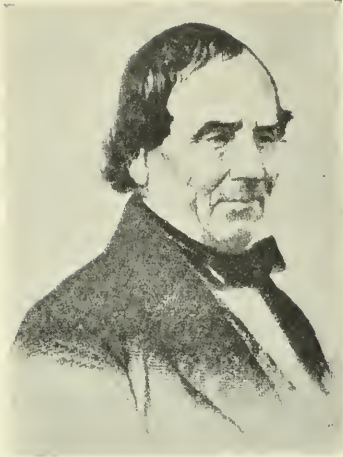


FIG. 72. Usher Parsons (1788-1868).



mate aboard a privateer, but in this he was equally unsuccessful. A few days later, to quote from his sketch of his early life:

. . . I was told that there was a package in the office for me. I went and found it to be a commission of surgeon's mate in the Navy, my pay to commence from that day. No one can imagine my joy; it was ecstatic, frantic.

He went aboard the *John Adams* in August, 1812, but a few weeks later he and several other officers volunteered for an expedition being fitted out for service on the Great Lakes. In September, 1812, this group of volunteers proceeded from New York to Albany by boat; thence to Buffalo by foot and wagon. (Five days from New York to Albany; eighteen days from Albany to Buffalo.)

During the winter of 1812-13 he was in charge of the sick and wounded at Black Rock, near Buffalo. The widespread epidemic of pleuropneumonia of that year was particularly prevalent about Buffalo. His observations during this epidemic formed the basis of his first medical publication. During the winter he acquired an extensive surgical experience, due to the large number of wounded that were brought to the camp.

In June, 1813, Perry came to Black Rock to return to Erie with several small vessels. Parsons accompanied Perry to Erie, and there fitted out a small hospital and spent the summer treating and studying the cases of "lake fever" (malaria?).

On August 12th, the little squadron under Perry sailed to the head of the Lakes. Parsons was assigned to the *Lawrence*. At Put-in-Bay, Perry and half of the officers and men were sick with malaria. As the other doctors were still ill on September 10th, Parsons was the only one who could carry on the surgical work during the Battle of Lake Erie. His accounts of the

battle are among the most vivid and accurate that have been written.

He was well occupied on September 10th. On the *Laurence* there were twenty-one killed and sixty-three wounded during the battle. Only three of the wounded died. He spent the day of September 11th doing amputations.

Besides the surgical experience he acquired in this battle, he was well rewarded in other ways. There was the prize-money share (used by him to pay off the debts he had incurred for his medical education); he won Perry's lasting friendship; he received the Congressional Medal, and was the subject of the following letter from Perry to the Secretary of the Navy (William Jones):

Of Dr. Usher Parsons, surgeon's mate, I cannot say too much. In consequence of the disability of both the other surgeons, Drs. Horsely and Barton, the whole duty of operating, dressing and attending nearly a hundred wounded, and as many sick, devolved entirely on him; and it must be pleasing to you, sir, to reflect that, of the whole number wounded, only three died. I can only say that, in the event of my having another command, I should consider myself particularly fortunate in having him with me as surgeon.

On April 15, 1814, he was promoted to surgeon, and on the 19th sailed with the fleet that attacked Fort Mackinac.

In December, 1814, when Perry assumed command of the *Java*, at Baltimore, Parsons went aboard as surgeon, remaining attached to that ship through 1815 and 1816. In January 1816, the *Java* sailed for the Mediterranean because of the then threatening attitude of Algiers. Perry gave his officers every facility for shore excursions. On this cruise they visited Gibraltar, Malaga, Port Mahon, Minorca, Algiers, Tunis, Carthage, Tripoli, Messina, Palermo, and Naples. Parsons and Surgeon Hoffman climbed Mt. Etna during this cruise.

Smallpox broke out on board the *Java* at Gibraltar and Parsons inoculated eighteen of the crew "who had never had the small or kine pox." All of these developed mild smallpox. Eighteen others who did not report for inoculation developed the disease; four of these died. Both Parsons and Perry submitted reports of the epidemic to the Secretary (B. W. Crowninshield).

The *Java* returned to Newport in March, 1817. Parsons then took leave and attended Harvard until March, 1818, when he received his M.D.

In July, 1818, he sailed on board the *Guerriere*, visiting St. Petersburg and Copenhagen; thence to the Mediterranean where he visited the botanical gardens at Palermo, made frequent excursions to Pompeii, visited the medical school at Pisa, viewed the anatomical wax preparations at Florence, inspected the hospitals at Rome; thence overland to Genoa, Nice, Lyons and Paris.

He writes long letters from each of these places. He writes of botany to Professor Jacob Bigelow; to his friend, Dr. Spalding,¹ he describes the clinics of Larrey, Dubois, Boyer, and Dupuytren. In Paris he meets Cuvier and Pinel. He buys many books and instruments in Paris. He goes to London where he becomes a life friend of Professor Richard Owen, the comparative anatomist. At St. Bartholmew's he attends Abner-nethy's lectures.

Returning to Boston in 1820, he secured a shore assignment and was appointed professor of anatomy at Dartmouth. Although his great ambition was to be a teacher of anatomy, he remained but one year at Dartmouth.

In 1820 he published his "Physician for Ships," which went into five editions by 1867.

In 1821 he spent much of his time in visits to the medical schools in New York, Philadelphia and Baltimore.

¹ Lyman Spalding (1775-1821), originator of the U. S. Pharmacopoeia.

In 1822 he began his long residence in Providence, resigning his Navy commission in 1823.

From then on he played little part in the history of the Medical Corps, except that among his list of 58 publications there appeared several on naval medical subjects, on military surgery, and on naval history. His best known work is the biography of his celebrated ancestor, Sir William Pepperrell, who captured Louisburg in 1745.

In 1850 he wrote several editorials against flogging in the Navy. He was later known for his vitriolic political writings, and as Pleadwell¹ has said, "he could handle the caustic pen as well as the scalpel or saw."

He died at Providence, December 19, 1868, aged eighty.

William Paul Crillon Barton, another scholar of the first half of the nineteenth century, was best known in naval medical history for his accomplishments as an organizer and administrator.

He was born in Philadelphia, 1786, the son of William Barton, a distinguished lawyer, author, and designer of the United States Seal. He was a brother of John Rhea Barton (the originator of Barton's bandage), and nephew of Benjamin Smith Barton, Professor of Botany in the University of Pennsylvania and successor to Benjamin Rush as Professor of Theory and Practice of Medicine in the University.

He received his classical education at Princeton, graduating in 1805. Each member of his class took the name of some celebrated character; he chose that of Count Paul Crillon. In 1808 he received his medical degree, having studied under his uncle, Benjamin Smith Barton. His graduation thesis concerned the effects of nitrous oxide. This was published and was accepted for many years as the standard work on the subject.

¹ Pleadwell, F. L. Usher Parsons (1788-1868) Surgeon, U. S. N. *U. S. Nav. M. Bull.*, 17: 423, 1922.



FIG. 73. W. P. C. Barton (1787?-1855). First Surgeon General of United States Navy. (Courtesy of the Pennsylvania Museum, Memorial Hall, Philadelphia).



After a year at the Pennsylvania Hospital he was commissioned a surgeon in the Navy, 1809, on the recommendation of Benjamin Rush and Philip Syng Physick.

When ordered to the *United States* in 1809 he deplored the lack of medical facilities, the lack of order and system to which he had become accustomed at the Pennsylvania Hospital. Throughout his naval career he was an agitator for better supplies, a better system, more coordination in the medical department. On the *United States* he formed a warm and lifelong friendship with Commodore Decatur, who gave him every aid in carrying out his schemes of improvement.

His journal on the *United States* shows a great prevalence of venereal disease and "itch." One entry in this journal denotes his kindly intentions in shielding young officers from embarrassments and difficulties. Whenever a midshipman is admitted with venereal disease, the journal carries this added remark: "reported to the Commodore as 'rheumatism.'"

After cruises on the *United States* and the *Essex* (where he enlisted the support of Captain David Porter in his projected reforms) he tired of sea duty, and sent numerous pleas to the Secretary, requesting duty in Philadelphia as assistant to Dr. Cutbush. In one of these letters he states: "the unsettled and wandering life on board ship not only deters the gratification of professional ambition, but absolutely generates an inanition of mind very inimical to solid improvement of any kind." The request was finally granted in 1812, and Barton, through many political maneuvers, including personal calls on President Monroe and Secretary Crowninshield, managed to remain in Philadelphia almost continuously until 1830.

In 1814 he published his "Treatise Containing a Plan for the Internal Organization and Government of Marine Hospitals, and A Scheme for Systematizing the

Medical Department of the Navy." Later appeared a two-volume work on "Medical Botany," and a "Compendium Florae Philadelphiae."

In 1815 he was made Professor of Botany at the University of Pennsylvania. One of his students was Samuel D. Gross who, addressing the alumni of Jefferson in 1871, spoke of Barton as "one of the most accomplished botanists in America."

He was a great advocate of better recruiting. In 1814 he examined 2000 recruits, of whom he accepted only 1200. He insisted that much of the sick list in the Navy resulted from accepting men not physically fit for navy life.

In 1840 he made a West Indies cruise aboard the *Brandywine* and wrote "Hints for Medical Officers Cruising in the West Indies." The *Brandywine* had 488 admitted to the sick list during a short cruise, most of the cases being typhoid, scarlet fever, pneumonia and malaria.

In 1830 he was ordered to the Naval Hospital at Norfolk. This hospital was then just completed, and was the first permanent naval hospital construction.

In 1831 he began another extended tour of duty at Philadelphia, this time as senior member of the Naval Examining Board. During this period he wrote several letters to the Secretary, concerning such matters as physical standards for recruits, professional standards for admission to the medical corps, and the matter of medical and surgical supplies for ships and hospitals.

In 1841 he advocated the keeping of a complete journal of all the patients as this "would discipline medical thought and induce reading."

In 1842 several new bureaus, including the Bureau of Medicine and Surgery, were formed in the Navy Department. From the 60 surgeons then serving in the Navy, Barton was chosen the first Chief of the Bureau.



FIG. 74. 1. Thomas Harris (1844-1853); 2. William Whelan (1853-1865); 3. P. J. Horwitz (1865-1869); 4. Wm. Maxwell Wood (1869-1871); 5. J. M. Foltz (1871-1872); 6. James C. Palmer (1872-1873); 7. Joseph Beale (1873-1877); 8. William Grier (1877-1878); 9. J. Winthrop Taylor (1878-1879); 10. P. S. Wales (1879-1884);





FIG. 74. (Continued.) 11. F. M. Gunnell (1884-1888); 12. J. Mills Browne (1888-1893); 13. J. Rufus Tryon (1893-1897); 14. Newton L. Bates (1897-1897); 15. W. K. Van Reypen (1897-1902); 16. Presley Marion Rixey (1902-1910); 17. Charles Francis Stokes (1910-1914); 18. William Clarence Braisted (1914-1920); 19. E. R. Stitt (1920-1928); 20. C. E. Riggs (1928-).



He remained on very friendly terms with the Secretary (A. P. Upshur) who supported all of Barton's reforms. But relations with Upshur's successor (J. Y. Mason) were not so harmonious.

Barton made many enemies as well as friends. His "liquor circular," limiting the use of medical liquor aboard ship, produced considerable enmity in the fleet, particularly in the Florida squadron.

In 1844 the Bureau politics became too warm for him and he resigned the position.

Some of the details of his first annual report as Chief of the Bureau show "a shocking state of public morals regarding medical expenditures."¹ One of the most important of his accomplishments during his term of office was the establishment of a medical library for each naval medical unit.

Although the first Chief of the Bureau of Medicine and Surgery, Barton was not the first Surgeon General of the Navy. This title was not created until 1869, and was first held by William Maxwell Wood (1809-1880; Navy: 1829-1871).

Barton was opposed to the title, Surgeon General, and when legislation designed to create it was pending, 1838, he addressed to Congress a pamphlet entitled "A Polemic Remonstrance against the Project of Creating the New Office of Surgeon General in the Navy of the United States."

After resigning his office, he served at the Pensacola Naval Hospital about four years; then as senior member of the Examining Board at Philadelphia until his death in 1856.

One other medical officer figured prominently in the annals of the corps during the first half of the nineteenth century. This was Elisha Kent Kane (1820-1857). His name was known to the entire reading public of America

¹ Quoted from Pleadwell. William Paul Crillon Barton (1786-1856). *Mil. Surgeon*, 46: 241, 1920.

during the fifties, in connection with the Grinnell expeditions in the Arctic.

The thirty-seven years of his life were crowded with adventure and travel. Like several others of the more distinguished pioneer members of the corps, he was a Philadelphia product and descendant of a family of scholars and litterateurs.

A protégé of William McPheeters, he graduated from the University of Pennsylvania in 1842. The work of Kane and McPheeters disproved the claim of Nauche (made in 1831) that the presence of "kiesteine" in the urine was diagnostic of pregnancy. Kane's article on the subject in the July, 1842, number of the *American Journal of the Medical Sciences* closed a long controversy on this question.

He was appointed Assistant Surgeon in the Navy in 1842 and sailed that year on the *Brandywine* for the China coast via Madeira, Rio de Janeiro, Bombay and Ceylon. Delays in these ports permitted inland explorations and big game hunts. Side trips to Canton, Hong-Kong and to the Philippines resulted in long descriptive letters published by Kane's biographers, one of whom ranks them with the similar descriptions by Washington Irving.

Returning from China, he visited Singapore, Borneo, and Sumatra, and at Calcutta joined Prince Tagore on the latter's overland journey through Persia and Syria to Alexandria. Kane left the prince at Alexandria in order to explore the Upper Nile. At Alexandria he nearly died from an attack of plague, and there also recovered from wounds received in a fight with Bedouins. After touring Greece on foot, he journeyed through Switzerland, France, Germany, Spain, Italy and England, returning to the United States in 1846.

He requested duty on a vessel sailing for operations in the Mexican War but instead was sent to the *United States*, then leaving for the African coast to join the

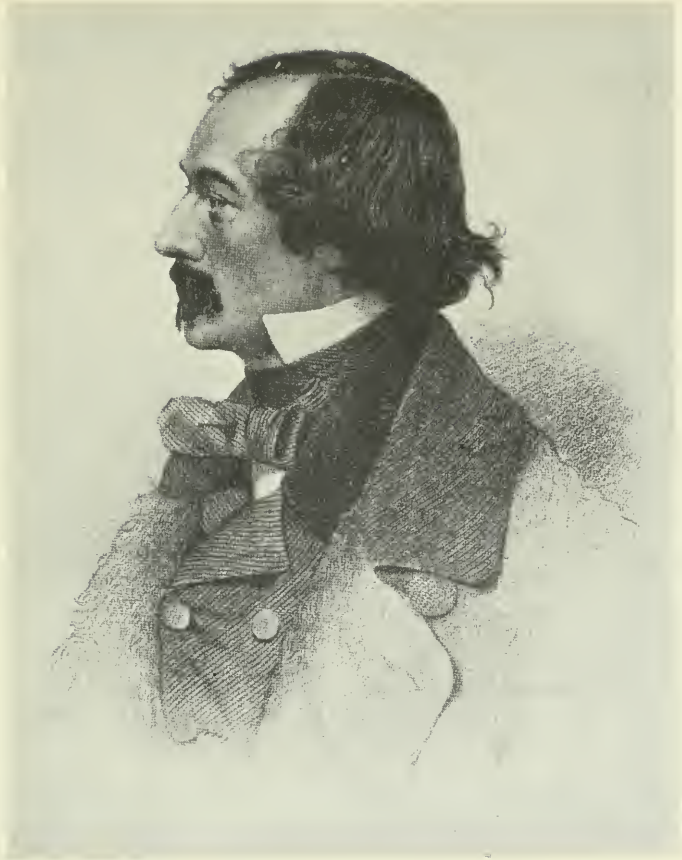


Fig. 75. Elisha Kent Kane (1820-1857).



African squadron then engaged in regulating the slave trade. In Africa he took advantage of every opportunity for inland explorations in Dahomey, where he visited the great slave markets.

Returning to Philadelphia in 1847, he shortly set out for Mexico City to deliver an oral dispatch from the Secretary of War to General Scott. In Mexico he was severely wounded during an encounter with guerillas.

In 1848 international interest was aroused in the several expeditions sent in search of Sir John Franklin, whose party had failed to return from its explorations of Arctic America. In 1850 Henry Grinnell presented the Navy with two vessels, the *Rescue* and *Advance*, and financed two expeditions in which these ships were to search for Franklin. Kane, on the *Advance*, was senior medical officer of the first expedition. Assistant Surgeon Benjamin Vreeland was on the *Rescue*. The expedition returned in 1851, unsuccessful, and after terrible hardships and much sickness, principally scurvy. In 1853 Kane organized and commanded the second Grinnell expedition. Surgeon Isaac Hayes accompanied this expedition. After losing several members and enduring frightful hardships, the party returned, again unsuccessful, in 1855.

Kane's book on the Arctic was an immediate and tremendous success and remains one of the leading works on Arctic explorations.

He died in Havana, in 1857. His body was taken to New Orleans, thence by river to Cincinnati and by rail to Philadelphia. As it passed each city, the medical and civic organizations rendered their respects in ceremonies which surpassed any honors until then shown any American citizen.

With the development of the Bureau of Medicine and Surgery in the forties, a considerable impetus was given to the growth and organization of the corps, to

the matter of improved medical equipment and supplies, and to the improvement of quarters for the sick, on board ship as well as at the hospitals.

Well equipped hospitals (for their day) had been constructed at Norfolk (1830), Philadelphia (1833), Boston (1836), and Brooklyn (1838).

The construction of steamships in the forties stimulated new thought for better ventilation and other comforts and permitted much more commodious and fitting quarters for the sick bay. In the forties the side-wheel steamers *Mississippi*, *Missouri*, *Susquebana* and *Powhatan*, and the steam screw *Princeton* were launched.

In 1841 the "loblolly boy" was replaced by the more dignified "surgeon's steward," who had the status of petty officer, kept the journal, compounded and dispensed drugs, and performed cupping and leeching. Now there were about 120 medical officers, distributed in the grades of assistant surgeon, passed assistant surgeon and surgeon. They had no rank but received rather good salaries. The Chief of the Bureau received the pay of a Commodore (\$4500). The pay scale of the others ranged from \$950 to \$2700 per year, according to duties performed and length of services.

In the fifties the medical officers were given "relative rank" but in the numerous discussions which arose on the subject during a period of many years there appears to have been little agreement of opinion as to just what "relative rank" meant. With "relative rank" the surgeons then ranked next after commanders and lieutenants, according to length of service; the passed assistant surgeons after lieutenants; and the assistant surgeons after masters.

The department seems to have made little progress in organization in the fifties. The Annapolis Naval Hospital was built in 1853. The annual appropriations for medical department expenditures then amounted to about \$50,000.

A very important innovation came in 1853 with the establishment of the Naval Laboratory on the grounds of the Brooklyn Naval Hospital. Out of this little laboratory grew two important naval medical institutions and a great commercial house. In the fifties there were several pharmaceutical preparations which had newly come into extensive use but which could not then be obtained in quantities sufficient to meet the Navy's needs. Notable among these were chloroform and ether. Surgeon B. F. Bache and Passed Assistant Surgeon E. R. Squibb experimented in the manufacture of these and other drugs and after overcoming many technical difficulties were able to supply the Navy with these products in greater quantities, better quality and at much lower costs than could be obtained through commercial contracts. Squibb resigned in 1857 to found the commercial house that bears his name. After the Civil War the laboratory ceased its manufactures as the products could then be obtained cheaper from commercial firms. In 1893 the laboratory became the Naval Laboratory and Department of Instruction, out of which came the Naval Medical School, Washington (1902) and the Naval Medical Supply Depot, Brooklyn (1906).

The two best known members of the corps (besides Kane) in the fifties were G. R. B. Horner and W. S. W. Ruschenberger (1807-1895), both of whom entered the service in 1826. Horner wrote (1854) the very commendable "Diseases and Injuries of Seamen," which remained a standard treatise for many years, and "Medical Topography of Brazil and Uruguay."

Ruschenberger was best known for his works on natural history. In 1834 he published "Three Years in the Pacific," and in 1838 "A Voyage Around the World." Both were widely read and were republished in England. In 1854 appeared "Notes and Commentaries During Voyages to Brazil and China." His "First Books on Natural History," eight small volumes, con-

tributed greatly toward popularizing the natural sciences in this country.

In the sixties the medical department naturally expanded with the rest of the Navy during the war. In this decade the hospital at Washington was built (1866).¹

In the sixties we see the first *Annual Reports of the Surgeon General*, which, because of their unique accuracy, have been ever since of enormous value to vital statisticians, public health authorities and life insurance officials in arriving at trends of morbidity and mortality rates. They have been of great statistical value in numerous other phases of preventive medicine.

During the Civil War we find the first record of a Naval Hospital ship. This was the *Red Rover*, a side-wheeler on the Mississippi, serving with Admiral Porter's squadron, and under command of Surgeon Ninian Pinkney.²

Pinkney became a most conspicuous figure in the sixties. A few facts relating to the illustrious career of this eccentric and cantankerous though very lovable character may be permitted here.

He was born at Annapolis, 1811, in a home that later became the site of the first Naval Academy Chapel. Many of his forbears were important persons in circles of law, medicine, politics, literature and the church of colonial and revolutionary history. His father served as Lieutenant Colonel in the War of 1812.

After receiving his undergraduate degree from St. John's College, Annapolis, 1830, he entered the office of his preceptor, Edward Sparks, later graduating from Jefferson, 1833.

In 1834 he was commissioned Assistant Surgeon in the Navy, serving first on board the u.s.s. *Erie*.

¹ This was built on Pennsylvania Avenue, S.E. The present hospital, on a hill overlooking the Potomac, was built in 1903.

² An interesting account of Pinkney by Captain F. L. Pleadwell, was published in the *Am. M. Hist.*, N.S., 6: 666, 1929.



FIG. 76. U. S. Naval Hospital Ship Red Rover.



FIG. 77. An early portrait of Ninian Pinkney, M.D. Surgeon, U. S. N.
(From a daguerreotype in the possession of Miss Helena L. Pinkney)



In 1836, during the *Erie's* South American cruise, Pinkney was placed under arrest by Commodore Renshaw under the charges of "disobedience of orders and treating his Commanding Officer with disrespect." He was a stormy petrel, and was in frequent difficulties for speaking too frankly to his superiors. In this incident he never came to trial; his services were too badly needed, and it is probable that his superiors, while wishing to maintain discipline, liked him too well to see him in serious trouble.

He was a prodigious and constant student. During 1837 and 1838 he divided his time between post-graduate work at Jefferson and his duties at the Naval Hospital, Philadelphia, where he came under the influence of Barton.

His letters written in 1839, on board the frigate *Brandywine*, give some light on life in the medical corps in that day. The *Brandywine* was then making a Mediterranean cruise. Pinkney was spending most of his time studying French and Spanish, and after dinner it was the custom for him and Assistant Surgeons Sinclair and Magill to go to the sick bay, where they would remain in study until midnight. In 1840 he had a violent disagreement with the senior surgeon of the *Brandywine* (James Green) over a question of diagnosis in a case of fractured clavicle. Green preferred charges of "disrespectful and provoking language to a superior" and "conduct unbecoming an officer and gentleman." Pinkney was tried and sentenced to eight months' suspension and transfer to the United States. The sentence of suspension rather pleased him. He spent the period at the surgical clinics of London, Philadelphia and Baltimore.

In 1841 he was sent to the station ship at Callao, Peru (a base was then maintained at Callao because of the threatening war with Mexico.) Here Pinkney made great use of the surgical training he received

during his suspension. Surgery in Peru was then at a primitive level, and Pinkney's work looked miraculous to the natives. They came by hundreds from Lima and other cities to see him. He operated successfully on many large tumors and aneurysms, without anesthesia or antisepsis. In three years at Callao he accumulated large sums from this practice, but he spent the money about as rapidly as he made it, sending expensive gifts to the family in Annapolis.

During the Mexican war he served on the sloop *Albany* then engaged in the blockade of Vera Cruz. Here he became a great admirer and friend of Perry. He was impressed by the improved morale and efficiency that always came with Perry's arrival in a squadron. He was bitterly opposed to the policy of the Mexican War, which he considered a war of "conquest and invasion" and a "departure from the cherished principles of the Patriots of the Revolution." In 1848 he was the subject of a very flattering letter of commendation from Perry to the Secretary, citing his exceptional performance in the treatment of sick and wounded during the expedition to Tobasco.

In 1848 he became interested in international law and wrote exceptionally clear treatises on the law of blockade.

In 1850 he was ordered to the steam frigate *Saranac*, on which he made an extensive West Indian cruise. As many other medical officers have since done, he found in Port au Prince, Haiti, an exotic world containing more of interest in unique medical conditions and bizarre folklore than could be found elsewhere in this hemisphere. The following year he made the acquaintance of Henry Clay at Havana, presented him with a history and map of Haiti, and entertained him at length with his accounts of Haitian life.

He had a romantic attachment to the Navy and his corps. In the fifties began his long interest and strenuous

agitation for appropriate rank for the surgeons. He enlisted the support of the American Medical Association in the matter, as he was an active participant in that organization. He was a frequent delegate to its sessions, and was elected Vice-President in 1876. In the fifties he developed into an eloquent speaker and often delivered addresses concerning proposed improvements in the medical department and corps. He presented the issue of the question of rank in letters to the Secretaries, particularly to W. A. Graham and John Kennedy.

In 1855 he was chosen by Secretary Kennedy to make the principal address at the Naval Academy on the occasion of the presentation of the flag raised by Perry in Japan (the first American flag unfolded on Japanese soil, 1853).

In 1857 he had hopes of being appointed Chief of the Bureau of Medicine and Surgery, but the Whig success and Fillmore's defeat found him on the wrong side of the political fence, and he was ordered in a summary manner to duty on board the *San Jacinto*, then sailing for the African coast. (Pinkney had made a speech against "the Buchanan Dynasty.")

At the beginning of the Civil War he went to Cairo, Illinois, as fleet surgeon of the Mississippi squadron. He was attached to Admiral Porter's flagship, the *Black Hawk*, but lived on board the *Red Rover* (captured from the confederates when Island No. 10 was taken, April 7, 1862), a side-wheel steamer which he fitted out as the first Naval Hospital Ship. This was considered a "floating palace" in the sixties, elevators between decks, windows screened, operating room with all the appointments of the day. Porter was as proud of the *Red Rover* as Pinkney was. Porter described it as being "fitted with every comfort, and poor Jack, when sick or wounded, was cared for in a style never before dreamed of in the Navy." Porter, the warmest friend of Pinkney,

has related several amusing incidents in connection with the *Red Rover*. Pinkney wanted to fly his own pennant on the *Red Rover*, but as this would have been unprecedented, Porter was perplexed. He said to Pinkney, "If I give you a flag, the line officers will think I have gone crazy." But one day during Pinkney's absence from the ship, Porter sent a yellow flag with an anchor in the center, to be flown from the middle pole. He also placed a wooden cannon on the deck. Pinkney enjoyed the joke and left both objects in place.

In 1863 Pinkney established a hospital at Memphis (the old Commercial Hotel) for use as the base hospital of the Mississippi fleet and the medical supply depot for 80 vessels. There were 56 medical officers in this fleet, all under the supervision of Pinkney. Porter named the hospital at Memphis, "Hospital Pinkney."

The *Red Rover* carried the first female nurses of whom we have any record in the Navy. These were Nursing Sisters, who had no official connection with the Navy and volunteered only for service during the war.

In 1865 Pinkney was again keenly disappointed at not being made Chief of the Bureau. Porter seems to have taken an active interest in the affairs of the Bureau and wrote to the Secretary (Gideon Welles) against "putting indifferent men in high places." The Navy favored Ruschenberger for this selection, but the appointment went to P. J. Horwitz (1822-1904, uncle of the late Orville Horwitz), who had served (1853-65) as Assistant Chief under William Whelan.

In 1869 Pinkney was a delegate (representing the Navy and the American Medical Association) at the Medical Congresses at Leeds, London, and Florence. During this year he made, with his brother, Bishop Pinkney (of Maryland) a tour of England, Scotland, France, Germany, Austria, Switzerland and Italy. At Florence he surprised the Congress by addressing it in polished and fluent French.

From 1870 to 1873 he spent his last Navy tour as medical officer of the Washington Navy Yard.

He lived to see, even before his retirement, a considerable advance in the status of the medical officer in respect to rank. In 1871 the medical officers were no longer listed simply as surgeons, but as members of a staff corps of the Navy. They were given grades: those of medical director, medical inspector, surgeon, passed assistant surgeon, and assistant surgeon, with the ranks, respectively, of captain, commander, lieutenant commander, lieutenant, and master.¹ Assistant surgeons on their first cruise had the "relative rank" of ensign. Also, before Pinkney's retirement he saw the corps grow in size to about 150 members.

Before we pass to a discussion of events in the seventies, one other medical officer whose name is associated with the Civil War should be mentioned. Assistant Surgeon William Longshaw, Jr., entered the Navy in 1862. The story of his gallant conduct was twice read on the quarter-decks of 60 ships. In 1863 he was distinguished for bravery in saving the U.S. *Lehigh* under the guns at Fort Moultrie. In 1865 he was killed in the assault on Fort Fisher while attending the wounded.

In the seventies three more hospitals were constructed, at: San Francisco (Mare Island, 1870), Yokohama² (1872) and Pensacola (1875).

Another revision of rating designations and of the pay scale of enlisted men in the medical department occurred in the seventies. In the sixties they had become apothecaries first and second class, and "baymen." In the sixties the baymen were called nurses or "man nurses."

In the seventies there was a steady advance in the medical department organization, and every encourage-

¹ In 1884, "master" was changed to "lieutenant, junior grade."

² Destroyed by the earthquake of 1923. Not rebuilt.

ment was given to the advance of a then beginning scientific aspect of naval hygiene under six able Surgeons General: J. M. Foltz,¹ J. C. Palmer, Joseph Beale, William Grier, J. W. Taylor and P. S. Wales.²

Two men who held places of high professional standing and whose names are prominently associated with naval hygiene in the seventies are Medical Director Joseph Wilson, Jr., and Albert L. Gihon. Wilson wrote the first American titular work on "Naval Hygiene" (1870). This contains 30 chapters, covering 225 pages, and treats such subjects as recruiting, seasickness, clothing, food, water, preservation of food, poisonous fish and reptiles, shore leave and foreign ports, ship ventilation, quarantine, epidemic disease. The longest chapter is a section on medical botany, then still an important subject in medicine. Wilson was a strong temperance advocate, and his book contains a lengthy dissertation on the evils of rum. (The grog ration was abolished in 1862.) He also was greatly concerned over the prevalence of venereal diseases. He quotes from many of the Proverbs, including "Thine eyes shall behold strange women, and thy heart shall utter perverse things." The book contains a section on "Moving wounded men on Shipboard" by Surgeon Albert C. Gorgas (later Medical Director). Wilson entered the Navy in 1843; he retired in 1882.

A. L. Gihon (1833-1901) entered the Navy in 1855 and served until 1895. His book, "Practical Suggestions in Naval Hygiene" (1871), was a standard work for many years. He also contributed many articles to the literature on naval hygiene, public health, vital statistics, and medical demography and climatology.

¹ Foltz and Palmer served with Farragut on the *Hartford* during the Civil War. Among Foltz's published works are: *Medical Statistics of the Frigate Potomac During her Voyage around the World* (1834); *The Endemic Influence of Evil Government as illustrated in the Island of Minorca* (1843) and a *Report on Scurvy* (1846).

² A frequent contributor to the *Am. J. M. Sc.*, and the *Phila. Med. and Surg. Reports*. In 1867 published "Mechanical Therapeutics."

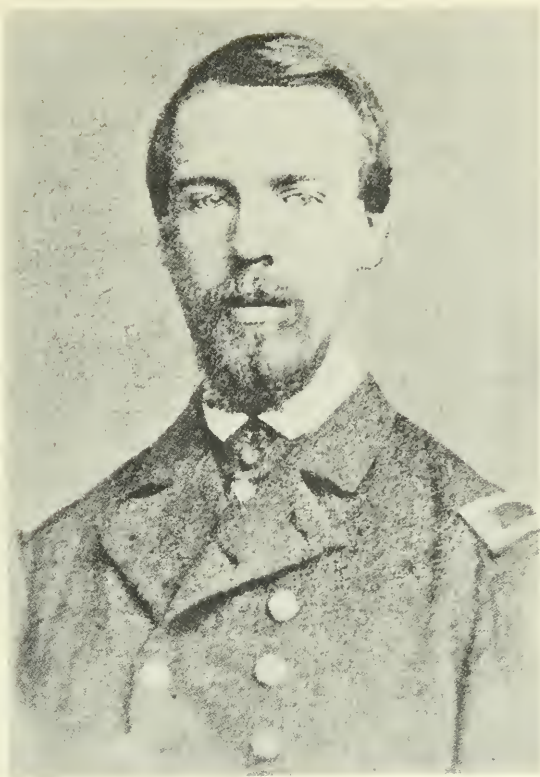


FIG. 78. William Longshaw, Jr. (1839-1865).



With the eighties came a new era in ship construction. In 1880 all the naval vessels were of wood, and there were still a few sails, two of which had served in the war of 1812. Now began the appearance of steel ships. During this decade the steel ships *Dolphin*, *Atlanta*, *Boston* and *Chicago* were launched. This meant more than a reduction in battle casualties; it meant new features in ship design which affected favorably many phases of ship hygiene: better ventilation, light, heating, better sick bay quarters, better berthing spaces for the men, better refrigeration for food preservation, a better supply of distilled water.

Annual appropriations for the medical department increased to about \$100,000.

In 1883 the Museum of Naval Hygiene, Washington, was founded, during the tenure of Surgeon General P. S. Wales. The first director of the museum was Medical Director J. M. Browne, who later became Surgeon General (1888-93).

In 1886 the first book of "Instructions for Medical Officers" was published. This has since served as a compilation of Navy Regulations affecting the medical department. The second edition was published in 1906. Later editions bear the title, "Manual of the Medical Department, United States Navy."

In 1887 the naval hospital at Widow's Island, Maine, was built, largely for the accommodation of patients with tropical fevers returning from Panama. In 1903 the property was ceded to the State of Maine, the Navy's need for it having ceased some years earlier.

A greatly revered name in the eighties was that of James Markham Marshall Ambler, (1848-81) Passed Assistant Surgeon, U. S. Navy, the last survivor of the ill fated polar expedition of the *Jeannette*,¹ lost in the

¹Under the patronage of James Gordon Bennett. Under command of Lieutenant De Long, U.S.N. Sailed from San Francisco, July, 1879. Bodies and journals found by Chief Engineer Melville, U.S.N., March, 1882.

Lena Delta, 1881. Ambler went about the preparation for this expedition in a methodical scientific manner and acquired a practical knowledge of food deficiency conditions and their prevention greatly in advance of his time. It was due entirely to his skilful supervision of the dietary that this was the first Arctic expedition whose members remained free from scurvy. He is thus to be remembered for his professional worth as well as for his unsurpassed gallantry and sacrifices during the long months when he and his companions were slowly starving and freezing.

Ambler, a descendant of many notables of France, England and Colonial America, entered the medical corps in 1874, and served on the *Mayflower*, *Kansas*, *Minnesota*, and at the Norfolk Naval Hospital before volunteering for the *Jeannette* expedition.

The advances in American naval medicine in the nineties were due largely to the farsightedness and intelligent efforts of Surgeon General J. R. Tryon (1837-1912). When he took office in 1893 he had a background of thirty years of distinguished service in hospital administration and construction, and in world-wide travels. He had a keen understanding of the needs of the medical department. In 1893 he brought to life the old Naval Laboratory at Brooklyn, as the Naval Laboratory and Department of Instruction. Here the newly appointed officers in the corps received instruction from the laboratory staff and from the members of the Naval Examining Board, which then held its sessions in Brooklyn. In 1894, the new Naval Observatory having been constructed, the old Observatory building was turned over to the Bureau of Medicine and Surgery. In these quarters Tryon established the new Naval Museum of Hygiene, under the able direction of Medical Director A. C. Gorgas. The assistant director was James D. Gatewood (1857-1924), then passed assistant surgeon, who had entered the Navy in



FIG. 79. James Markham Ambler (1848-1881).



1880, and who was to become a leading authority on naval hygiene, and author of the first comprehensive work (1909) on the subject embracing our newer knowledge of preventive medicine.

The Department of Instruction at Brooklyn was abandoned at the outbreak of the Spanish War because no medical officers could then be spared to attend the course, but the Museum at Washington was retained, and became (1902) the Naval Medical School.

The Spanish War found Surgeon General W. K. Van Reypen (1840-1924) in office.

The acquisition of a hospital ship and the establishment of a hospital corps had been repeatedly recommended by Tryon, and were realized by Van Reypen, in 1898, probably because Congress was more ready to pass legislation affecting such things in a time of national emergency.

The formation of the hospital corps greatly elevated the standard of the enlisted members of the medical department. It brought to them a permanent and well patterned organization; it defined the duties of their several grades; it gave them better pay, more regular promotion and systematic instruction. The hospital corps, then consisting of a few hundred men, has since grown to a corps of 4000 members.

The hospital ship acquired was the U.S.S. *Solace*, formerly the s.s. *Creole* of the Cromwell line. It was selected, purchased and fitted out during the course of sixteen days. It was the first Navy ship to fly the Geneva Cross flag. It was of great service in Cuban waters during the Spanish War and remained in active commission until 1920.

Another step to the credit of Van Reypen was the passage of legislation (1899) which gave the rank of Rear Admiral to medical officers while serving as Surgeon General. This gave some very desirable and well merited prestige to the corps.

Other accomplishments during Van Reyepen's term were the construction of naval hospitals at Newport (1897), Sitka, Alaska (1898), Port Royal, S. C. (1898), and Cavite, P. I. (1898).

Van Reyepen was an excellent economist and business administrator but unfortunately had little realization of the importance of the human elements of the department and was sadly blind to the great need for maintaining professional standards in keeping with the momentous advances that the research of that day was giving to medicine, the scientific outlook and spirit that must inevitably belong to any phase of medical practice not doomed to extinction.

This indifference in high places was shortly felt throughout the corps and the professional plane became so palpably lower than that found in civilian practice that President Eliot actually advised the members of graduating classes at the Harvard Medical School against entering the Navy Medical Corps.

As a glaring instance of the indifference of the Van Reyepen administration to the professional standing of the corps may be cited its failure to pick over the candidates who applied for commissions at the beginning of the Spanish War. There were then 40 vacancies and 2000 applicants. Among the applicants was the late Joseph Goldberger, whose qualifications were even then of an almost incomparable character and of which there was adequate record, easily verifiable. The fact that he was not ordered to appear for examination convinces this writer that there must have been a total absence of system by which applicants might be selected according to their merits. Thus, the corps must have lost a great deal of the finest material; in Goldberger it lost a man who took the supreme place in medical research and epidemiology in American medicine.

It was an exceedingly happy circumstance in such a state of affairs that Medical Director P. M. Rixey



FIG. 80. U. S. S. Solace.



(1852-1928) was appointed Surgeon General (1902). He had followed closely the advances in British naval medicine; he was very much awake to the needs of our own medical corps and department; he was an ardent and vigorous proponent of scientific medicine, of medical research; he was ambitious, strenuous; he believed the medical service of the Navy could and should reach a level of which the corps might be proud and for which the whole Navy and its families could be thankful. He was in a position of tremendous advantage, politically, to carry out his policies. He had been physician and friend to McKinley, physician to and now a most intimate friend of Roosevelt. He knew that Roosevelt would approve and support each of his recommendations.

One of his first acts was to establish the Naval Medical School (1902), where the new medical officers could receive instruction in the subjects belonging particularly to naval medicine, such as preventive medicine; practical bacteriology and chemistry; tropical medicine; medical zoology; traumatic surgery; medical department routine, forms, customs, regulations. On the advice of W. H. Welch, he sent Surgeon E. R. Stitt¹ to the London School of Tropical Medicine to study under Sir Patrick Manson, then to return to teach tropical medicine at the School. He picked for the faculty the men of highest professional attainment in the corps. He made Medical Director R. A. Marmion (1844-1907) the first commanding officer of the School. He borrowed the services of certain men from the Public Health Service² and other government services for teaching. Marmion's successors, like himself, were men of long service and exceptional standing. The first four of these have died, and should be mentioned. They were Medical Directors J. C. Wise (1905-08), J. C. Boyd

¹ Now Rear Admiral, Medical Corps (retired); Surgeon General, 1920-28.

² M. J. Rosenau, preventive medicine; C. W. Stiles, Medical Zoology; W. A. White, psychiatry; entomologists and parasitologists from the Department of Agriculture. This practice has continued.

(1908-10), H. G. Beyer (1910-12), and J. D. Gatewood (1912-16).

Roosevelt was for a great Navy. Rixey was for a fine medical department. They were both successful. Legislation was passed which doubled the strength of the corps. Rixey improved the medical department in many more ways than can be even enumerated here. He brought about many reforms that Pinkney had preached and fought for a half century earlier. He brought specialization and post-graduate training to the corps. He established a Training School for the Hospital Corps (Norfolk, 1903); a Nurse Corps, 1908 (this now has a strength of about 500, the nurses being engaged at the naval hospitals, on the u.s.s. *Relief*, at Nurses Training Schools for native nurses in our island possessions and in the hospital corps training schools); during his first term the hospitals were renovated and modernized; new ones were constructed at Puget Sound (1903), Canacao, P. I. (1903), and Las Animas, Colorado (1906—for tuberculosis cases); medical supply depots were established (1906) at Brooklyn, San Francisco and Cavite.

During his second term (1906-10) the Great Lakes Hospital (1907) and the Guam Hospital (1910) were constructed.

He tried repeatedly to establish a dental corps, but for some reason Congress could not then be persuaded to pass the necessary legislation, and this corps was not added to the medical department until 1912.

By creating the *United States Naval Medical Bulletin* (1907) he gave immeasurable stimulus to the professional interests and general morale of the corps. The *Bulletin* has since served as a medium of information on professional items contributed by medical officers serving in all parts of the world, and by leading authorities in the various branches of civilian medicine. Most noteworthy among its editors was the late Captain J. S. Taylor, Medical Corps, U. S. Navy, (1870-1922;

Editor 1917-21), a brilliant and profound scholar, litterateur, essayist, linguist, medical historian, resident of many lands.

Before we pass to events that followed Rixey's retirement (1910) the following incident might be related to illustrate why he retained Roosevelt's warm friendship and support. In 1908 Roosevelt decided that all officers should perform some sort of annual exercise test to demonstrate their physical fitness. He believed that a walk of 50 miles or a ride of 100 miles in not more than three consecutive days should be a reasonable test. To prove that such was a proper test he proposed a hundred-mile ride for himself and a few Army and Navy officers, to be completed in one day instead of the prescribed three days. On January 13, 1909, he, in company with Dr. Rixey, Dr. Cary Grayson, U. S. Navy, and Captain A. W. Butt, U. S. Army, mounted at 3:40 A.M., and rode (with eight changes of horses) to Warrenton, Virginia, and back to Washington, arriving at 8:40 P.M., a distance of 104 miles.

The present century opened a new era in naval medicine as well as in American naval history. Foremost among the features of this new American naval medicine is the practice of tropical medicine, the medical service provided in our tropical possessions. Throughout the whole history of our acquisition or occupation of tropical lands one great feature stands out which gives us pride and which has brought enormous benefit, comfort and satisfaction to the inhabitants of these countries. This has been the improvement in sanitation, the public health advancement, the modern hospital facilities that we have brought to each of these countries. In each case the task has been gigantic, the results brilliant. No other phase of our presence in these countries has so favorably influenced the attitude of the natives, nothing has gone so far in promoting cordial relations with them. Of particular note in naval medical

history is the record of the department in Guam, Samoa, the Virgin Islands, and Haiti. The greatest task was in Haiti where, since 1915, the medical corps has written what seems the most glowing chapter of its history.

In passing to recent events, the record of the world war is omitted, it is too large; most of the characters are still living; the necessary historical perspective is lacking at this writing.

As to recent hospitals and hospital ships, the u. s. s. *Comfort* (formerly the s. s. *Havana* of the Ward line) was placed in commission March 18, 1918, and out of commission August 5, 1921; the u. s. s. *Mercy* (formerly the s. s. *Saratoga* of the New York and Cuba s. s. Co.) in commission January 24, 1918 and out of commission August 6, 1929. The u. s. s. *Relief* was the first ship built for service as a United States naval hospital ship. The *Relief* is a modern hospital in a modern ship. She was placed in commission December 28, 1920, and has since served with the Pacific fleet.

In 1917 hospital constructions were completed at Pearl Harbor, Hawaii; Charleston, South Carolina, and Parris Island, South Carolina. In 1919 the latest, largest and most modern of naval hospitals was placed in commission, at San Diego, California.

In 1918 Secretary Daniels issued an order that put an end to the ridiculous system of titles carried by officers in the medical and other staff corps. Such titles as Medical Director, Medical Inspector, or Passed Assistant Surgeon were cumbersome, meaningless, absurd. Thus, since Daniels' order, all staff corps officers have been addressed simply by their rank, with the inclusion, in official correspondence, of their particular corps. This change was accomplished in the Army in 1898.

The following table shows some changes that have come about in the Navy during the last fifty years: namely, (1) the increase in the total personnel of the



FIG. 81. U. S. S. Mercy.

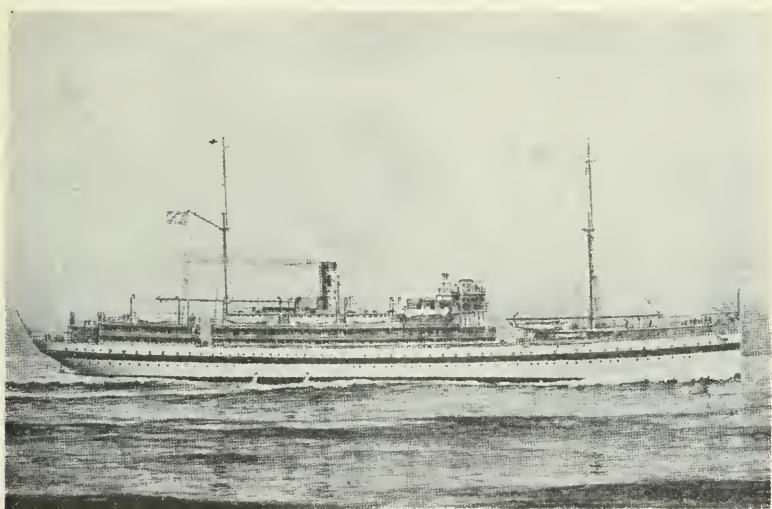


FIG. 82. U. S. S. Relief.

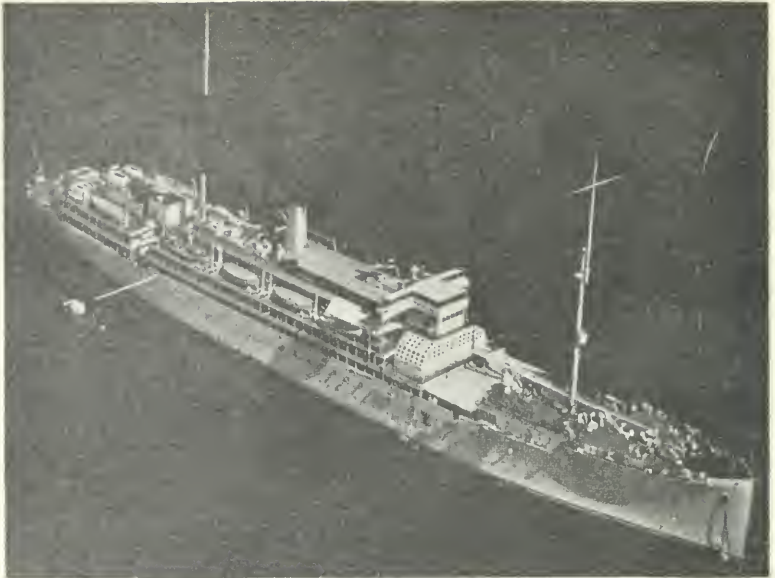


FIG. 83. U. S. S. Relief.



FIG. 84. U. S. S. Relief entering Sidney Harbor, Australia.



FIG. 85. U. S. S. Comfort.

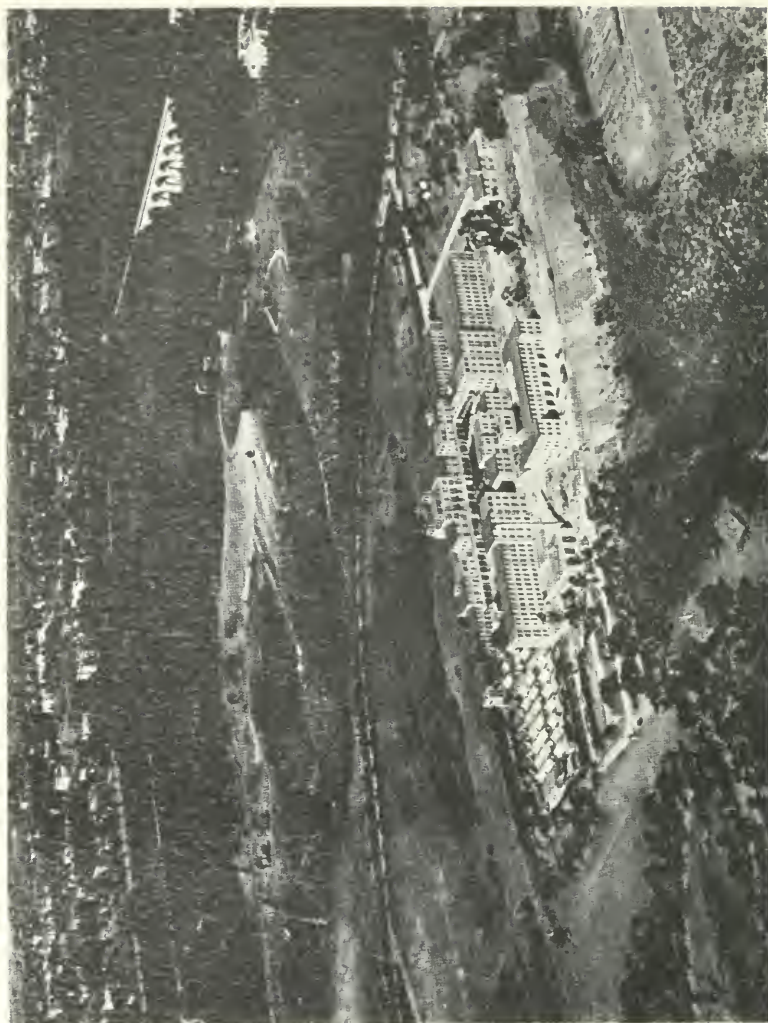


Fig. 86. U. S. Naval Hospital, San Diego, Calif.

Navy and Marine Corps; (2) the growth of the medical corps; (3) the decline in the death rate; (4) rates of admission for venereal disease, the most damaging disease group in the Navy; (5) admission rates for alcoholism, showing the decline in excessive drinking. These years were selected because the death rates were not affected by wars or epidemics in these periods (except in 1920, when, without the deaths from influenza the rate would have been 5.13 per thousand men).

TABLE I

	Total Comple- ment Navy and Marine Corps	Officers Medical Corps	Hospital Corps Strength	Admis- sions, Venereal Disease, per Thousand Men	Admis- sions Alcohol- ism, per Thousand Men	Deaths per Thousand Men
1880	10,235	171	?	81.64	17.3	11.1
1890	11,000	160	?	58.97	16.3	8.9
1900	22,977	164	?	52.40	10.8	8.8
1910	58,340	310	1,138	260.17	5.9	5.66
1920	140,773	655	4,596	126.11	1.9	7.10
1929*	117,388	900	4,046	127.51	1.4	3.36

* Latest calendar year for which exact rates are available.

In the following table the ten principal causes of death in the Navy are listed for the same years as in Table 1. Note that typhoid disappeared after 1912 when compulsory anti-typhoid inoculation was introduced. Also, it is interesting to note that there have been wide changes in the order of frequency of these causes, except for drowning and injuries which will probably always head the list.

Although no mention has here been made of the World War, it seems fitting to close this chapter by relating one incident of that period.

On May 31, 1918, the U. S. S. *President Lincoln* was torpedoed and sunk. Her medical officer was Linsay C.

Whiteside, Lieutenant, Medical Corps, U. S. Navy. As the *President Lincoln* was sinking, Whiteside superintended the safe disembarkment of all patients and hospital corpsmen into the life boats. When all under his charge had been safely removed he made a final trip to the sick bay to assure himself that none had been forgotten. The ship sank before he could return to the deck.

TABLE II
CAUSES OF DEATH IN THE NAVY
IN ORDER OF FREQUENCY

	1880	1890	1900	1910	1920	1928
1	pneumonia	pneumonia	gunshot wounds*	drowning	influenza	injuries
2	tuberculosis	tuberculosis	drowning	pneumonia	injuries	drowning
3	injuries	drowning	pneumonia	gunshot wounds	drowning	pneumonia
4	apoplexy	injuries	typhoid	injuries	pneumonia	cerebro-spinal fever
5	"paralysis" (?)	heart disease	heart disease	heart disease	tuberculosis	tuberculosis
6	drowning	apoplexy	injuries	tuberculosis	measles	neoplasms
7	typhoid	alcoholism	apoplexy	nephritis	neoplasms	influenza
8	yellow fever	cholera	tuberculosis	typhoid	cerebro-spinal fever	heart and vascular
9	malaria	nephritis	yellow fever	appendicitis	appendicitis	appendicitis
10	"peritonitis"? appendicitis	malaria	alcoholism	smallpox	scarlet fever	poisons

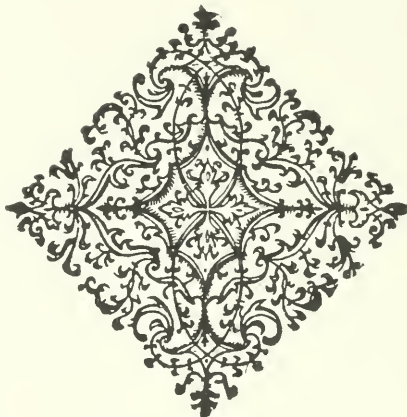
* Due to Boxer Rebellion.

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CHAPTER XI

SOME OF THE MEDICAL SCHOOLS FOUNDED
DURING THE FIRST HALF OF THE
NINETEENTH CENTURY



CHAPTER XI

SOME OF THE MEDICAL SCHOOLS FOUNDED DURING THE FIRST HALF OF THE NINETEENTH CENTURY

THE UNIVERSITY OF MARYLAND¹

IN 1807 the Legislature of Maryland passed a bill founding "The College of Medicine of Maryland." The first faculty was composed of

. . . John B. Davidge M.D., and James Cooke, M.D., joint professors of Anatomy, Surgery and Physiology; George Brown, M.D., professor of the Practice and Theory of Medicine; John Shaw, M.D., professor of Materia Medica, and William Donaldson, M.D., professor of the Institutes of Medicine. Cordell records the curious fact that Shaw, Bond and Donaldson were not entitled to the degree of M.D. here applied to them. When the bill was being read in the legislature, a friend of one of these gentlemen remarked that he did not see why he should not be an M.D. as well as the others. No one objected and so the title was added to all the names where it was wanting. They all became "Doctors of Medicine by Act of Assembly." The only instance of the sort, I imagine, on record.

Instruction was given in the homes of the professors with some clinical lectures at the Almshouse.

John Beale Davidge (1768-1829), was the most active among the founders of the new medical school. He was born in Annapolis and began his medical studies at that place under Drs. James and William Murray. A few years later he went to Glasgow where he received the degree of M.D. Returning to the United States he settled in Baltimore. During the yellow fever epidemic of 1797 he wrote much on the subject and published a book, which was much quoted by subsequent writers. When the Baltimore General Dispensary was opened in 1801, he was one of the first attending physicians.

¹ The *Med. Ann. of Maryland* by Eugene F. Cordell is as usual in Maryland matters the most useful source of information.

Cordell states that in 1802 he advertised private courses of medical lectures, which were given up when the College was established. He held the chair of anatomy and surgery until his death in 1829.

John Shaw¹ was born at Annapolis, May 4, 1778. After graduating from St. John's College in 1796, he began the study of medicine with Dr. John Thomas Shaaf, of Annapolis. Two years later he went to Philadelphia to continue his studies at the University of Pennsylvania. He had been at the University but a few months when he left to go as ship's surgeon on the *Sophia*, one of a fleet sailing to the Mediterranean coast of Africa. When the fleet returned Shaw remained as secretary of the Consulate at Tunis, and physician to the Bey of Tunis. He returned to the United States in 1801, but a few months later went to Edinburgh where he attended clinics and lectures for a year and a half, but did not get a degree. After some further travels he came back in 1805 to begin practice with his old preceptor in Annapolis. In 1807 he moved to Baltimore, where he was elected physician to the Baltimore General Dispensary. In the following year he developed tuberculosis and died January 10, 1809, while voyaging to the Bahama Islands in search for health. Shaw began writing poetry when very young and Ruhräh gives a number of specimens of his poetical effusions. In 1810 John E. Hall wrote a biographical sketch of Shaw in connection with a collection of his poems, which was published by Edward Earle of Philadelphia and Edward Coale, of Baltimore. Shaw was a most cultivated, intelligent man, but as his verses show, a very minor poet.

Dr. Davidge had erected a small building on Liberty Street in which he proposed to hold his classes in anatomy but in 1807, when he had procured a subject

¹ Consult "John Shaw—a Medical Poet of Maryland," by John Ruhräh, M.D., *Ann. M. Hist.*, 3: 252, 1921, from which the information in the accompanying pages has been obtained.

and begun its dissection a mob gathered and entirely destroyed it. Later an old schoolhouse was occupied. The first class numbered seven students and in 1810 five students were graduated. There were rapid changes in the first faculty. Dr. Brown resigned and was succeeded by Dr. Nathaniel Potter in 1808, and Drs. Donaldson and Bond resigned in the same year because of ill-health. In 1809 Dr. Shaw died of tuberculosis. Dr. Electra De Butts succeeded Shaw as Professor of Chemistry, and in the same year Dr. Samuel Baker was elected Professor of Materia Medica, Dr. William Gibson, Professor of Surgery and Dr. Richard Wilmot Hall, Adjunct Professor of Obstetrics.

In 1812 the Legislative Assembly authorized the College of Medicine "to constitute, appoint and annex to itself the other three colleges of the faculty." Divinity, Law, Arts and Sciences, and "the four faculties or colleges thus united, shall be constituted an university by the name and under the title of the University of Maryland."

A GROUP OF MEDICAL COLLEGES IN THE STATE OF NEW YORK

THE COLLEGE OF PHYSICIANS AND SURGEONS OF THE WESTERN DISTRICT OF THE STATE OF NEW YORK¹ (FAIRFIELD)

This medical school was founded in conjunction with Fairfield Academy near Utica in 1809. It received its charter as a medical college in 1812. The first faculty consisted of Dr. Lyman Spaulding, Professor of Anatomy and Surgery; Dr. Westel Willoughby, Jr., Professor of Obstetrics; James Hadly, A.M., Professor of Chemistry; John Stearne, M.D., Professor of the Theory and Practice of Physick. In 1815 Dr. T. Romeyne Beck was

¹ James J. Walsh's "History of Medicine in New York" is the most readily available source of information for the general history of medical institutions in the State of New York.

elected Professor of the Institutes of Medicine. The following year he gave his first lectures on medical jurisprudence. The Fairfield College as it was generally known reached its apogee in 1834 when it numbered 200 students. When the Geneva Medical College was established in 1833 it was the doom of that at Fairfield. In 1840 the medical school went out of existence, its buildings and laboratories being taken over for the purposes of the Fairfield Academy.

Dr. George H. Weaver¹ in speaking of the fact that the four men who were the most active in founding the first five medical schools in or near Chicago, Daniel Meeker, Daniel Brainard, George W. Richards and David Prince, had all received part or all of their medical education at Fairfield, pays a fitting tribute to the school which during the twenty-seven years of its existence sent out 589 graduates and afforded instruction to 3123 students. He quotes from Dr. Frank H. Hamilton's "Eulogy on the Life and Character of Theodore Romeyne Beck," written in 1856, the statement that nineteen graduates of the school held or had held professorships in medical colleges, eight were surgeons in the United States Army, and very many more had risen to eminence in the profession.

GENEVA MEDICAL COLLEGE

Chartered in 1834, the medical school was opened in 1835. Its first faculty included Edward Cutbush, Willard Parker, Thomas Spencer, John George Morgan, Charles B. Coventry and Austin Coleman. Later Dr. Frank Hamilton, the surgeon, was a member of the faculty.

Edward Cutbush² (1772-1832), according to Pleadwell, was the author of the first book written by a

¹ Beginnings of Medical Education in and near Chicago, Reprinted from the Proceedings of the Institute of Medicine of Chicago, vol. 5, 1925.

² See Edward Cutbush, M.D., the Nestor of the Medical Corps of the Navy, by F. L. Pleadwell, *Ann. M. Hist.*, 5: 337, 1923.

medical officer of the United States Navy.¹ A native of Philadelphia he graduated from the medical department of the College of Philadelphia (University of Pennsylvania) in 1794, and served as apothecary, dresser, and house surgeon in the Pennsylvania Hospital. He went as surgeon with the troops which put down the Whiskey Rebellion in 1794. After practicing a few years in Philadelphia, Cutbush entered the Navy in 1799, in which he passed an honorable career until his resignation in 1829. He was Professor of Chemistry and Dean of the Medical School at Geneva until he resigned in 1839.

In the decade between 1840 and 1850 the college was quite flourishing. After Miss Elizabeth Blackwell had been refused admission to the medical schools in Philadelphia and New York she succeeded in gaining the right to study at Geneva, where she graduated in 1869, the first time the degree of M.D. was conferred on a woman in the United States. Her sister, Emily Blackwell, graduated in medicine at the Medical College of Western Reserve University, Cleveland, Ohio in 1854. Geneva Medical College declined steadily during the sixties and in 1872 was merged with Syracuse University.

COLLEGE OF PHYSICIANS AND SURGEONS OF SYRACUSE UNIVERSITY

In 1871 the faculty of Geneva Medical College sought and obtained permission to move the school to Syracuse where it became the medical school of the University of Syracuse and was able to utilize the clinical facilities of two hospitals which were located in that city. Accordingly in the following year the Geneva Medical College library and museum were removed to Syracuse and the first session of the new school opened in October, 1872.

¹ Observations on the Means of Preserving the Health of Soldiers and Sailors; and on the Duties of the Medical Department of the Army and Navy, with Remarks on Hospitals and their Internal Arrangement, 1808.

Frederick Hyde (1807-1887), was Professor of Surgery and the first Dean, a position which he held until his death. He was an experienced and excellent teacher. In 1845 Hyde and his father-in-law Miles Goodyear had opened a private school of anatomy and surgery, and he had been Professor of Obstetrics and Diseases of Children in Geneva Medical College. Another able member of the faculty was Henry Darwin Didima (1823-1905) who held the chair of Principles and Practice of Medicine. He was the chief factor in elevating the standard of education at Syracuse. In 1880 he secured the adoption of the three years' graded course. According to Dr. John L. Heffron¹ "in 1896 the first physiological laboratory for students opened in a school in this country was installed and perfectly equipped under the professorship of Gaylord P. Clark." Attention to laboratory work was always a feature of the work at Syracuse, special provision having been made for it in the several branches of the curriculum at an earlier date than in most of the other medical colleges in this country.

ALBANY MEDICAL COLLEGE, N. Y.²

Albany Medical College was founded by Drs. Alden March and James H. Armsby in 1838 and incorporated in the following year.

Alden March (1795-1869), began the study of medicine with his brother, Dr. David March, and later studied at Brown University from which he received the degree of M.D. in 1820. In the following year he began giving private courses in anatomy in Albany. In 1825 he assumed the professorship of anatomy and physiology in the medical school at Castleton, Vermont, but did not let his duties there interfere with his teach-

¹ Walsh, *History of Medicine in New York*, vol. 2.

² The information about Albany Medical College is chiefly derived from the account of it by Willis G. Tucker, M.D. in Walsh's "*History of Medicine in New York*," vol. 2.

ing at Albany. In 1832 he opened a "Practical School of Anatomy and Surgery," which in the announcement of the following year he termed the "Albany Medical School." In 1833 it had six lecturers and fifty-one students. March seems to have been a born teacher as well as a bold and skilful surgeon. He devised many instruments and originated some useful operative proceedings, which he described in contributions to periodical medical literature.

Among March's associates in his school was James H. Armsby, whose sister March had married. After getting his M.D. at the Vermont Academy of Medicine in 1833, Armsby had joined March in Albany. He was an excellent anatomist and a very able surgeon. He cooperated enthusiastically with March in his plans to found a medical college, delivering courses of public popular lectures on anatomy in 1837 and 1838 in order to enlist public interest in the project.

As a result of the joint efforts of March and Armsby a number of prominent citizens of Albany gave their support and when the charter was granted enough money had been raised by subscriptions to establish the new college in an inoccupied school building, the use of which was granted to the incorporators by the Common Council of the city for a period of five years. It is noteworthy that none of the faculty were members of the board of trustees of the institution, a rare thing at the time when proprietary schools were in their heyday.

The trustees appointed the following faculty: Alden March, Professor of Surgery; James H. Armsby, Professor of Anatomy and Physiology; Amos Dean, Professor of Medical Jurisprudence; Ebenezer Emmons, Professor of Chemistry and Pharmacy; Henry Greene, Professor of Obstetrics; David M. McLochlan, Professor of Materia Medica. Later David M. Reese was appointed Professor of the Theory and Practice of Medicine.

March and Armsby presented their large and very excellent collection of anatomical preparations to form the museum of the institution. Both of these men went abroad on several occasions and always brought back many interesting and valuable preparations which they added to the museum, which acquired all the collection made by Dr. James McNaughton, who joined the faculty in 1840, after having been professor of anatomy and physiology in the College of Physicians and Surgeons of the Western District of New York (Fairfield).

A good library was also founded, which in subsequent years was turned over by the institution to the State of New York to become the medical division of the New York State Library. When the University of Albany was incorporated about 1850, its various departments occupied the same building, with the Medical College which was included in the University as its medical school. The original school buildings had been greatly enlarged by this time and were able to house the few departments of the University of Albany. Of the departments the Law School and Dudley Observatory alone survived after a few years and the University of Albany practically ceased to exist, except for the fact that the medical and law schools continued to be known as the medical and law colleges of the University of Albany until the incorporation of Union University and their affiliation with it in 1873.

A curious feature of the act of incorporation of Albany Medical College was the provision of a body of "Curators" to be appointed by the trustees, whose duties were to orally examine all candidates for the medical degree, presented to them by the faculty after having taken the courses at the college. These curators and their successors continued their functions until 1891, when on application of the faculty, the charter was amended so as to do away with them. The curators were not members of the faculty.

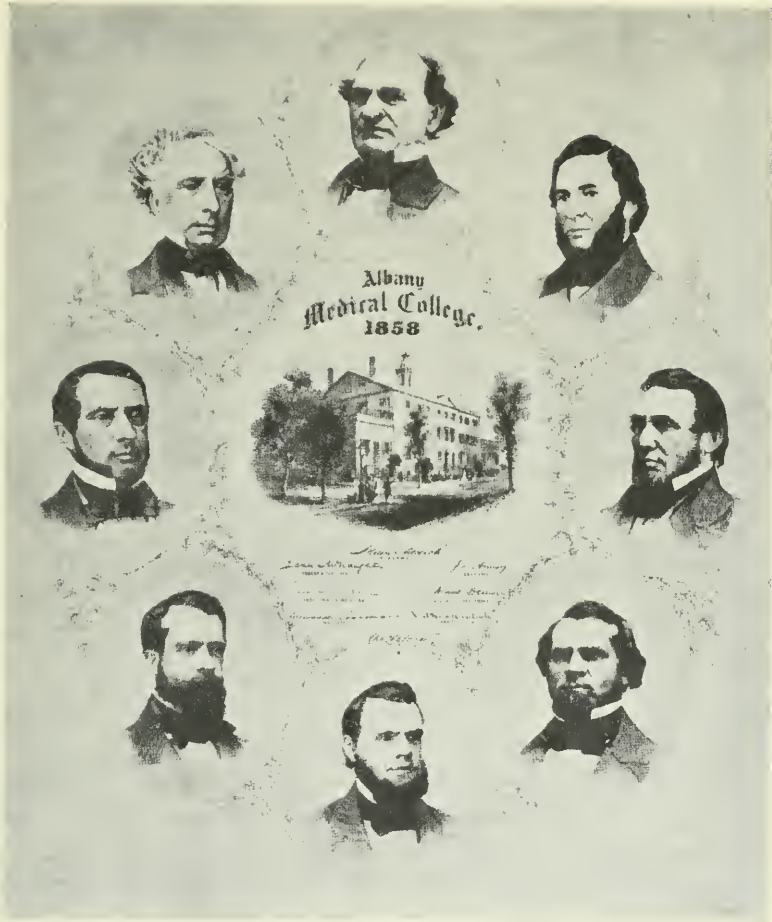


FIG. 87. Faculty of Albany Medical College.
(From a photograph kindly loaned by Dr. J. N. Vander Veer, of Albany.)



In 1873 the New York Legislature granted a charter to Union University, an institution which was designed to combine Union College at Schenectady with the Medical College, Law School and Dudley Observatory at Albany, adding to them the Albany College of Pharmacy. The affiliation of those institutions was rather loose, each of them preserving much of its original identity.

Albany Medical College was always well in the van in plans for improving the standards of medical education. In 1876 it began requiring an entrance examination and it was early in recognition of the need for laboratory instruction, provision of material for clinical instruction, and the other requirements now deemed so essential to proper medical teaching but not so many years ago very inadequately provided for. Dr. Tucker¹ devotes a number of pages to an account of the troubles which befell the college as a result of the report of Dr. Abraham Flexner in Bulletin No. 4 of the Carnegie Foundation, of conditions which he found there. Dr. Tucker denies most of Flexner's statements which he says are based on imperfect observations during a hurried visit to the institution. Flexner's report led to a disruption of the relations between the trustees and the faculty, which resulted in the resignation of the entire faculty at the demand of the trustees in 1915. The college was then entirely reorganized.

NEW YORK UNIVERSITY MEDICAL COLLEGE

THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE

The University of New York was incorporated in 1831, but its medical school was not organized until 1838, and then the effort proved abortive. It was not until 1841 that it was established with a faculty com-

¹ Walsh's "History of Medicine in New York," vol. 2. The history of Albany Medical College is written by Dr. Willis G. Tucker.

posed of Valentine Mott, Professor of Surgery; Granville Sharp Pattison, of Anatomy; John Revere, of the Theory and Practice of Medicine; Martyn Paine, of the Institutes of Medicine and Materia Medica; Gunning S. Bedford, Midwifery; John W. Draper, Chemistry and Diseases of Women and Children.

Walsh¹ points out that the first circular of the new medical college emphasized an important advantage to its graduates, namely: by special legislative enactment the New York University Medical College was free from the governing restrictions of the Regents of the University of the State of New York, so that its graduates could practice in the State of New York "without receiving a license from the State or County Medical Societies."

The college was first located in the Stuyvesant Institute Building but, in 1851, moved into a handsome building erected by it on Fourteenth Street.

In 1850 Valentine Mott resigned and was succeeded in the chair of Surgery by Samuel D. Gross. In the same year the eminent Elisha Bartlett was elected to the chair of the Institutes and Practice of Medicine. He only held the position for a short time, resigning to become a member of the faculty of the College of Physicians and Surgeons of New York in 1852. Gross also resigned his professorship at the end of a year. As Osler says, "Things do not seem to have worked very smoothly." In 1851 the faculty was strengthened by the accession of Dr. T. M. Markoe, Professor of Pathology and Morbid Anatomy; Dr. W. H. Van Buren, Professor of Genito-Urinary Diseases; and Dr. T. J. Metcalfe, Professor of Physical Diagnosis. Both Van Buren and Metcalfe resigned to join the faculties of rival schools shortly before 1866. Dr. Alfred L. Loomis succeeded Metcalfe and Dr. William Darling was elected to Van Buren's chair.

¹ History of Medicine in New York.

Two of the strongest members of the faculty were the Drapers, father and son. John William Draper (1811-1882) received his M.D. from the University of Pennsylvania in 1836. Before becoming the first Professor of Chemistry in the New York University Medical College, Draper had filled the same chair, first at William and Mary College, later at Hampden Sidney College, in Virginia. When Daguerre announced his discovery of photography, Draper at once began experimenting along the same lines and was undoubtedly the pioneer of photography in the United States. His researches in chemistry were numerous, original and valuable. He was a voluminous writer. In 1852 he published his "History of the Intellectual Development of Europe," a work which is still read with interest and regarded as authoritative. It has been translated into many languages and is still republished from time to time. Henry Draper (1837-1882), the son of John W. Draper, graduated from the New York University Medical College in 1858. He went to Europe to pursue his studies, particularly in physics, astronomy and physiology. On his return to New York he was elected Professor of Physiology in the academic department of the University of New York in 1860. Six years later he accepted the same chair in the New York University Medical College. He soon, however, became completely absorbed in his studies in astral photography in which he became one of the greatest investigators of all time. This is not the place to enumerate his great contributions to astronomy. His fame added greatly to the prestige of the New York University Medical College. In 1872 both of the Drapers resigned their professorships, a great loss to the school.

In 1866 the college buildings were destroyed by fire. This was a hard blow coming on top of the lean years of the Civil War. After occupying temporary quarters the New York University Medical College was finally

reopened in 1869, on a site directly opposite Bellevue Hospital in rented buildings. It was not until 1876 that the college occupied a building of its own on East Twenty-sixth Street. The chief factor in pulling it through was the energy and generosity of Dr. Alfred L. Loomis, who had succeeded Dr. John T. Metcalfe in the chair of Institutes and Practice of Medicine shortly before the fire.

Dr. Loomis gave and lent the institution large sums of his own money. In 1892 Mr. O. H. Payne, a patient of Dr. Loomis, paid off the entire debt. In doing so he stipulated that the property of the college should be placed under the control of the "Loomis Medical Laboratory," a corporation which had been founded in 1870 by members of the faculty who had loaned money to finance the College. Dr. Loomis died in 1895. The connection between the University of New York and its so-called Medical School was very loose and ill-defined. In 1897 an effort was made to remedy this state of affairs, the University Council assuming more direct control of the College, and the property of the Loomis Laboratory being transferred to the University. In 1897 an amalgamation was brought to pass between the Bellevue Hospital Medical College and the New York University Medical College, and in 1898 the union was consummated, the new school being termed "The University and Bellevue Hospital Medical College."

There was much discontent among the professors of the two former schools which had united to make the new one. All the professors of both schools had resigned, and as not all were reappointed they were accordingly angered. Six of the malcontents entered into negotiations with Cornell University and helped organize a medical school under its auspices. When the University and Bellevue Hospital Medical College opened its first session in 1898 there were four hundred and forty-two students enrolled.

The new faculty was one of the strongest group of medical teachers ever grouped together in this country. Among them may be mentioned, Edward G. Janeway, Professor of Medicine and Dean; A. Alexander Smith, Professor of the Principles and Practice of Medicine; Joseph D. Bryant, Professor of the Principles and Practice of Surgery.

BELLEVUE HOSPITAL MEDICAL COLLEGE

Bellevue Hospital was opened as a "Publick Workhouse and House of Correction of the City of New York" in 1736. The first reference to its use for medical teaching is found according to Walsh¹ in the "Medical Repository" of 1804, which states that a lying-in ward had been established in the almshouse and that Dr. Valentine Seaman had begun a course of lectures there on the "obstetric art, including anatomy, physiology, and practical parts."

There was no systematic attempt at utilizing the clinical facilities of Bellevue until in 1850 a clinical amphitheater was opened, in which lectures were delivered by the staff of the Hospital. These lectures were soon appreciated and the attendance became so numerous that enlarged amphitheater facilities had to be provided five years later. In 1817, largely through the efforts of Dr. James R. Wood, a brick building with a lecture hall and pathological museum was built to replace the old dead-house. The museum has since been named the Wood Pathological Museum of Bellevue Hospital. In the same year the lectures given at the hospital were systematized into regular courses for which fees were charged. In 1860 a group of physicians urged the establishment of a medical college in connection with the hospital. The Commissioners of Public Charities and Correction approved of the idea, and a charter was procured in 1861, and in the same year a

¹ History of Medicine in New York, 1919.

suitable building to house the college was erected on the grounds of the hospital. The first regular undergraduate courses were begun in the autumn of 1861. The faculty consisted of Stephen Smith, Professor of the Principles and Practice of Surgery; F. H. Hamilton, Professor of the Surgery of the Bones and Accidents; J. R. Wood, Professor of Operative Surgery and Surgical Pathology; A. B. Mott, Professor of Surgical Anatomy; Lewis A. Sayre, Professor of Orthopedic Surgery; J. E. Taylor, Fordyce Barker, and G. T. Elliot, Jr., Professors of Obstetrics; B. W. S. Gouley, Professor of Anatomy, Austin Flint, Professor of the Principles and Practice of Medicine; Austin Flint Jr., Professor of Physiology; R. O. Doremus, Professor of Chemistry.

Dr. Gouley resigned a few months later to enter the Army, and Dr. Timothy Childs was thereupon appointed Professor of Descriptive Anatomy. When Dr. Childs died in 1865 he was succeeded by Dr. Stephen Smith, who was transferred from his surgical chair. The surgical chair, thus vacated, was combined with that of Professor Frank Hamilton. In 1866 Dr. Henry D. Noyes was elected Professor of Ophthalmology, and William H. Van Buren, Professor of Diseases of the Genito-Urinary System. In the following year Dr. William A. Hammond was elected Professor of Diseases of the Mind and Nervous System. In subsequent years Edward G. Janeway, Graham Lusk, J. Lewis Smith, and W. H. Welsh were notable additions or substitutes to this strong group of teachers.

In 1880 the course necessary for the degree of M.D. was lengthened from two to three years, but in the following year the college reverted to the two-year course, which was adhered to until 1890, when the extra year was again added. In 1898 a merger was effected with New York University Medical College, and the new institution named the "University and Bellevue Hospital Medical College."

THE NEW YORK MEDICAL COLLEGE¹

The college originated in the desire of a number of physicians in New York to establish a medical school in which the standards should be higher than those generally in vogue in the other schools in the State and, indeed, in the United States.

The New York Medical College was chartered April 8, 1850, and opened the following October at 112 East 13th Street. The lecture term was to be longer than the customary one, and degrees were to be conferred only on candidates who had passed an examination conducted by a Board of Censors composed of men holding no position in the college. No fee was to be charged for conferring a degree. A small ward was arranged in the college building in order to provide bedside instruction, while awaiting the procurement of sufficient funds to build a hospital. The faculty in 1850 was composed of Horace Green, Professor of the Theory and Practice of Medicine; Abraham L. Cox, of Surgery; Edwin Hamilton Davis, of Materia Medica and Therapeutics; B. Fordyce Barker, of Midwifery and Diseases of Women and Children; K. Ogden Doremus, of Chemistry and Toxicology. In 1851 Cox was succeeded by John Murray Carnochan in the chair of Surgery, and Edmund R. Peaslee was elected Professor of Physiology, Pathology, and Microscopy. In 1852 Judge Joel Parker, of Boston was appointed Professor of Medical Jurisprudence and Dr. C. C. Allen of Dental Pathology and Surgery. In 1855 H. D. Cox became Professor of the Theory and Practice of Medicine; Timothy Childs, Professor of Anatomy in 1855, and Austin Flint, Jr., Professor of Physiology and Pathology in 1859.

Abraham Jacobi himself became a member of the faculty in 1860, holding the first full professor-

¹ James J. Walsh, "History of Medicine in New York," gives the history of this college largely from an address made by Dr. Abraham Jacobi before the Historical Section of the New York Academy of Medicine. See also Jacobi, *The New York Medical College*, *Ann. M. Hist.*, 1: 368, 1917.

ship in diseases of children created in the United States.

The Civil War proved too much for the struggling college, and it closed its doors in 1864. During its brief life it had lived up to the ideals of its founders and set a useful example to its rivals.

UNIVERSITY OF BUFFALO MEDICAL COLLEGE, NEW YORK¹

The University of Buffalo was chartered by the State of New York in 1856. It was under the control of a Council. "For forty years (1846-1886) the Department of Medicine was the only organized department of the University of Buffalo." It was organized by the Council, in August, 1846, appointing the following professors: Charles Brodhead Coventry, Physiology and Medical Jurisprudence; Charles Alfred Lee, Pathology and Materia Medica; James Webster, General and Special Anatomy; James P. White, Obstetrics and Diseases of Women and Children; Frank Hastings Hamilton, Principles and Practice of Surgery and Clinical Surgery; Austin Flint, Principles and Practice of Medicine and Clinical Medicine; George Hadley, Chemistry and Pharmacy; Corydon La Ford, Demonstrator of Anatomy and Librarian. Of them Coventry, Hadley, Webster, Lee and Hamilton already held professorships in Geneva Medical College, to the failure of which their secession must have powerfully aided, although it continued to exist until 1872 when it became the College of Medicine of Syracuse University. For some years these men tried to hold chairs in both medical schools but most of them found the continued duties too arduous and gave up Geneva for Buffalo. Walsh directs attention to the fact that the first Faculty of Buffalo Medical College remained unchanged for five years, quite a remarkable

¹ Most of my information on Buffalo Medical College is drawn from Walsh' "History of Medicine in New York," vol. 2.

occurrence when one considers the kaleidoscopic changes which most medical faculties were wont to undergo at that period in our medical history.

Walsh gives a list of the members of the faculty down to the beginning of the present century and it includes a number of remarkably able and distinguished men. Many of them have been noted elsewhere in this book in connection with other institutions but several who did their best work at Buffalo should be referred to here. James Platt White (1811-1861) attended lectures at the College of Physicians and Surgeons of the Western District of New York (Fairfield), but got his degree of M.D. at Jefferson Medical College, Philadelphia, in 1834. He was active in the establishment of Buffalo Medical College and became the first professor of obstetrics in it. He was a brilliant teacher and a very skilful obstetrician. It is said that he performed over one hundred ovariectomies in the last twenty years of his life. About 1850 he introduced clinical teaching of obstetrics into the curriculum at Buffalo. For this he was bitterly criticized in both the medical and lay journals of the day. In self-defence he brought suit for libel against a newspaper. Although he lost the suit the result of the trial was to vindicate his methods to the public. Austin Flint (1812-1886) was a native of Massachusetts. His father, grandfather, and great grandfather, had all practiced medicine, and he in turn left a son, Austin Flint, Jr., who worthily upheld the family tradition. He was Professor of the Theory and Practice of Medicine in Buffalo Medical College from 1846 to 1859. During this time he studied an epidemic of typhoid fever at North Boston, N. Y., and his account of it did much to further knowledge of the etiology of the disease. Flint taught for several years in Rush Medical College and in the University of Louisville. In 1859 he settled in New York City, where he became Professor of the Principles and Practice of Medicine in Bellevue Hospital Medical

College and Professor of the Theory and Practice of Medicine in the Long Island College Hospital. It was Flint who first introduced the terms "broncho-vesicular respiration" and "cavernous respiration" into medical terminology. The career of Frank H. Hamilton is noticed elsewhere. Roswell Park, Professor of Surgery and Matthew D. Mann, Professor of Obstetrics, during the eighties and early years of this century were two of the best known men of their time in the medical profession of the United States. They were associated with each other in the care of President McKinley after he was shot at the Buffalo Exposition in 1901.

LONG ISLAND COLLEGE HOSPITAL, BROOKLYN,
NEW YORK¹

In 1856 a group of German-American physicians in Brooklyn organized the Brooklyn German General Dispensary. Augustus Kalb (or Kalt) and Gustave Braelich were the consulting physicians; Louis Bauer and Charles Neuhass, consulting surgeons, and Daniel Pfeiffer the resident physician, of the establishment. Its object was to afford treatment to the large number of poor Germans who lived in Brooklyn. In the following year they enlisted the cooperation of others and formulated plans to establish a hospital into which the dispensary was to be merged. The name at first proposed for the new institution was "St. John's Hospital," but this was very soon changed to Long Island Hospital and Medical College, and in 1858 the latter received a charter. It granted the incorporators power to establish a hospital and in connection with it a medical college authorized to confer the degree of M.D. on graduates who were twenty-one years or more of age, had passed three years of study under a reputable physician, and completed two courses of lectures, the last at the Long Island College Hospital.

¹ Walsh, History of Medicine in New York, vol. 2.

The first faculty was very strong. It consisted of Austin Flint, Professor of Theory and Practice of Medicine; Frank Hamilton, Professor of Principles and Practice of Surgery; Joseph C. Hutchinson, Professor of Anatomy and Operative Surgery; J. D. Trask, Professor of Obstetrics and Diseases of Women and Children; D. C. Enos, Professor of General and Descriptive Anatomy. Later John C. Dalton was appointed Professor of Physiology and Microscopical Anatomy, and C. A. Doremus, Professor of Chemistry.

In the announcement of the course of lectures, which began in March, 1860, much stress was laid on the claim that this was the "first of the hospital-college type in the country," and that the course in physiology would be demonstrative, with vivisection and other experimental illustrations, Dr. John C. Dalton, who was to give it, being "the first to introduce into this country this method of physiological instruction."

There were twenty-one graduates in the first class to leave the institution, which so encouraged the promoters of the school that they entered at once on plans to enlarge the capacity of the institution before the next session. It is significant of the time that Dr. Frank Hamilton should have given a special course on military surgery preceding the regular course in 1861. The wards of the hospital were filled up with soldiers during this year and its resources consequently taxed to the utmost.

Hamilton had shortly to give over his duties at the hospital for his Army service which lasted until 1864. John C. Dalton resigned from the faculty and his place was taken by Austin Flint, Jr. When the latter resigned in 1870 he was succeeded by William T. Lusk.

In 1883 a training school for nurses was established in the hospital.

In 1886 Dr. Cornelius Nevins Hoagland erected for the use of the Long Island College Hospital the Hoagland Laboratory, "equipped with all apparatus neces-

sary for the study of medicine in all its branches, but more particularly in histology, physiology, bacteriology, and pathology." This splendid adjunct to the teaching work was formally opened in 1888.

In 1886 Dr. William H. Dudley died. During the early years of the Long Island College Hospital he had been its greatest financial support. On several occasions when it looked as though the project was doomed to failure because of lack of funds to carry on, Dudley had generously provided the means to do so out of his own pocket. He was not a member of the faculty but was one of the so-called "Collegiate Council," a group of professional men who were chosen by the Regents of the institution to be in charge of the executive affairs of the faculty. The other original councillors appointed in 1858 were Drs. Chauncey L. Mitchell, Theodore L. Mason, and John Byrne. In 1891 the three years' graded course was adopted by the college, and in 1897 the course was lengthened to four years.

NIAGARA UNIVERSITY MEDICAL SCHOOL

Walsh¹ has quoted the story of this brief-lived school from a chapter written by Dr. Alvin A. Hubbell for the "History of Niagara University," which was compiled on the occasion of the University's fiftieth anniversary.

In 1883 a Roman Catholic institution at Suspension Bridge near Niagara Falls, the College and Seminary of Our Lady of Angels, was granted a charter as Niagara University. A medical faculty for the new institution had already been organized as follows: John Cronyn, Professor of the Principles and Practice of Medicine and Clinical Medicine; Thomas Lathrop, Professor of Obstetrics; Alvin A. Hubbell, Professor of Ophthalmology, Otology, and Laryngology; Harry D. Ingraham, Professor of Gynecology and Diseases of Children;

¹ History of Medicine in New York, vol. 2, p. 360.

William S. Tremaine, Professor of the Principles and Practice of Surgery and Clinical Surgery; Charles C. F. Gay, Professor of Operative and Clinical Surgery; Charles G. Stockton, Professor of Materia Medica and Therapeutics; Augustus R. Davidson, Professor of Medical Chemistry, Pharmacy and Toxicology; George E. Fell, Professor of Physiology and Microscopy; William H. Heath, Professor of Descriptive and Surgical Anatomy; Clayton M. Daniels, Professor of Clinical Surgery and Adjunct Professor of Jurisprudence; John L. C. Cronyn, Demonstrator of Anatomy. The Sisters Hospital was to be used for clinical and laboratory purposes. The founders raised the standard so as to make the course a fully graded one of four years. In 1893-94 women were admitted to the classes.

Dr. John Cronyn, who was the chief promoter of the enterprise died in 1898, and in the same year the Niagara School merged with the medical school of the University of Buffalo. During the period from 1886 to 1898 inclusive it had graduated 137 students. Its elevation of the course to four years and extension of co-educational facilities are the two outstanding features of its existence.

MEDICAL DEPARTMENT OF YALE COLLEGE

Yale College was founded in 1701 and though many of her graduates practiced medicine, Welch¹ states that but two of them, John A. Graham of the class of 1793, and Winthrop Saltonstall of the class of 1793, ever received a medical degree in course; nevertheless he estimates that there were 224 Yale graduates who practiced medicine in the eighteenth century. Welch remarks that the number of students from the New England colonies who went overseas to London, Edinburgh or Leyden to study medicine was very small compared to those who went from the Middle or Southern colonies.

¹The Relation of Yale to Medicine, *Yale M. J.*, Nov., 1901.

It was not until 1777 that the suggestion was formally made to establish a medical school at Yale. In that year a Committee of the General Assembly had under consideration plans for the enlargement of the college, and in one of these was a suggestion for the establishment of a professorship of medicine. Ezra Stiles, who had just been elected President of the college "drafted a plan of an University, particularly describing the Law and Medical lectures" to be submitted to the Committee of the General Assembly. Nothing came of these proposals. W. R. Steiner¹ has given some very interesting abstracts from the Stiles' plan, which is among the Stiles' papers in the Yale University Library.

In 1802 Benjamin Silliman was appointed Professor of Chemistry and Natural History in Yale College, and, expecting that a medical school would soon be established in connection with the college, at both Edinburgh and Philadelphia where he had gone to pursue his chemical studies, he also attended lectures on medicine, anatomy and allied subjects in anticipation of his own connection with a medical institution. In 1806 the Corporation of Yale College resolved to establish a medical professorship. Welch emphasizes the fact that thus "the Medical Department is the direct offspring of Yale College, and was not started as nearly every other medical school in this country has been, by a group of outside physicians who have subsequently sought connection with a college."

By its charter, granted in 1792, the Connecticut Medical Society had control of medical education in the state. It was not only an examining and licensing body but also had the power to grant degrees. Therefore, in order to establish a medical school, Yale had to get its consent and good will. For this purpose Dr.

¹ Historical Address. The Evolution of Medicine in Connecticut with the Foundation of the Yale Medical School as its Notable Achievement. Read at the Centennial Celebration of the Yale Medical School, June 15, 1914.

Eli Ives, representing the Medical Society, and President Dwight and Professor Silliman bent all their energies and at last succeeded in overcoming any friction and persuading all concerned that the purposes of both the Society and the College would be furthered by the establishment of the medical school.

Welch points to two features of peculiar interest in respect to the founding of the Yale Medical School: "The initiative came from within the College and not from without, and the form of union between the College and the Connecticut Medical Society is something unique in the history of medical schools." He attributes the credit of originating the idea to President Dwight.

The negotiations between the Connecticut State Medical Society and Yale lasted over three years and finally ended in "Articles of Union," which were passed as an Act constituting "The Medical Institution of Yale College," by the General Assembly in 1810. As summed up by Welch, in this Act the number of professors was fixed at four. The price of tuition and the time of examinations were also stated, and it provided for the establishment of a botanic garden and anatomic and materia medica museums. There was to be a joint committee of an equal number of persons from the Medical Society and the Corporation to nominate the professors who were to be chosen by the Corporation, and also for a like joint examining board, in which the President of the Society had the casting vote in case of a tie. The right of the society to grant honorary degrees in medicine was abolished, which could thereafter be conferred only by the President of the Corporation upon recommendation of the Society. It provided that each county could send, upon the recommendation of the Society, a gratuitous student. The term of study for a college graduate was to be two years, for others three. Attendance upon a single course of lectures was

required for a license and upon two courses for the doctorate.

This union between the Connecticut Medical Society and the Yale Medical School continued until 1884, when it was abrogated by mutual consent. In 1879 a new charter was obtained in which the name of the medical school was changed from "The Medical Institution of Yale College" to "The Medical School of Yale College." Previous to this it had been necessary to make by legislative enactment a number of changes in the original charter.

The medical school was opened, 1813, in a building on Grove Street in which it remained until 1859. It had been built by James Hillhouse for a hotel. Through the efforts of Nathan Smith the Legislature granted \$20,000 with which the grounds and buildings for the school were paid for and some adjacent ground purchased for the planting of a botanic garden.

The first faculty of the medical institution was appointed in 1812 and was notably strong.

Encas Munson was Professor of *Materia Medica* and Botany; Nathan Smith, Professor of the Theory and Practice of Physic, Surgery and Obstetrics; Eli Ives, Adjunct Professor of *Materia Medica* and Botany; Benjamin Silliman, Professor of Chemistry, Mineralogy and Geology; and Jonathan Knight, Professor of Anatomy. Steiner quotes from manuscript records in the possession of the Yale Corporation which show that when Nathan Smith's name was first suggested the President and Corporation would not consider him because they regarded him an "infidel." As Steiner remarks Dr. Smith's sentiments shortly thereafter underwent a complete change and he "fully renounced his infidelity in repeated conversations with intimate friends and to his class, to whom he spoke in such terms of his past and present views as drew tears from both speaker and hearers." This was a strong faculty and



FIG. 88. Dr. Eneas Munson.

when the School opened in the autumn of 1812 there was a class of thirty-seven gathered to reap the benefits of its institution.

The career and services of Nathan Smith have been considered in connection with Dartmouth College. Eneas Munson was seventy-nine years old at the time of his appointment, so that his duties were largely performed by Dr. Ives, the adjunct professor. In 1820 Munson was made Professor of the Institutes of Medicine, under which term were comprised physiology and histology. Munson died in 1826 at the age of ninety-two. Eli Ives (1779-1861) was particularly known as a botanist. In 1820 he was made Professor of *Materia Medica* and Botany, and in 1829 he became Professor of the Theory and Practice of Physic. After the death of Nathan Smith, he exchanged this for the chair of Therapeutics and *Materia Medica* in 1852, and the next year retired as Emeritus Professor of the latter chair. Dr. Jonathan Knight (1794-1864) to whose chair that of Lecturer on Obstetrics was added, from 1820 to 1829, succeeded Thomas Hubbard as Professor of Surgery in 1838. He was one of the most prominent surgeons of his day. After graduating from Yale in 1808 he taught school and tutored at Yale until 1811, when he went to Philadelphia and attended courses at the University of Pennsylvania for two sessions. He did not receive a degree from any medical school but was licensed to practice by the Connecticut Medical Society and received an honorary M.D. from Yale in 1818. He was President of the National Convention which met in New York in 1846 and in Philadelphia in 1847, from which was organized the American Medical Association, and in 1853 was elected President of the latter. Knight held the chair of surgery until his death in 1864.

When Nathan Smith died in 1829 he was succeeded as Professor of Surgery by Dr. Thomas Hubbard (1776-

1838), a talented man who had received his medical education under Dr. Albigece Waldo. His only medical degree was an honorary one which was conferred upon him by the Connecticut Medical Society in 1809. He is reputed to have been an excellent teacher. At his death as stated previously, Dr. Jonathan Knight was elected Professor of Surgery and held the chair until he died in 1864.

William Tully¹ (1795-1859) succeeded Eli Ives in the chair of Materia Medica and Botany in 1829. This erudite but eccentric character was a most expert botanist but of so disagreeable and arrogant a personality that he was in continual hot water with his colleagues in the many different towns in which he practiced before coming to Yale. For many years he taught at the Vermont Academy of Medicine at Castleton. There he was President of the institution and Professor of the Theory and Practice of Medicine and Materia Medica. He resigned his position at Yale in 1841. In 1842 Henry Bronson (1804-1893) was elected Professor of Materia and Therapeutics, which he held with a brief intermission until 1860.

Worthington Hooker (1806-1867) after graduating from Yale College in 1825 received his medical degree from Harvard in 1829. In 1852 he succeeded Eli Ives as Professor of the Theory and Practice of Medicine, holding the chair until his death in 1867. Hooker wrote many books. His "Physician and Patient" can still be read with interest. The same can hardly be said for "The Child's Book of Nature" and "The Child's Book of Common Things," both of which, however, were greatly admired by the parents of their day as popular science books for the young. The Yale Medical School prospered for twenty or more years after its establishment, but then fell upon hard times. Welch attributes

¹ An interesting account of Tully by Kate Campbell Mead is contained in the *Johns Hopkins Hosp. Bull.*, 27: 1916.

the falling off in the number of students to the constant efforts made by its authorities to maintain a high standard of requirements. It is certainly true that the requirements for entrance were more difficult than those of most of the other medical schools and that Yale has always held out for better medical education. Welch summarizes the statistics of attendance showing that for the first twenty years the average annual attendance was between 70 and 80 students. From 1840 to 1890 the average fell to between 30 and 40, and only from 1895 did it exceed 100. As a matter of fact these figures should be regarded as an honor to the school, signifying that students flocked elsewhere in many instances because of the laxity of requirements. In 1879 Yale required an examination for matriculation, and a three-year course for graduation.

THE BERKSHIRE MEDICAL INSTITUTION OF MASSACHUSETTS

The medical school of this name was chartered by the Legislature of Massachusetts in 1823, and was intended to be the medical department of Williams College. It was located in Pittsfield, Mass. The Massachusetts Medical Society under its charter had no right to confer medical degrees, and it was not until 1837 that it was able to get an act passed by the Legislature amending its charter to enable it to do so; and the Berkshire Medical School became legally its medical department. The first faculty consisted of Henry H. Childs, Professor of the Theory and Practice of Medicine; Chester Dewey, Professor of Chemistry, Botany and Mineralogy; John D. Wells, Lecturer on Anatomy and Physiology;¹ John Delamater, Professor of Pharmacy, Materia Medica, and Obstetrics; and Stephen W. Williams, Professor of Medical Jurisprudence.

¹ Wells was also Professor of Anatomy and Surgery at Bowdoin College.

In 1826 John P. Batchelder was elected Professor of the Principles and Practice of Surgery, and the same year Delamater resigned and Thomas Goodsell was elected to fill his place.

The Berkshire Medical College flourished for a number of years, at one time threatening the supremacy of Harvard. At various times its faculty contained men who later became renowned, such as Willard Parker, Alonso Clark, and Elisha Bartlett. None of these, however, remained long in connection with it. Pittsfield was a small town with practically no facilities for clinical instruction, and better opportunities wooed its best men away. In 1866 it changed its session so as to make it a summer school, the term beginning in June. In 1869 it passed out of existence.

JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA¹

The standing and reputation of the medical department of the University of Pennsylvania were such as to render the attempt to found a rival a most hazardous enterprise. The man who was bold enough to make the attempt was Dr. George McClellan (1796-1847). Gross,² who knew him well, says:

. . . He was a fluent and popular lecturer, full of energy and enthusiasm, but utterly without system . . . As an operator, he was showy, and at times brilliant, yet he lacked the important attributes of a great surgeon—judgment and patience. He frequently jumped at conclusions, and was therefore often at fault in his diagnosis.

A native of Norwich, Conn., after graduating from Yale, he came to Philadelphia, where he studied with

¹The best authority for the history of the Jefferson Medical College is "The Jefferson Medical College of Philadelphia, etc., 1826-1904," a History, edited by George M. Gould, M.D. New York, 1904. For his "Class Book" of 1899, Dr. James W. Holland wrote a brief history, especially valuable because of the personal recollections of the author. Dr. Holland was also the author of the account of Jefferson Medical College of Philadelphia which is contained in the "Founders' Week Memorial Volume," edited by Frederick P. Henry, M.D. Phila., 1909. Dr. James F. Gayley published a "History of Jefferson Medical College," Phila., 1858.

²Autobiography.

Dr. John Syng Dorsey and got his medical degree from the University of Pennsylvania in 1819. In 1824 McClellan, with John Eberle, Joseph Klapp and Jacob Green, got the trustees of Jefferson College, a literary institution located at Canonsburg, Pennsylvania, to agree to establish a medical department of the college in it and to appoint ten additional trustees in the city of Philadelphia. In 1826, the charter was amended to enable the college to grant medical degrees. Until 1838 the Philadelphia Board, while managing the affairs of the medical school, was subject to the supervising control of the Board of Trustees of the College, but in that year the medical school received a separate charter and thus became the Jefferson Medical College of Philadelphia.

The faculty in 1825 consisted of the following professors: John Eberle, of the Theory and Practice of Medicine; B. Rush Rhees, of Materia Medica and the Institutes of Medicine; Jacob Green, of Chemistry; Nathan R. Smith, of Anatomy; Francis S. Beattie, of Midwifery; George McClellan, of Surgery. Of these men Eberle and Nathan Smith achieved eminence, and their careers will be found written of elsewhere in this book.

The college was opened in the Old Tivoli Theatre, on Locust Street above Fifth, but in 1828 moved to Tenth and Sansom Streets, a site which it has occupied ever since.

In 1826 W. P. C. Barton was appointed Professor of Botany. He was a surgeon of the Navy and one of the most distinguished botanists of his time.

Within the next few years there were several dissensions in the faculty. Nathan Smith resigned, and in June, 1828 the trustees reconstructed it. McClellan, Eberle, Green and Barton, retained their chairs, and Rhees taught the Institutes of Medicine. The chairs of Midwifery and Anatomy being vacant, Eberle took

on Midwifery and McClellan, Anatomy. In 1830 Samuel McClellan, who had been acting as his brother George's demonstrator, was appointed Professor of Anatomy, and Barton having resigned, Eberle took the chair of Materia Medica and Midwifery, giving up that of Practice to Daniel Drake, who came from Cincinnati, but only remained one year in Philadelphia. In 1831, Jefferson lost not only Drake but Eberle, who went with Drake to teach in the new medical school he proposed founding in Cincinnati. During the session of 1831-32 Dr. Usher Parsons, of Providence, R. I. was Professor of Midwifery, Medical Jurisprudence and Diseases of Women and Children. In 1836 the distinguished Robley Dunglison became Professor of the Institutes of Medicine.

S. W. Gross came to the Jefferson Medical College as a student in 1826, receiving his degree two years later, and subsequently, as Professor of Surgery, becoming one of its greatest ornaments. In his "Autobiography" Gross gives a most interesting account of the early years of his Alma Mater and of the men connected with it. The new institution and its staff were bitterly hated and despised by all the group associated with the University of Pennsylvania. McClellan was the especial object of their dislike. Matters were carried so far that Gross, shortly after graduating, having translated Bayle and Hollard's work on "General Anatomy," took it to Carey and Lea, the publishers. They, after having accepted the manuscript, returned it to him, because he had dedicated it to George McClellan. Gross also relates that having translated Hatin's "Manual of Obstetrics" he also sent a presentation copy with a polite note to Dr. Dewees, then Professor of Midwifery in the University of Pennsylvania. Gross received no acknowledgement of his gift but learned from a lady that Dewees had told her that, though Gross might be a clever and promising young man, "the Faculty of the

University could take no notice of anything that emanated from the Jefferson School.”

As already stated, Jefferson had strong men on her faculty in her earlier days. Granville Sharp Pattison (1791-1851) was one of the notable figures of the college in which he taught anatomy from 1831 to 1840. A Scotchman, he studied under the famous Allen Burns in Glasgow, later editing an edition of Burn's "Surgical Anatomy of the Head and Neck." Because of the activity of himself and his students in stealing bodies for dissection, Pattison got into bad odor in Glasgow and was glad of an opportunity to start in elsewhere.¹ He had come to America in 1818 expecting the appointment of Professor of Anatomy in the University of Pennsylvania, rendered vacant by the death of John Syng Dorsey. In this he was disappointed. He went to Baltimore, where he was elected Professor of Anatomy in the medical school of the University of Maryland. He returned to England, but came back to Philadelphia, where he was only too glad to take a chair in an institution founded in opposition to the University of Pennsylvania.

In 1841 he resigned, and became Professor of Anatomy in the medical department of the University of New York.

Of Robley Dunglison (1798-1869), Gross in his "Autobiography" states that he was of all the colleagues with whom he had been associated, by far the most learned, and Osler frequently referred with admiration to his erudition and literary ability. His "Physiology," published in 1839, was a standard work for many years, as was also his "Medical Dictionary." Both went through many editions. Besides these he contributed copiously to current medical literature, and wrote a number of treatises. Dunglison was born at Keswick in the English Lake Country. After studying

¹ See Alexander Leighton's, "Court of Cacus" for an account of Pattison's troubles in Edinburgh.

in Paris, Edinburgh and London, where he passed the final examinations of the Royal College of Surgeons and the Society of Apothecaries in 1819, he received his M.D. at the University of Erlangen. His first professorship was what Dr. O. W. Holmes would have called a "settee" instead of a "chair." He was asked to become Professor of Anatomy, Physiology, Surgery, Materia Medica, Pharmacy and the History of Medicine in the University of Virginia, when he was but twenty-six years old. Fortunately, as Gross remarks, Anatomy and Surgery were replaced by Medicine in the young professor's duties when he assumed them. As Gross states that Dunglison "could not bear the sight of blood," it is hard to see what kind of surgery he would have practiced. After nine years at the University of Virginia, during which he enjoyed the friendship and confidence of Jefferson and Madison, Dunglison removed to Baltimore where he had been elected Professor of Materia Medica and Medical Jurisprudence in the University of Maryland. After a year in Baltimore, he accepted the appointment of Professor of the Institutes of Medicine in the Jefferson Medical College. In 1838 a new charter was obtained from the Legislature whereby the Jefferson Medical College of Philadelphia was granted entire freedom from any control by the institution of Canonsburg, and became an independent institution.

In 1839 the personal dissensions among the members of the faculty led the trustees to dissolve it. When it was finally reorganized, both the McClellans were dropped, Dr. Joseph Pancoast replacing George McClellan as Professor of Surgery, and Dr. R. M. Huston succeeding Samuel McClellan as Professor of Midwifery. None of the printed histories of the college throw any light on the nature of the dissensions which were so serious as to cause the trustees to drop from the faculty the chief founder and the best known of its teachers. McClellan is said to have been erratic, hot-tempered,

and obstinate, but there must have been deeper reasons for such action.

After McClellan's enforced retirement from Jefferson Medical College he at once proceeded to found a third medical school in Philadelphia. He got a charter from the Legislature for a medical school to be established at Gettysburg. He got together the following faculty: Samuel G. Martin, Professor of Physiology and Anatomy; Samuel Calhoun, Professor of Materia Medica and Pharmacy; Samuel McClellan, Professor of Obstetrics; William Rush, Professor of the Theory and Practice of Physics; Walter R. Johnson, Professor of Chemistry; McClellan himself took the chair of Surgery. The school opened in November, 1839 with a class of nearly one hundred students.

Again a faculty crisis occurred at Jefferson in 1841, and the trustees after vacating all the chairs, appointed the following professors: Robley Dunglison, of the Institutes of Medicine; J. K. Mitchell, of the Practice of Medicine; Joseph Pancoast, of Anatomy; R. M. Huston, of Materia Medica; Thomas Dent Mütter, of Surgery; Charles D. Meigs, of Obstetrics; Franklin Bache, of Chemistry. There were no changes in this faculty for fifteen years. Peace reigned and Jefferson entered on an era of prosperity.

Joseph Pancoast (1805-1882) was born near Burlington, N. J., and after receiving his M.D. from the University of Pennsylvania began practice in Philadelphia. Here he gave private courses in anatomy which were very popular because of Pancoast's great ability as a teacher, and the skill with which he taught anatomy in its relation to surgery. In 1838 he succeeded McClellan in the chair of Surgery, but in 1841 was transferred to that of Anatomy, which he filled until his resignation in 1872. He is much praised by Gross as a skilful and daring operator. He wrote a great deal, including a large "Operative Surgery."

Thomas Dent Mütter (1811-1859) a native of Virginia, after receiving his M.D. from the University of Virginia, went abroad to study. In Paris he fell under the spell of Dupuytren, Roux, Lisfranc, Velpeau, Louis, and Chomel, to whom he ever after referred in terms of most affectionate admiration. Gross speaks with enthusiasm of his ability as a lecturer. He says that though an excellent surgeon he lacked the boldness of his colleague, Pancoast. As to his personal characteristics Gross is not so complimentary, insinuating that he practiced various artifices to enhance his reputation and increase his practice. Mütter began by teaching in the Philadelphia Medical Institute, a small school where private courses were given by young men, many of whom subsequently attained eminence as teachers. Here his popularity with the students attracted attention, and in 1841 led to his appointment to the chair of Surgery at Jefferson, which he resigned in 1856 because of ill-health. He left a large bequest to the College of Physicians of Philadelphia.

Charles D. Meigs (1792-1869) came of old New England stock. His father was Professor of Mathematics and Natural Philosophy at Yale, and subsequently the first President of the University of Georgia at Athens, Ga. In 1817 Meigs received his M.D. from the University of Pennsylvania, and began practice in Athens. Owing to Mrs. Meig's aversion to slavery, he removed to Philadelphia two years later. Gross says that Meigs was a most brilliant and dramatic lecturer. He wrote many books on obstetrics, and the diseases of women. Meigs was an ardent believer in the non-contagiousness of puerperal fever and has achieved undesirable notoriety by the part which he played in the controversy roused by Oliver Wendell Holmes on that subject. Meigs held the chair of Obstetrics at Jefferson from 1841 until he resigned in 1861.



FIG. 89. Thomas Dent Mütter (1811-1859).

Prior to 1844, the college had an infirmary or out-patient department, but no hospital. After serious operations, the patients would be sent home in carriages. In 1844 two rooms were rented over a shop at Tenth and Sansom Streets, and here Dr. Mütter, on December 23, 1846, first exhibited the anesthetic power of ether to a Philadelphia audience. The first regular hospital building of the Jefferson Medical College was erected in 1847, which was replaced by a very handsome new one in 1877. In 1878 a pathological museum was established in connection with the hospital.

When Dr. Mütter¹ resigned in 1856 the chair of Surgery was filled by the election of Samuel D. Gross (1805-1884) one of the most eminent surgeons that the United States has ever produced.

SAMUEL D. GROSS

Samuel D. Gross (1805-1884) was one of the outstanding surgical teachers of the United States, and because of the undisputed influence of his writings and teaching is worthy of special notice.² He was born at Easton, Penn., where he began the study of medicine under Dr. Joseph K. Swift. Graduating from Jefferson Medical College in 1827, he entered practice in Philadelphia, eking out a livelihood by translating several medical works from the French. In 1830 he published his "Anatomy, Physiology and Diseases of the Bones and Joints," which was favorably received and attracted attention to the author. During this time he became intimate with John D. Godman, one of the most pathetic figures in American medical history, and with Dr. Samuel Brown, who later, with Dr. Frederick Ridgely, constituted the first faculty of the Transylvania Medi-

¹ An interesting account of Mütter has recently been published by Dr. John H. Gibbon in the *Ann. M. Hist.*, 7: 237, 1925.

² The chief authority for Gross is his "Autobiography," Phila., 1887, a large work containing interesting notices of many of his contemporaries.

cal School. In spite of his hard work, he found his prospects so discouraging in Philadelphia, that after eighteen months of trial he went back to Easton to try whether he could not do better. In 1833, through his former teacher at Jefferson, John Eberle, he received the appointment of Demonstrator of Anatomy in the Medical College of Ohio at Cincinnati. Gross remained ten years in Cincinnati, and during that time acquired a large practice although he only taught for two sessions in the college. He was uncongenial with the faculty which he says was "especially a weak one, composed for the most part, of selfish, narrow-minded men, with moderate scientific attainments, and little ability as teachers." During his connection with the Medical College of Ohio, Gross was associated with Eberle, Alban G. Smith, and Gamaliel Bailey in editing the *Western Medical Gazette*. After his resignation in 1835, Gross was elected Professor of Pathological Anatomy in the newly founded medical department of Cincinnati College. His colleagues were Drs. Daniel Drake, Joseph Nash McDowell, Landon C. Rives, John P. Harrison, Horatio B. Rogers, of whom he writes they were "nearly all men of brains, energy, and laudable ambition." Jameson was succeeded at the end of one session by Willard Parker. In 1839 Drake resigned to go to the Louisville Medical Institute, and Parker to go to the College of Physicians and Surgeons in New York. The medical school was therefore disbanded. Gross, left without a teaching position, devoted himself to the publication of his "Pathological Anatomy" the collection of specimens which he had labored hard for many years to gather.

In 1840 Gross moved to Louisville, having accepted the chair of Professor of Surgery in the Louisville Medical Institute, which later became the University of Louisville. Among the other members of the Faculty were Daniel Drake, Charles Caldwell, and John Esten

Cooke. In 1850 he left Louisville, and went to New York as successor to Valentine Mott in the University of the City of New York. He remained for only one session, and then returned to his old position as Professor of Surgery in the Louisville Medical Institute. In 1851 Gross published his "Practical Treatise on Foreign Bodies in the Air-Passages." In 1856 he left Louisville for Philadelphia, having accepted the position of Professor of Surgery in the Jefferson Medical College, succeeding Dr. Thomas D. Mütter. Here he found a congenial group of men with whom to work, including Joseph Pancoast, Robley Dunglison, and Franklin Bache. In 1857 Gross and Dr. Jacob M. Da Costa founded the Philadelphia Pathological Society of which Gross was elected the first President.

In 1859 he published his "System of Surgery," which became a standard work on the subject; at the outbreak of the Civil War, a small "Manual of Military Surgery"; and in 1861 edited a biographical encyclopedia, entitled "Lives of Eminent American Physicians and Surgeons of the Nineteenth Century."

In 1868 Gross was President of the American Medical Association, and in 1876 was President of the International Medical Congress which met in Philadelphia. In 1879 he founded the Philadelphia Academy of Surgery, and in 1880 the American Surgical Association of both of which he served as president. He was a firm believer in the usefulness of medical societies to the profession. How Gross found time for all these activities, as well as for his very numerous contributions to periodic medical literature, is matter for wonder.

In 1872 Dr. Gross received the degree of D.C.L. from Oxford, and in 1880 that of LL.D. from Cambridge.

In 1882 Gross resigned his professorship at Jefferson Medical College, and was elected Emeritus Professor of Surgery. He passed the remaining two years of his life in dignified retirement.

Gross left his valuable library to the Philadelphia Academy of Surgery, with the sum of five thousand dollars, the interest on which was to be paid every five years to the author of the best essay on a subject connected with surgical pathology. The Philadelphia Academy of Surgery has deposited the Gross Library in the Hall of the College of Physicians of Philadelphia and the collection is constantly added to by his family. In the room devoted to it hangs the knocker from the door of Ephraim McDowell.

When Gross resigned in 1882, the trustees instituted two surgical professorships. Dr. Samuel W. Gross was elected Professor of the Principles of Surgery and Clinical Surgery, and Dr. John H. Brinton, Professor of the Practice of Surgery and Clinical Surgery. When S. W. Gross died in 1889 he was succeeded by W. W. Keen.

When Huston resigned in 1857 he was succeeded by Dr. Thomas D. Mitchell, who had been a professor in Transylvania University, who served as Professor of Medica and Therapeutics until his death in 1865.

In 1855 John K. Mitchell died and Dr. Samuel H. Dickson, who had held the same chair in the Medical College of South Carolina, of which he had been one of the founders, was appointed Professor of the Theory and Practice of Medicine. Charles D. Meigs retired during the session of 1861-62, and was succeeded for some months by Dr. William V. Keating, who then resigned on account of ill-health, and was succeeded by Dr. Ellerslie Wallace, who filled the chair of Obstetrics and Diseases of Women and Children, until his resignation in 1883.

At the outbreak of the Civil War more than one-half of the students at Jefferson were from the Southern States. At the Annual Commencement in March, 1860, there were 170 graduates, but after that there was a serious loss of students. Some of the underlying reasons for this are curious. One of the most popular of the private

extramural medical schools in Philadelphia was conducted by Dr. Hunter McGuire, a brilliant Southerner, who had come to Philadelphia in 1858. This school had no connection with Jefferson Medical College beyond the fact that many of his pupils were students of that institution. McGuire was an ardent advocate of the Confederacy, and when hostilities broke out he left Philadelphia for Richmond, and was followed by nearly one-half of the students at Jefferson, as well as many from the University of Pennsylvania. The number of students at Jefferson shrank from 630 to 275. Many of the young Southerners gave up their medical studies for the purpose of fulfilling what they deemed a patriotic duty, enlisting in the Confederate Army, or otherwise serving the cause. In view of the animosity which was excited at the time by McGuire's action it is interesting to record that many years later he was given the degree of LL.D. by Jefferson College. It is also of interest that almost immediately after the close of the War Southern students once more flocked to Jefferson, and among them were some who had withdrawn from its rolls in 1860-61, but now wished to complete their studies under their old teachers.

When Professor Bache died in 1864, he was succeeded as Professor of Chemistry by Dr. B. Howard Rand. In 1865 Dr. Thomas D. Mitchell died and the chair of *Materia Medica* and Therapeutics was filled by the election of Dr. John B. Biddle. When the latter died in 1879 he was succeeded by Roberts Bartholow who held the chair until 1893, when he was succeeded by Hobart A. Hare.

In 1866 a summer course of instruction was provided for by the appointment of Drs. W. H. Pancoast, S. W. Gross, J. Aitken Meigs, R. J. Levis and F. F. Maury, as supplementary teachers on the faculty. A year later Drs. John H. Brinton and W. W. Keen were joined with them.

In 1872 Dr. Samuel Henry Dickson died and was succeeded as Professor of the Theory and Practice of Medicine by Jacob M. Da Costa (1833-1900), one of the most distinguished physicians of his day. His work on "Medical Diagnosis" was long a standard textbook. When he resigned his chair in 1890 he was elected Emeritus Professor. His successor was Dr. James C. Wilson.

When Robley Dunglison resigned in 1868, James Aitken Meigs was elected Professor of the Institutes of Medicine and served in that capacity until his death in 1879, when Dr. Henry C. Chapman was appointed in his stead.

Dr. Joseph Pancoast resigned the professorship of Anatomy in 1874. He was elected Emeritus Professor, and his son William H. Pancoast was elected Professor of General Descriptive and Surgical Anatomy.

In 1870 J. Solis-Cohen became an instructor in the summer course, lecturing on laryngoscopy and diseases of the chest. He was one of the pioneer American laryngologists. In later years he was appointed Honorary Professor of Laryngology. He died in 1928.

In 1873 William H. Thomson was appointed Instructor in Ophthalmology and Otology in the summer course. In 1882 Thomson was made Professor of Ophthalmology.

In 1873 an appropriation of \$100,000 was secured from the Legislature towards the erection of a new hospital for the college. Liberal subscriptions were procured from the friends of the institution, and in 1876 the buildings were ready for occupancy.

When Professor Rand died in 1877, the chair of Medical Chemistry and Toxicology was filled by the appointment of Dr. Robert E. Rogers, who had for twenty-five years been Professor of Chemistry in the medical department of the University of Pennsylvania, to which he had succeeded on the death of his brother John B. Rogers in 1852. He was sixty-four years old at

the time of his election, and held the chair until his death in 1884, when Dr. J. W. Mallet was elected his successor but only remained at Jefferson for one session, at the end of which he returned to the University of Virginia (at which he had formerly been Professor of Chemistry) to resume that chair. Dr. J. W. Holland succeeded him in the chair of Chemistry at Jefferson.

Ellerslie Wallace resigned the chair of Obstetrics in 1883, and was succeeded by Theophilus Parvin (1829-1898), who had held professorships in a number of institutions in Ohio and Indiana, and had contributed much to the literature of gynecology and obstetrics. At his death in 1898 the chair was filled by the election of Dr. Edward P. Davis.

In 1884 Jefferson Medical College adopted the "graded course" of study, and made three years' compulsory attendance necessary to obtain the degree of M.D., and the following year abolished the thesis as an essential requirement for the degree.

After William H. Pancoast (1835-1897) resigned the professorship of General, Descriptive and Surgical Anatomy in 1885, Dr. William S. Forbes (1831-1905) was elected his successor. Forbes had been Demonstrator of Anatomy since 1879 and was a splendid teacher. He is especially entitled to remembrance for the great part he took in securing the passage of suitable legislation to provide a supply of bodies for the purposes of dissection, and for the unfortunate notoriety to which his ardor in the pursuit of his profession subjected him. After graduating from Jefferson in 1852 Forbes went abroad for further study in anatomy and surgery in order to qualify himself as a teacher. Returning to Philadelphia, he started "The College Avenue Anatomical School." There was no adequate provision under the existing laws for a supply of anatomical material, and Forbes realizing this, in 1867 sought the aid of the College of Physicians of Philadelphia in order

to secure legislation to meet the situation. The college endorsed his efforts and appointed a committee consisting of W. S. Forbes, D. Hayes Agnew, and Samuel D. Gross, to take up the matter. This committee drew up "An Act for the Promotion of Medical Science, and to prevent the traffic in human bodies," which was passed by the Legislature and became a law on March 18, 1867. The law applied only to the city of Philadelphia and to Allegheny County. It contained the clause that officials, having control of the disposition of bodies "shall give permission to take the bodies of deceased persons required to be buried at the public expense," to any physician or surgeon of the same city or county upon his request therefore, to be used by him within the State for the advancement of medical science. The teachers of anatomy in Philadelphia organized themselves into an association and agreed upon an equitable method of distributing the bodies in proportion to the number of students in the different schools. For some time things seemed to go smoothly, but soon it was found that the words "shall give permission" to take the bodies did not bind the officials, who had control of the bodies, to any certain method of distribution, and favoritism began to play a part in the allotment. The coroner of Philadelphia owned and conducted the Philadelphia School of Anatomy, and it was noteworthy that this institution never suffered from a dearth of material. In 1882 Forbes, then Demonstrator of Anatomy in Jefferson, tried to have the Act amended to read that coroners and other officials "shall deliver" such bodies. In December of that year he was arrested on a charge of having robbed graves in Lebanon Cemetery, a negro burying ground in Philadelphia. In March 1883 he was tried and acquitted, it being shown that he knew nothing of the manner in which the bodies brought to the dissecting room at Jefferson had been obtained. The trial had the good result of consolidating the medi-

cal profession in an effort to amend the Anatomy Act of 1867, so as to secure its object. In 1883 such an Act was passed. It extended the provisions of the Act throughout all the counties in the State, and constituted an anatomical board composed of teachers of anatomy, which was henceforth to have entire control over the disposition of unclaimed bodies.

WINCHESTER MEDICAL COLLEGE¹

In 1826 two physicians of Winchester, Virginia, Drs. John Esten Cooke and Hugh H. McGuire, obtained a charter for the "Medical School of the Valley of Virginia." Dr. Cooke was Professor of the Practice of Medicine and Obstetrics and Dr. McGuire of Anatomy, Physiology and Surgery. They associated with them Dr. A. F. Magill as Professor of Chemistry and Materia Medica.

John Esten Cooke (1783-1853) first studied medicine under his father, Stephen Cooke, who had been a surgeon in the Revolution. He then graduated from the medical department of the University of Pennsylvania in 1805. In 1829 he left Winchester and going to Lexington became Professor of the Practice of Medicine in Transylvania Medical School. In 1837 he went with Caldwell to Louisville to found the Louisville Medical Institute.

Hugh Holmes McGuire (1801-1875), was a skilful lithotomist and is said to have been the first American surgeon to operate for clubfoot and the first in Virginia who operated for cataract. He is said to have had his interest in medicine aroused by a lithotomy which Dr. Physick performed in Winchester on a relative. Young McGuire accompanied Physick back to Philadelphia and graduated from the medical department of the University of Pennsylvania in 1822. Though offered

¹ In 1924 Dr. W. P. McGuire, of Winchester, published a most interesting account of the college in the *Virginia M. Month.*, 1924, from which the following information is derived.

professorships in other cities on several occasions McGuire refused to leave Winchester. During the Civil War he was a surgeon in the Confederate Army.

In 1829 the Medical School of the Valley of Virginia went out of existence. In 1847 a new charter was obtained, the name of the institution being changed to Winchester Medical College. Money granted by the State and raised by subscription was used to purchase a site and erect buildings for the college. The faculty consisted of Dr. Hugh H. McGuire, Professor of Surgery; Dr. J. Philip Smith, Professor of the Practice of Medicine; Dr. William Bradford, Professor of Chemistry and Materia Medica; Dr. J. H. Straith, Professor of Obstetrics and Diseases of Women and Children, and Dr. Daniel Conrad, Professor of Anatomy and Physiology. Later Dr. Bradford was succeeded by Dr. Bushrod Taylor and Dr. Conrad by Dr. J. William Walls. Dr. McGuire says that with the exception of the chair of operative surgery which was held for three years by Dr. Hunter McGuire, there was no other change in the faculty until 1861. The standard of the school was very high, a system of daily quizzes keeping the students up to their work. Dissecting material was procured by body-snatching and Dr. McGuire relates an interesting episode, which is also valuable for the sidelight on the effect of the war on medical education.

John Brown made his famous raid at Harper's Ferry in October, 1859. One of Brown's sons came with this party of outlaws. He did not enter the fort or stockade with his father but attempted to seize Hall's Rifle Works at the upper end of Harper's Ferry and directly upon the Shenandoah River. In the early part of the fighting nearly all of the men at this point were killed or escaped across the river into the mountains. Many of the students from the Winchester Medical College, led by the excitement of the time, went to Harper's Ferry the morning of Brown's capture of the place—there being a railroad from Winchester to Harper's Ferry. On leaving the train before it reached the main station, they saw a dead body lying upon the banks of the river and, always look-

ing for dissecting material, immediately grabbed it, doubled it up in a store box, and shipped it back to the college where it was found by the clothing and the papers upon the body to be Owen Brown, son of John Brown. The writer saw this body when it was brought into the college building; the man was shot directly in the umbilicus. A dried preparation was made of the body and it was afterwards used for teaching purposes.

When the Federal Army, under General Banks, first entered Winchester, in March, 1862, the body was sent north and the college buildings all burned by the order of General Banks.

Afterwards, on December 16, 1859, among those being hung in Charlestown, Va., for participation in the raid of Brown, were two negro men, Shields and Copeland. Their bodies were scarcely buried after the hanging, before the students of the Winchester Medical School had dug them up and they were brought to the college. The writer saw them as they were brought into the college with the ropes still around their necks.

The college ceased to exist in April, 1861. The buildings were turned into a military hospital, serving that purpose until they were destroyed by fire in March, 1862.

THE MEDICAL DEPARTMENT OF TULANE UNIVERSITY OF LOUISIANA¹

In 1834 the Medical College of Louisiana was founded in New Orleans, chiefly through the efforts of Dr. Thomas Hunt (1808-1867), a native of Charleston, South Carolina who, after graduating from the medical department of the University of Pennsylvania in 1829, had studied for a short time in Paris, and then had begun practice in his native city, where he conducted classes in anatomy and surgery. In 1832 the brig *Amelia* sailed from New York for New Orleans, having among her passengers a young doctor named Warren Stone who was leaving Troy, N. Y., to settle in New Orleans. This was the great cholera year and among the passengers who embarked at New York were four who were

¹ The history of the medical department of Tulane University of Louisiana is chiefly derived from an anonymous special article in *The Medical News*, March 15, 1902, vol. 80, No. 11.

actually suffering from the disease. When four days out the *Amelia* ran into a terrible storm during which the passengers were all kept below under closed hatches. When the storm subsided Dr. Stone found no fewer than twenty-five of the passengers suffering from cholera. The *Amelia* was wrecked on Folly Island, near Charleston, and the cupidity of a lot of wreckers who swarmed out to loot the passengers and ship soon carried the disease to the mainland. Finally the authorities took hold of the situation, forbade communication between the people on the ship and the mainland and quarantined the passengers on Folly Island. Dr. Hunt was placed in charge of health affairs on the Island and Dr. Stone was his chief aid in his work. When the crisis was over Stone went on to New Orleans where he found not only cholera but also yellow fever prevailing in epidemic form. Stone got a position on the staff of the Charity Hospital which afforded him a small income and plenty of work. A few months later Dr. Hunt also settled in practice in New Orleans, where the two young men renewed their association which had begun under such tragic circumstances. Shortly afterwards Hunt succeeded in getting Drs. Charles A. Luzenberg, J. M. Mackie, J. R. Ingalls, A. H. Cenas, E. B. Smith and Warren Stone, to associate with him in establishing a medical school, the Medical College of Louisiana. Hunt, who was professor of anatomy and physiology, as well as dean, delivered the introductory lecture in September, 1834. Attendance at two annual sessions of four months each was required, and it seems that great laxity was shown even in carrying out these small requirements. Nevertheless the faculty seems to have usually contained some men above the average. Hunt held at various times the chairs of anatomy, physiology, pathological anatomy and practice. He seems to have been particularly interested in dermatology on which subject he published several articles. Dr. Warren Stone was the

most notable member of the early faculty. His father was a farmer at St. Albans, Vermont, where Warren Stone was born on February 3, 1808. He began his medical studies under the distinguished Dr. Amos Twitchell, and graduated from the Berkshire Medical Institute in 1831. After starting practice without success at Troy, N. Y., he determined to try what he could do in New Orleans and sailed on the memorable voyage in the *Amelia*. His association with Hunt on Folly Island was the basis of a lifetime friendship, continuing until Hunt's death in 1867. Stone was demonstrator, lecturer, finally professor of anatomy, until in 1839, he became professor of surgery, which he remained until his death in 1872. Dr. Stone and Dr. William E. Kennedy established a private hospital, which they called the *Maison de Santé*. There, at the Charity Hospital and at the *Hôtel Dieu*, Stone did a great amount of surgical work and became renowned as one of the leading surgeons of the South, in spite of the fact that in 1841, he lost the sight of one eye from specific infection contracted during an operation.

In 1845 a new constitution was adopted by the State and under it a state university was established with the Medical College of Louisiana as its medical department. Until the outbreak of the Civil War the school was most successful. In 1861 there were 404 students enrolled. In 1862 New Orleans was taken by the Federal troops and the doors of the medical college were closed until 1865.

Among the notable men who figured in the faculty of the Medical College of Louisiana before the Civil War was John Leonard Riddell (1807-1867), a native of Massachusetts, who had graduated from the Cincinnati Medical College in 1836, and was appointed Professor of Chemistry in the College at New Orleans the same year. Riddell was one of the best botanists in the United States. A genus of plants is named for him, *Riddellia*,

and he described many new species. He was a skilled microscopist and it is claimed was the inventor of the binocular microscope.

The medical school was reopened for the session of 1865-66 and managed to struggle through the troubles of the Reconstruction with gradually increasing enrollments of students. In 1884 the name of the University of Louisiana was changed by the Legislature to Tulane University of Louisiana, over a million dollars having been left by Paul Tulane to improve the education of "the white young persons in the city of New Orleans." Since that time the Tulane medical school has steadily progressed and in standards and enrollment compares favorably with the best medical schools in the United States.

DANIEL DRAKE: A DOMINANT FIGURE IN WESTERN MEDICINE¹

Daniel Drake figured so prominently in the organization of medical teaching in his day that his career deserves extended notice in connection with the many institutions which he founded or wherein he taught. Sir William Osler urged the erection of a monument to Drake in Cincinnati in recognition of his immense services.

Daniel Drake (1785-1852) was born near the town of Plainfield, New Jersey, October 20, 1785. A few years later his father, Isaac, a farmer, migrated with some of his neighbors to a new settlement called Mayslick, in Kentucky, about seventy-five miles from Lexington. Drake wrote a series of letters to his children, which his son Charles D. Drake published in 1870 with the title; "Pioneer Life in Kentucky. A series of reminiscential letters from Daniel Drake, M.D., of Cincinnati, to his children," in which he described his

¹ Otto Juettner's "Daniel Drake and his Followers" is the best compilation of facts concerning its subject—"Memoirs of the Life and Services of Daniel Drake" by Edward D. Mansfield, Cincinnati, 1855.

youthful days. The family lived in great poverty in a log cabin on the farm which Drake's father cultivated. Daniel helped in the farm work and received a very meagre schooling. A first cousin, John Drake, some years his senior, studied medicine, and Daniel's interest in medical matters was greatly stimulated by contact with him. John died about the time of his graduation but Daniel had determined to become a doctor and persisted in carrying out his intentions. Although Isaac Drake was an illiterate man, living in abject poverty, he was most anxious that his children should have every opportunity to elevate themselves and from the start he aided Daniel to the extent of his abilities in his ambition to study medicine. When Daniel was but three years old his father told Dr. William Goforth, another New Jersey immigrant to the wilds of Kentucky, that his son should be his pupil and become a doctor. Goforth was a New Yorker by birth. He was studying medicine there in 1787-88 at the time when the "Doctors' Mob" occurred, a mob attacking the dissecting room of the medical school and wrecking it in protest against dissection. In 1788 he had settled at Washington, Ky., but in 1800 he moved to Cincinnati. Here he became the leading physician of the town. Goforth seems to have been a man of high character but somewhat erratic and impulsive. He was a follower of Brown, the Scotchman who conceived the so-called Brunonian system of practice, and accordingly held Benjamin Rush and his methods in great contempt. He is said to have been the first to practice vaccination in the Western territory, having done so in 1801.

Drake was but fifteen years old when he was apprenticed to Goforth for a period of four years. He was to live in the family of his preceptor, and incidentally was to attend school for two quarters in order that he might acquire some knowledge of Latin. The work of the apprentice was hard but he made the best of his oppor-

tunities and so satisfied his preceptor that in 1804 he took him into partnership.

In 1802 a young Dr. Stites had come to Cincinnati from New York and become a partner of Goforth's. Stites was a great admirer of Benjamin Rush and brought some of his writings with him. These young Drake read and became fired with the desire to go to Philadelphia to study under their author. He seems to have been able to convert Goforth from his hostile attitude, so much so that in 1805 he aided Drake financially when he started for Philadelphia to carry out his wish. Before his departure Dr. Goforth conferred on him a diploma, of which Juettner gives a facsimile. It was the first medical degree conferred west of the Alleghanies. Nothing much is known about his stay in Philadelphia, but we may feel assured he made good use of his time. Drake only remained in Philadelphia about five months. Returning to his father's house he practiced there for about a year, when Dr. Goforth asked him to come to Cincinnati and take over his office as he intended going to New Orleans. Drake accepted and in 1807 began practice in that city. He was also courageous enough to give bonds to fortune by marrying Miss Harriet Sisson, whose devoted help proved of great aid to him until her death in 1825.

Drake soon acquired a good clientele, but his active mind led him to fill in any spare moments he might have by studies of a nonmedical nature. The result of these pursuits was the publication in 1815 of his "Natural and Statistical View or Picture of Cincinnati and the Miami Country, illustrated by maps. With an appendix containing observations on the late earthquakes, the *aurora borealis* and southwest wind." This book was an outgrowth from a smaller work which he had published in 1812, entitled "Notices of Cincinnati, its Topography, Climate, and Diseases." The larger book scored an immediate success, exciting much

interest because of its being the first full account of a comparatively recently settled country. It was the first literary production of a citizen of Cincinnati.

Drake in addition to his practice had a drug-store, in which he also sold groceries, hardware, etc. In it in 1816 he fitted up the first soda water fountain in the town. Drake took a public spirited interest in many of the affairs of the growing community. When the Lancaster Seminary was incorporated in 1815, Drake was one of the trustees. Later this institution became the Cincinnati College and Drake organized its medical faculty. He was instrumental in building the first Episcopal church in the city and in starting a Library Society, a Debating Society, and a School of Literature and Art. He also took an active part in furthering various projects for canals and railroads.

In the autumn of 1815, Drake and his wife went to Philadelphia so that he might continue his studies and gain a degree. This he succeeded in accomplishing.

The winter of 1817 Drake passed in Lexington, Ky. as Professor of *Materia Medica* in the medical department of Transylvania University, recently established by Benjamin W. Dudley. This was the first medical school established in the West and Drake was one of its first faculty.

Drake had left his office in Cincinnati in charge of Dr. Coleman Rogers. In the spring of 1818 he gave up his professorship and moved back to Cincinnati. He and Rogers seem to have at once begun plans to establish a medical school. The year before they had advertised that they would take pupils. Now they associated with them the Reverend Elijah Slack, a Presbyterian clergyman, who after teaching the natural sciences at Princeton College had come to Cincinnati, and was at the head of Lancaster Seminary in that town. The reverend gentleman was to teach chemistry in their projected course.

This partnership in teaching was not successful and was dissolved after one session, Dr. Drake announcing that henceforth he would receive private pupils and instruct them himself in all the branches of medicine and surgery.

Meanwhile Drake was actively pushing plans for the founding of a medical school. In January, 1819 the Kentucky Legislature had passed an Act chartering the "Medical College of Ohio," and naming as its faculty Samuel Brown, Coleman Rogers, Elijah Slack, and Daniel Drake. Drs. Brown and Rogers, however, refused to serve. On November 1, 1820 the college opened its first session on the second floor of the building occupied by the store of Isaac Drake and Co. Twenty-four students were enrolled. Drake lectured on the Theory and Practice of Medicine, Obstetrics, and Diseases of Women and Children; The Rev. Elijah Slack on Chemistry; Dr. Jesse Smith on Anatomy and Surgery, and Benjamin S. Bohrer on *Materia Medica*. In 1821 John D. Godman (1794-1830), one of the most pathetic figures in American medical history, was elected Professor of Surgery and Obstetrics, Jesse Smith taking over the teaching of physiology instead of surgery.

John D. Godman was a native of Annapolis, Ind. He lost both parents at an early age. Dire poverty pursued him throughout his life and although he was a man of the most marked intellectual ability, as Gross¹ says: "gifted beyond most of his contemporaries, he failed in almost everything in which he was engaged." In youth he was a printer's apprentice. In the War of 1812 he enlisted as a sailor in the Navy and served at the bombardment of Fort McHenry. It is related that while working aloft he looked down and becoming dizzy nearly lost his hold. As he was about to fall the Captain yelled at him: "Look aloft, you lubber," an

¹ Autobiography.

order which he promptly obeyed and thereby regained his equilibrium and saved his life. Godman used to quote the Captain's order as a splendid recipe when in doubt or discouragement, circumstances under which the poor fellow must frequently enough have needed such help as it could afford him. He graduated from the medical department of the University of Maryland in 1818. In addition to studying medicine he had studied Latin, Greek, French, German, and Italian and become proficient in all of them. Although a brilliant anatomist he was a failure as a surgeon. Gross relates that while Professor of Surgery at the Medical College of Ohio he lithotomized a man but was unable to extract the stone. The patient subsequently walked all the way to Philadelphia, where Professor Gibson, of the University of Pennsylvania, operated successfully. He was long a sufferer from tuberculosis, and probably the combination of ill-health and unsympathetic surroundings was too much for him, for he resigned his professorship at the Ohio Medical College at the end of his first session. Coming East he was elected Professor of Anatomy at the Rutgers Medical College in 1826. Then his ill-health required him to again forego his duties. He sailed to the West Indies in the hope that the climate would benefit him. On his return Godman settled in Philadelphia and earned his living by his pen, until his death some eighteen months later. Gross, who knew him well, collaborated with him in a translation of the Duke of Saxe-Weimar's "Travels in the United States." Godman also translated Levasseur's "Account of Lafayette's Tour through the United States." For a time he edited the *Philadelphia Journal of the Medical Sciences*. He wrote the articles on zoology for the "Encyclopedia Americana," and a work on "American Natural History." One delightful little book from his pen was the "Rambles of a Naturalist." He died in April, 1830.

There was great dissension in the faculty of the College and on March 6, 1822, this culminated in the dismissal of Dr. Drake from the school he had founded by his colleagues. By Act of Legislature a member of the faculty could be expelled by a two-thirds' vote of that body. Godman and Bohrer had resigned, leaving only Drake, Jesse Smith, and the Rev. Elijah Slack in the faculty. The two latter voted to dismiss Drake, so out he went. Drake says that they voted through jealousy of his professional position and his influence in the college. Such an outcry went up from Drake's friends and admirers that a week later the two survivors of the faculty held a meeting and reinstated him. Drake, however, refused to rejoin them.

In 1823, Drake moved once more to Lexington, Ky. having accepted the chair of medicine in Transylvania University. In 1825 he was made dean of the school, but the next year he resigned and went back to Cincinnati. In 1827 he and Dr. Jedediah Cobb founded the Cincinnati Eye Infirmary. In 1826 Drake had started the *Western Journal of the Medical and Physical Sciences*. In 1830 Drake was appointed Professor of Medicine in the Jefferson Medical College of Philadelphia, then in the fifth year of its existence. The trustees of Miami College, Oxford, Ohio, desired to open a medical school for the college in Cincinnati and had asked Drake to organize it.

When he went to Philadelphia it was with the idea of staying but a short time and then returning with an importation of Eastern medical talent to fill the chairs in the new school. This idea he carried out. He remained at Jefferson one year and when he went back he brought with him Dr. John Eberle and Dr. Thomas D. Mitchell to become professors in the projected Miami Medical College, which was to be located at Oxford, Ohio. A prospectus was issued. The trustees of the Ohio Medical College, alarmed at the prospect of such a rival, entered into negotiations with Drake,

which resulted in their getting rid of Jesse Smith and Elijah Slack, and appointing Drake's new men to places and making Drake Professor of Clinical Medicine. Mitchell became Professor of Chemistry; Eberle, Professor of Materia Medica; and James M. Staughton, who was brought by Drake from Columbia College, Professor of Surgery.

Drake resigned one year later, but in 1835 he once more undertook the founding of a medical school, the Medical Department of Cincinnati College. The college opened with a most distinguished faculty, viz.: Joseph N. McDowell, Professor of Anatomy; Samuel D. Gross, Professor of Pathology, Physiology and Jurisprudence; Horatio B. Jameson, Professor of Surgery; Landon C. Rives, Professor of Obstetrics and Diseases of Women and Children; James P. Rogers, Professor of Chemistry and Pharmacy; John P. Harrison, Professor of Materia Medica. Daniel Drake, Professor of Practice of Medicine; John L. Riddell, Adjunct in Chemistry and Lecturer on Botany. Dr. Jameson resigned at the end of the first session and was succeeded by Dr. Willard Parker.

As the Medical College of Ohio was in complete control of the Commercial Hospital, Drake fitted up a building opposite the new college, and gave it the name of the Cincinnati Hospital. This and his Eye Infirmary were the only sources of clinical material for the new institution. In the last year of the existence of the Cincinnati College Medical School, Drake succeeded in getting an Act of Legislature passed by which the students of Cincinnati College were permitted to attend the clinics at the Commercial Hospital. Some of its professors were to be added to the staff. This was, however, too late to be of benefit to the institution which ceased to exist in 1839. Gross afterwards wrote very eulogistically of the work done by the school during its brief existence. It educated about four hundred pupils in that time. When Willard Parker resigned in

1839 to accept the chair of surgery in the College of Physicians and Surgeons in New York, Gross resigning shortly afterwards, the rest of the faculty following suit, the last to give up the ship being Daniel Drake.

In 1840 Drake moved to Louisville, Ky., becoming first Professor of Materia Medica and Pathology, later of the Practice of Medicine, in the Louisville Medical Institute. During the following ten years he devoted all the time he could spare from practice and teaching to writing his invaluable work on the "Diseases of the Interior Valley of North America." In 1849 he was called back to the Ohio Medical College to again fill the chair of Professor of Medicine. He only remained in Cincinnati during the session of 1849-50, when he resigned and went back to Louisville. In 1852 he once more returned to the Ohio Medical College. He had just begun his work at the College when he was taken ill. He died of pneumonia on November 6, 1852.

Drake had only published, in 1850, the first volume of his great book, but he left the material for its completion in such shape that two years later it was published under the editorship of Dr. S. Hanbury Smith, of Columbus, Ohio, and Dr. Francis C. Smith, of Philadelphia.

Samuel D. Gross,¹ who knew Drake intimately, wrote of him: "Drake had nothing bad in him; his faults were errors of judgement, not errors of the heart, which was always in the right place. No man had warmer friends; no man had kindlier feelings for human nature in all its manifold phases."

THE MEDICAL COLLEGE OF OHIO²

This college was established by an Act of the Ohio Legislature passed January 19, 1819, which named

¹ Autobiography, vol. 2, p. 272.

² For information on the Medical College of Ohio, Juettner's "Daniel Drake" and the "Autobiography of Samuel D. Gross" are the fullest sources, with Drake's own writings and the "Memoirs of Daniel Drake," by Edward D. Mansfield.

as its faculty, Daniel Drake, Professor of the Institutes and Practice of Medicine; Coleman Rogers, Professor of Surgery; Elijah Slack, Professor of Chemistry and Pharmacy; Samuel Brown, Professor of Anatomy. Drs. Rogers and Brown declined to serve on the faculty, and at a meeting of the faculty, consisting of Drake and the Reverend Elijah Slack, who was not a physician, held on January 14, 1820, it was solemnly recorded that Dr. Brown and Dr. Rogers had acted with duplicity towards the college and were unworthy of membership in the faculty, having by their "intrigue and duplicity" protracted its organization. Dr. Benjamin S. Bohrer was elected Professor of *Materia Medica*.

The college opened November 1, 1820 with a class of twenty-four students. It was located in the second floor of the building occupied by the general store of Isaac Drake & Company. The first commencement was held on April 4, 1821 when degrees of M.D. were conferred on seven students. In April, 1821, Dr. John D. Godman was elected Professor of Anatomy, and Dr. Jesse Smith, Professor of Surgery. Sad to relate, internal dissensions soon arose which disrupted the faculty. Godman and Bohrer resigned. The charter had placed the entire control of the affairs of the college in the hands of the faculty, and by its terms provided that the election or dismissal of a professor was to be decided by a two-thirds vote of the faculty. At a meeting of the faculty, March 6, 1822, at which were present Drake, Smith, and Slack, all the members left, Slack and Smith voted to dismiss Drake from his professorship. They then drew up a letter to the citizens of Cincinnati to explain their action. This did not allay the storm of indignation which arose among Drake's numerous friends. The two miscreants then met and passed a resolution creating a board of trustees to rule the college, and on March 12, 1822, they met again and reinstated Drake, a reparation which he refused to accept, resigning im-

mediately. In December, 1822, the Legislature passed an Act instituting a board of trustees, consisting of laymen, to manage the college. Smith and Slack remained the only teachers until 1824 when Dr. John Moorhead was elected Professor of Obstetrics and the Diseases of Women and Children, and Dr. Jedediah Cobb, Professor of the Practice of Medicine. In the following year Cobb took the chair of Anatomy and Physiology, and Moorhead that of Practice of Medicine. Also in 1825 Josiah Whitman became Professor of *Materia Medica*.

Dr. John Moorhead (1784-1873) was a native of Ireland who had graduated from Edinburgh University. He and Drake were bitter enemies. Once they came to actual blows, and Drake's brother and Moorhead had a fistfight on another occasion. Moorhead held the chair of Practice of Medicine until 1849, when his father, a baronet, having died, he returned to Ireland to assume the title and estates.

Jedediah Cobb (1800-1861), a native of Maine, graduated in medicine at Bowdoin College in 1823. In 1837 he resigned from the Medical College of Ohio to become Professor of Anatomy in the Louisville Medical Institute. In 1852 he went back with Drake to the Medical College of Ohio, where he only remained one session, and then resigned because of ill-health. Gross¹ admired him greatly as a teacher and anatomist.

Josiah Whitman (1796-1837) taught at the college until 1831. He was a native of Massachusetts, and had received his M.D. from Harvard in 1816. Whitman was a *bon vivant*, and though possessing considerable ability never attained a very high rank in his profession. He left the college in 1831.

In 1825 the Legislature of Ohio passed an Act whereby a board of eleven trustees, of which no professor should be a member, was given the power of appointing and

¹ Autobiography.

dismissing professors, of creating new chairs, and of conferring degrees in conjunction with and on recommendation of the faculty. All the moneys realized for five years in Hamilton County on tax penalties, auction sales and auction licences were appropriated for the support of the Medical College of Ohio. In 1826 the College occupied a building erected for it on ground purchased for that purpose on Sixth between Vine and Race.

In 1828 Dr. Charles Edwin Pierson (1787-1865) was elected Professor of *Materia Medica*. Pierson was a native of Morristown, N. J., who had graduated from the medical department of the University of Pennsylvania in 1813. After passing six years in travel and study in Europe he returned to America and settled in Cincinnati where he had several relatives who were prominent in politics and in the affairs of the Medical College of Ohio. Through their influence he was appointed to a professorship.

Ever since 1822 Drake seems to have done everything in his power to revenge his expulsion from the college of which he had been the founder.

In 1830 the trustees of Miami College, located at Oxford, Ohio, planned to found a medical department of the college in Cincinnati and Drake gladly agreed to organize it. Drake went to Jefferson Medical College, Philadelphia, to teach during the session of 1829-30, and when he returned he had secured a galaxy of talent to supply teachers for the new school, with which he hoped to utterly overthrow the Medical College of Ohio. The trustees of Miami College announced on February 22, 1831, that the following would be the faculty of the projected medical department: Daniel Drake, Professor of the Institutes and Practice of Medicine, and Dean of the Faculty; George McClellan, Professor of Anatomy and Physiology; John Eberle, Professor of *Materia Medica* and Botany; James M.

Staughton, Professor of Surgery; John F. Henry, Professor of Obstetrics and Diseases of Women and Children; Thomas D. Mitchell, Professor of Chemistry and Pharmacy; Joseph N. McDowell, Adjunct Professor of Anatomy and Physiology. McClellan backed out and remained in Philadelphia, fortunately for him.

The trustees and faculty of the Ohio Medical College realized that with such a faculty, the new school, if established, would overwhelm theirs. The trustees quickly opened negotiations with Drake, which shortly resulted in the abandonment of the project for a Miami medical school and the merging of Drake's new group of teachers into the faculty of the Ohio Medical College. In order that this could be accomplished the trustees got rid of Jesse Smith and Elijah Slack by compelling their resignations. Their places were filled by Staughton as Professor of Surgery and Mitchell as Professor of Chemistry. Josiah Whitman, a friend of Smith, and Slack, also resigned. As Pierson could not be ousted because of his political influence a new chair was created, and he was made Professor of the Institutes of Medicine and Medical Jurisprudence, Eberle taking the chair of *Materia Medica*. A year later Eberle was made Professor of the Practice of Medicine, and Pierson again taught *Materia Medica*, the chair of Medical Institutes and Jurisprudence being abolished. Drake did not succeed in ousting Moorhead, his chief enemy. Moorhead remained as Professor of the Practice of Medicine and Drake became Professor of Clinical Medicine. Joseph F. Henry became Professor of Obstetrics and Diseases of Women and Children. Jedediah Cobb remained as Professor of Anatomy.

John Eberle (1787-1838) was one of the most notable figures in the faculty. A native of Hagerstown, Md., his parents removed to Lancaster County, Penna., when he was an infant, and he was brought up among

the Pennsylvania Dutch. He received his M.D. from the University of Pennsylvania in 1809, and practiced at first in Lancaster County. As a militia surgeon he saw active service at Baltimore in 1814. During these early years he took an active part in politics, serving at one time as an editor of a political newspaper. Becoming disgusted with politics he settled down to the practice of medicine in Philadelphia in 1817. Here he established the *Medical Recorder*, a quarterly medical journal. In 1822 he published his "Therapeutics," which was held in great esteem. Before the opening of Jefferson Medical College he and George McClellan gave lectures on medicine in the Appollodorian Gallery, located on Walnut Street, opposite Washington Square. When Jefferson Medical College was established by McClellan in 1825, Eberle was made Professor of *Materia Medica* and later of the Practice of Medicine. He wrote a "Practice of Medicine" while at Jefferson which was as successful as his "Therapeutics." Unfortunately Eberle had contracted the opium habit and this and hard work, had undermined his health. He seems to have been a morbid, eccentric man, and was constantly haunted by poverty and the fear of leaving his family destitute. In Cincinnati he wrote a "Materia Medica" and was one of the editors of the *Western Medical Gazette*. In 1837 he was offered the chair of Professor of Practice of Medicine in Transylvania University. He accepted but was too ill to take up the work, dying before he was able to lecture.

James M. Staughton (1800-1833) died of cholera before having an opportunity to demonstrate much of the talent which he had shown signs of possessing.

Thomas D. Mitchell (1791-1867) taught chemistry in the Medical College of Ohio until 1835, when he went to Transylvania University as Professor of *Materia Medica*. In 1847 he went back to Philadelphia where he lectured on practice in the Philadelphia College of Medi-

cine until 1857 when he became Professor of *Materia Medica* at Jefferson Medical College.

Joseph F. Henry (1793-1873) a native of Kentucky, only taught in the Medical College of Ohio for one session. He was then forced to resign because of his loyalty to Drake. It was inevitable that the arrangement between Drake and the trustees of the Medical College of Ohio should soon fail. In order that Drake and Moorhead should not conflict it was arranged that Drake should give his lectures on clinical medicine at the Commercial Hospital, and to prevent his trespassing in Moorhead's field rules were drawn up that he had "to confine himself to the case presented, was not to discuss the class to which the case belonged, had to avoid saying anything about the physiological, pathological and therapeutic points involved, was not permitted to refer to method or system of treatment, and was not to make use of hypothetical illustrations."

Drake resigned his chair on January 21, 1922. In his letter of resignation he accused the faculty of bad faith and called the trustees of the hospital "falsifiers and slanderers." Thus ended his attempt at revenge on the institution he had founded. The new faculty had certainly tried to improve the college. They had spent more than \$1000.00 in acquiring chemical apparatus and anatomical models, etc. One curious item is that in order to avoid the scandals which arose from grave robbing by students they employed professional resurrectionists to procure anatomical material.

In 1832 and 1833 the epidemic of cholera which invaded the United States hit Cincinnati with great severity and interfered considerably with the attendance at the college.

During the years following his resignation in 1832 Drake devoted much energy to injuring the Medical College of Ohio in every possible way, inspiring criticism of it in medical societies and in the lay press. Drake

quotes from the *Boston Medical and Surgical Journal*, August 5, 1835, the statement that it was an "apparently rotten institution." The students were at odds with the faculty, even going so far as to memorialize the State Legislature against the Faculty. In 1833 the first District Medical Society of Cincinnati charged both the trustees and the faculty with incompetency. In 1835 a memorial signed by twenty-eight physicians in Cincinnati and one hundred and eight practicing elsewhere in the State of Ohio, was presented to the trustees, declaring the College to be in "a languishing condition, and appealing to them to take remedial action."

Things must have been pretty bad. Dr. Pierson had been retained on the faculty purely because of his political influence, one of his relatives being a trustee and another a very influential politician. The trustees had actually made the faculty confer on a travelling dentist and bookbinder the honorary degree of M.D., and they had also graduated a "steam doctor," a Thomsonian. In 1833 Dr. Staughton had been succeeded as Professor of Surgery by Dr. Alban Goldsmith, and Dr. Samuel D. Gross had been appointed Demonstrator of Anatomy. In 1835 Dr. James Conquest Cross was made Professor of Materia Medica. All these men were great gains to the faculty.

Alban Gold Smith, generally called Alban Goldsmith (ca. 1788-1865), of Danville, Ky., was a pupil of Ephraim McDowell, and is said to have been present when McDowell performed his first ovariectomy, in 1809, though this is doubtful as Schattner in his "Life of McDowell" does not mention him. In 1823 Goldsmith performed ovariectomy himself, the second man to do so in the United States. Goldsmith went to Paris where he studied under Civiale and on his return performed lithotripsy (Civiale's operation) the first time it was done in this country. Goldsmith settled in Louisville

and in 1833 secured a charter from the Legislature of Kentucky for the Louisville Medical Institute. He never used the charter, however, which was taken over in 1837 and utilized by seceders from the Transylvania Medical School. In 1837 he left the Medical College of Ohio to become Professor of Surgery in the College of Physicians and Surgeons of New York. Juettner quotes Drake's statement concerning him:

A smatterer in anatomy, in surgery a mechanic; a man whose fondest friends have not claimed for him either science or talents; a man who does not know the grammar or orthography of his mother tongue, a man who is not a graduate and could never get a degree; a man who has been thrice published as a liar in Cincinnati and left the town without telling his colleagues and friends that he was about to decamp.¹

Goldsmith resigned after teaching for two sessions in New York and was succeeded by Willard Parker. James Conquest Cross (1798-1855), a native of Lexington, Ky., graduated in medicine at Transylvania in 1821, and in 1826 succeeded Daniel Drake as Professor of *Materia Medica*. After quarrelling with Benjamin W. Dudley, who was the boss of Transylvania Medical School, Cross resigned and for a while practiced in Courtland, Ala. In 1837 he resigned from the Medical College of Ohio and took the chair of Therapeutics at Transylvania, at the express wish of Dudley. In 1843 he had another row with Dudley. "Cross was accused of every crime in the calendar from drunkenness to rape" (Juettner). In the law suits which followed Cross was represented by Henry Clay. Cross published an "Appeal to the Medical Profession of the United States."

In his last years Cross became a great wanderer, lecturing to medical classes in various places but never taking a teaching position. In 1850 he settled at Memphis. There he founded the Memphis Medical Institute

¹ *West. J. Med. Sc.*, p. 163, 1837-38.

which failed after a few years. Cross then passed the remainder of his life in Maysville, Ky.

The career of Samuel D. Gross is related elsewhere. In 1835 he resigned from the Medical College of Ohio, to become Professor of Pathological Anatomy in the medical department of Cincinnati College.

In 1835 Drake made a herculean effort to batter to pieces the tottering Medical College of Ohio. He established a new medical school under the charter of Cincinnati College, with the title of the "Medical Department of Cincinnati College." The faculty consisted of Joseph N. McDowell, Professor of Anatomy; Samuel D. Gross, Professor of Pathology, Physiology and Jurisprudence; Horatio B. Jameson, Professor of Surgery; Landon C. Rives, Professor of Obstetrics and Diseases of Women and Children; James B. Rogers, Professor of Chemistry and Pharmacy; John P. Harrison, Professor of Materia Medica; Daniel Drake, Professor of Practice; John L. Riddell, Adjunct in Chemistry and Lecturer on Botany.

Jameson resigned after the first session and was succeeded by Willard Parker.

Though every effort was made by the Medical College of Ohio to block Drake's enterprise it managed to keep going until 1839, when the lack of funds, and the resignations of Parker and Gross led to the closing of the school. The dominating figure in the Medical College of Ohio during this critical period was Dr. John J. Shotwell (1807-1850), first cousin of Daniel Drake, in whose office he had studied and then graduated from the Medical College of Ohio in 1832. He married a Miss Foster, whose father was a trustee of the Medical College of Ohio. Through the influence of his father-in-law and Drake he was thus in close touch with its affairs. In 1835 Shotwell was made Demonstrator of Anatomy and in the following year Adjunct Professor of Anatomy. In 1837 John Locke had been appointed Professor of Chemistry.

John Locke (1792-1856), born in Fryeburg, Me., was one of the most eminent men of science of his time in this country. His father was a machinist of great skill and Locke early became a skilled mechanic under his guidance. The boy was also devoted to botany and mathematics. He studied medicine at Dartmouth and while doing so gave courses on botany.

Nathan Smith encouraged him. He also came under the notice of Jacob Bigelow who secured for him the position of Curator of the Botanical Gardens at Cambridge. Locke was an avowed agnostic and this soon got him into trouble at Cambridge, so he secured a position as surgeon's mate in the Navy. He soon resigned and went to New Haven where he finished his medical course and got his M.D. In 1819 he published a "Manual of Botany." He was the inventor of a pressing machine for plants which went by the name of Locke's Botanical Press. After teaching in several schools for girls he opened one of his own in 1822 in Cincinnati. Until 1849 he taught in the Medical College of Ohio and was then forced to resign in the course of the factional warfare of that institution. He was reinstated but never recovered from the insulting treatment he had received from the institution to which he had given fourteen years of good service. Locke was the inventor of a microscopic compass, an improved galvanometer, and an electro-chronograph or magnetic clock, the latter a very original and valuable discovery.

In 1837 when Cross, Eberle, Cobb, and Goldsmith had resigned, Locke was in Europe, and Moorhead just going to Ireland, Shotwell, left behind as the only member of the faculty, appointed himself Dean. He then appointed Dr. Jared Potter Kirtland, Professor of the Practice of Medicine, and Dr. Marmaduke Burr Wright, Professor of *Materia Medica*. Dr. Reuben D. Mussey was appointed Professor of Surgery in 1838. The two last brought strength to the Medical College of Ohio.

Marmaduke Burr Wright (1803-1879) became Professor of Obstetrics in the college. In 1850 he was dismissed from the position through the machinations of his enemies in the faculty. In 1860 he was reappointed Professor of Obstetrics and taught until 1868, when he was made Emeritus Professor. Wright was one of the most distinguished obstetricians of his day. A native of New Jersey, he graduated from the medical department of the University of Pennsylvania in 1823. His father had moved to Columbus, Ohio, and there young Wright began his practice. His father had died poor leaving his widow and seven young children dependent on Wright's exertions for their support. The young man not only practiced his profession but plunged into politics. He was elected to the Legislature of Ohio. In conjunction with Dr. William M. Awl, likewise a member of the Legislature, Wright was instrumental in establishing an adequate system of hospitals for the care of the insane in the State of Ohio. Wright also exerted his influence in the Legislature on behalf of the Medical College of Ohio. Notwithstanding his political activities he acquired a large practice. On one occasion he ligated the internal iliac artery with success. In 1854 he presented before the Ohio State Medical Society a paper on "Difficult Labors and their Treatment," for which he was awarded a gold medal. The paper advocated cephalic version. Although he did not claim to have originated the procedure he advocated a new method of performing it by bimanual manipulation, used externally and internally. Wright had removed to Cincinnati from Columbus and most of this work was done in the Commercial Hospital.

Reuben Diamond Mussey (1780-1866), a native of New Hampshire, received his M.D. from the University of Pennsylvania in 1809. He had previously studied under Nathan Smith. He first practiced at Salem, Mass., and was elected Professor of Medicine, later of Anat-

omy and Surgery at Dartmouth. In 1818 he lectured on Chemistry in the College at Middleburg, Vermont, later on Anatomy and Surgery at Bowdoin, then on Surgery, in the Medical College at Fairfield, N. Y. In 1852 he left the Medical College of Ohio to become Professor of Surgery in the newly founded Miami Medical College. Gross¹ says:

Some of his surgical exploits were of a brilliant and fearless character. One of these was a case in which, for the cure of an extensive naevus of the scalp, he tied both the primitive carotid arteries after an interval of only twelve days—followed by the excision of the morbid growth and the recovery of the patient. His operation for the removal of the scapula with a large portion of the clavicle, after previous amputation at the shoulder-joint, is, like the ligation of the carotids, classical. He lithotomized forty-nine times, with only four failures. [But Gross also says:] as an operator Mussey was painfully slow. His hand, from some defect of his nervous system was tremulous. In watching its movements one almost felt inclined to seize the knife, and either run away with it, or do the cutting oneself . . . Notwithstanding this lack of dexterity, Dr. Mussey's success was far greater than that of many surgeons better skilled in the use of the knife.

In 1857 Mussey resigned from Miami Medical College and returned to Boston, Mass. where he passed the remainder of his days.

Jared Potter Kirtland (1793–1877), born in Wallingford, Conn., won more distinction as a naturalist than as a physician. From an early age he was an ardent botanist. He was the first student to matriculate in the Yale Medical School. He interrupted his studies there to go for a session to the medical department of the University of Pennsylvania. He was a bitter enemy to M. B. Wright and Locke and the chief factor in ousting them from the Medical College of Ohio.

In 1850 the trustees granted permission to a group of young physicians to conduct private courses in the building of the college. These young teachers called their

¹ Autobiography.

enterprise the Cincinnati Medical Institute. It ceased to exist in 1857 when some of those active in it became professors in Miami Medical College and the rest joined the medical faculty of the Medical College of Ohio.

When Reuben D. Mussey resigned from the Medical College of Ohio, in 1852, he became Professor of Surgery in Miami Medical College, which he helped organize with a powerful and aggressive faculty.

The new school loomed as a formidable rival to the college and had the good effect of stimulating the latter to reform itself. In 1855 two strong men were added to the faculty of the college: George Curtis Blackman became Professor of Surgery, and James Graham, Professor of Materia Medica and Therapeutics.

George Curtis Blackman (1819-1871), a native of Newtown, Conn., graduated from the College of Physicians and Surgeons of New York in 1840. He was an office pupil of Willard Parker. He practiced for a short time at Newburgh, Orange Co., N. Y., and then with but seventy-five dollars in his pocket, went to London to study. As his health was poor and he was supposed to be suffering from phthisis, Blackman decided to try what a sea life would do for him. He accordingly spent five years as a ship's surgeon, devoting all his spare hours on shipboard to studying medical literature, in this way equipping himself for his future career as a writer and laying the foundation for his subsequent reputation as one of the most learned men in his profession. His health restored, Blackman gave up his seafaring, returning to Yale to receive his diploma. He practiced for a while in Wallingford and in Durham, but in 1823 he moved to Poland, Ohio, where his father had gone to live when Kirtland was a boy. He was elected to the Ohio Legislature in 1828 and served three terms. He resigned from the Medical College of Ohio in 1842 to lecture on Practice at Willoughby Medical College for a short time. Thence he went to

Cleveland Medical College, later Western Reserve University, where he was Professor of Medicine until 1864, when he resigned to devote the remainder of his life to a study of the natural history of Ohio.

The history of the Medical College of Ohio from 1837 to 1851 is a dreary story of dissension and medical politics. Dr. John Shotwell was the dominating member of the faculty, ruling largely through his friend, Dr. John L. Vattier, the most powerful politician on the Board of Trustees. M. B. Wright and John Locke were upright men who put up a good fight for the best interests of the college. Drake was induced to return to the college in the hope that he might be able to restore some of its lost prestige. He only taught one session, resigning in disgust. Once the Trustees took the decisive step of demanding the resignations of the entire faculty. Shotwell had died in 1849, but his friend Vattier was still the power in the Board of Trustees.

Dr. John Loring Vattier (1808-1881) graduated from the Medical College of Ohio in 1830. He was the typical medical politician of the poorest type, much more active in politics and business than in his professional avocation. During his life he was a member of the Ohio Senate and Postmaster of Cincinnati. He was the promoter of the street railway system of Cincinnati and active in many business enterprises. He never held a chair in the Medical College of Ohio but as secretary of the Board of Trustees he, in conjunction with Dr. Shotwell, exerted a most baneful influence on its affairs. This, the only position he ever held, he gave up, and began practice in New York City. Here he soon acquired a reputation as a bold and skilful operator, and also by his contributions to medical literature. During these years he translated Vidal's work on "Syphilis" and Velpeau's "Operative Surgery."

When R. D. Mussey resigned the chair of Surgery in the Medical College of Ohio in 1852, he was succeeded

by H. Willis Baxley, who resigned at the end of a year. Dr. Asbury Evans succeeded him, with the understanding that he was elected temporarily until the trustees could find a surgeon of eminence to counterbalance the loss of Dr. Mussey. Samuel D. Gross, who was offered but declined the appointment, urged the trustees to elect Blackman, which they did in 1855. As a teacher Blackman was a great success, but his violent temper, jealous disposition, and dictatorial behavior soon marred his usefulness, so much so that in 1860 all his colleagues, with the exception of James Graham resigned, rather than serve with him. After this affair was adjusted Blackman in 1899 had a violent controversy with Roberts Bartholow, each charging the other with plagiarism. Blackman contributed profusely to periodical medical literature. In 1861, with Dr. Charles S. Tripler, he published a "Handbook for the Military Surgeon," and for a year he edited the *Cincinnati Lancet*. During the Civil War Blackman served as a brigade surgeon.

Blackman though a most brilliant and intellectual man seems to have been very ill-balanced. Towards the end of his life he used stimulants to excess. He had no sense about business affairs and left his family quite destitute.

James Graham (1819-1879) was born in New Lisbon, Columbiana Co., Ohio. After graduating from the medical department of the University of Pennsylvania in 1841, he practiced for a time in New Lisbon, and in 1849 located in Cincinnati. When the Cincinnati College of Medicine and Surgery was founded in 1851, he was appointed to the chair of *Materia Medica* and *Therapeutics* in the Medical College of Ohio, and in 1859 *Clinical Medicine* was added to his chair. In 1864 he was made Professor of the Practice of Medicine, which he held until he was made *Emeritus Professor* in 1874. Graham never wrote anything of importance but

he was an excellent clinical teacher and was especially useful to the college as a peacemaker in the dissentious faculty.

In 1857 the Medical College of Ohio absorbed the Miami Medical College. This step was effected by the resignation of four of the then members of the faculty of the Medical College of Ohio, namely: Tate, Armor, Warder, and Marshall, and the appointment of four professors, namely: Judkins, Comegys, Foote, and Mendenhall to fill their places.

In 1866 there was a grand row once more in the faculty of the Medical College of Ohio. Blackman had openly before his class expressed his contempt of some of his colleagues. The faculty remonstrated and Blackman repeated his strictures to his class. The faculty appealed to the trustees who refused to interfere, and thereupon the faculty resigned in a body, even James Graham, Blackman's friend, going with them. According to Juettner¹ the trustees themselves resigned in disgust after the failure of their efforts to bring about a peaceful adjustment. The governor, however, reappointed them, and they finally appointed Blackman, Professor of Surgery; Graham, Professor of Medicine; M. B. Wright, Professor of Obstetrics, and Mr. Charles O'Leary, Professor of Chemistry. To these four was left the choice of four colleagues to fill the remaining chairs. They elected J. F. Hibberd, Professor of Physiology and Pathology; John C. Reeve, Professor of Materia Medica; L. M. Lawson, Professor of Theory and Practice; J. P. Judkins, Professor of Anatomy; John S. Billings, Demonstrator of Anatomy. The latter soon entered the Army and W. W. Dawson was elected in his place. With this reorganization began a new era in the life of the Medical College of Ohio. During the next decade several strong men were at one time or another added to the faculty, among them Roberts

¹ Daniel Drake.

Bartholow and Theophilus Parvin, both of whom after serving the college were elected to chairs in Jefferson Medical College, Philadelphia.

Roberts Bartholow (1831-1904), a native of Maryland, graduated in medicine at the University of Maryland, and from 1857 to 1864 served as a surgeon in the Army. He then began practice in Cincinnati. He was appointed Professor of Chemistry in the Medical College of Ohio shortly afterwards, and in 1869 became Professor of *Materia Medica*. Bartholow had received a splendid classical education and had a brilliant mind. He was a born teacher and a writer of the first rank. His "*Materia Medica and Therapeutics*" for many years was a leading textbook. A curious episode in his career is quoted by Juettner¹ from Dr. James W. Holland's "Memoir of Bartholow":

In 1874 Bartholow published in the *American Journal of the Medical Sciences* a report which has a retrospective interest and also illustrates his enterprize as the forerunner of all who operate on the human brain. His candid article has been republished by the anti-vivisectionists as a highly significant tract and references to it are still seen in their literature. The circumstances are these: The valuable results flowing from the experiments made by Hitzig and Ferrier upon the function of the brain in animals had made a decided impression upon those seeking data for greater certainty in therapeutics. No one had as yet made similar experiments upon the brain. A case came under Doctor Bartholow's care of rapidly extending epithelioma of the scalp with exposure of the *dura mater*. To the ardent investigator this was a timely opportunity, provided by Nature, and not to make use of it for extending the bounds of knowledge, would be to fail in his duty. With the full consent of the hopeless patient, who knew that life must soon be extinguished by the spread of the cancer, electric stimulation was applied directly to the posterior lobes of the cerebrum by needle electrodes. The results were confirmatory of those obtained in the lower animals by Hitzig and Ferrier, but at the time of the experiments, and for some hours after, there were complications that denoted that the knowledge was gained at the expense of some injury to the substance of the brain. The patient's death some days later

¹ Daniel Drake, p. 264.

was ascribed to extension of the cancer producing a thrombus of the longitudinal sinus. Doctor Bartholow got little credit for his daring in invading the sacred organ or his candor in reporting the whole affair. He was censured by medical journals at home and abroad. To his critics he replied that he had no reason to expect that the faradic current would prove electrolytic and that the tissues would not escape damage; that the celebrated case of recovery, after a crowbar had passed through the brain, had been considered as proof that the brain was tolerant of injury, but that his recent case having proved the contrary, it would be criminal to repeat such experiments. The editor of the *British Medical Journal* expressed the opinion that the apology of Doctor Bartholow disarmed further criticism.

In 1874 Bartholow succeeded Graham as Professor of the Practice of Medicine in the Medical College of Ohio. In 1879 he resigned to become Professor of Materia Medica and Therapeutics in Jefferson Medical College, Philadelphia. In 1893 he retired. Towards the latter part of his life his mind became clouded. He died on May 10, 1904 in Philadelphia.

Theophilus Parvin (1829-1898) received his M.D. from the University of Pennsylvania in 1852. He practiced in Indianapolis until 1864, when he was elected Professor of Materia Medica in the Medical College of Ohio. In 1867 he was made Professor of the Diseases of Women, the title of the chair being changed in 1869 to that of Obstetrics and Diseases of Women and Children. In 1870 he became Professor of Obstetrics and Gynecology in the College of Physicians and Surgeons of Indianapolis. In 1882 he went to the University of Louisville, but after one session he moved to Philadelphia where he had been elected Professor of Obstetrics, Gynecology, and Pediatrics in the Jefferson Medical College. He was president of the American Medical Association in 1879. Parvin was a copious contributor to current medical literature. His "Science and Art of Obstetrics" achieved great success, as did his American edition of Winckel's "Gynaecology."

One of the most notable men who joined the faculty of the college during the sixties was Phineas Sanborn Conner (1839-1909), who was born at West Chester, Penna., August 23, 1839. His father, a physician, settled in Cincinnati in 1844, and died there ten years later. The younger Conner received his M.D. from Jefferson Medical College, Philadelphia, in 1861. He served as a surgeon in the Army during the Civil War, and at its conclusion began practice in Cincinnati. He was Professor of Surgery in the Cincinnati College of Medicine and Surgery for several years, but in 1868 was elected Professor of Physics and Medical Chemistry in the Medical College of Ohio. In 1869 he became Professor of Surgical Anatomy in the College, and in 1887 Professor of Surgery, which position he occupied until he resigned in 1905, being succeeded by Joseph Ransohoff. In 1873 he was appointed Professor of Surgery in Dartmouth College, a position which did not interfere with his work in Cincinnati, as he only had to lecture at Dartmouth during the spring and summer. Conner contributed many articles to various standard works, such as the "American Textbook of Surgery," and Dennis' "System of Surgery," and to periodic literature, but never wrote a book. He was a brilliant teacher and exerted a great influence in the profession.

It would be as useless as it would be difficult to attempt to give the names of all those who served on the faculty of the Medical College of Ohio during its many troublesome years. We have tried to signalize those men who really made their mark in the profession or who were active in moulding the destinies of the college. Juettner¹ writes:

In less than one year subsequent to the beginning of the session of 1849-50, there were twenty-five changes in Faculty of the Medical College of Ohio as a result of resignations, new appointments and reorganization and rearrangement of the old chairs and

¹ Daniel Drake, p. 206.

their incumbents. The moral effect of this confused condition on the profession can readily be imagined. The Medical Department of the University of Pennsylvania had, in the sixty years of its existence, experienced but thirty-four changes in its Faculty, only nine more than the Ohio College in twelve months.

In 1896 a move in the right direction was taken when the Medical College of Ohio gave up its charter, and agreed to a partial merger with the University of Cincinnati. The latter had already absorbed the Cincinnati College of Medicine and Surgery and the Miami Medical College. This arrangement did not work as well as had been hoped. Juettner¹ quotes from Horace Ayres, President of the University, the following succinct statement of the reasons for this failure:

In the case of the Medical Department, the University owns the charter and property of the school, and gives it rent-free quarters in one of the buildings. In all other respects the Medical Department is not an organic part of the University and by its relation to the University adds no strength but develops some points of weakness . . . The clinical and pathologic school is likewise a paper affiliation . . . It would be by far better for the University to terminate all these connections and relations, unless these schools can be made organic parts of the University.

In 1908 this desirable result was achieved, both the Medical College of Ohio and the Miami Medical College agreeing to give up entirely their separate existences.

MIAMI MEDICAL COLLEGE²

In 1831 Daniel Drake undertook to organize a medical department, to be situated in Cincinnati for Miami College, located at Oxford, Ohio. Drake had hoped by this means to destroy the Medical College of Ohio, of which he was the founder, but from which he had been expelled. As told elsewhere Drake assembled a group of brilliant professors for the projected medical school. The authorities of the Medical College of Ohio, alarmed

¹ Daniel Drake, p. 250.

² Juettner's "Daniel Drake" is the most available source of information about Miami Medical College.

at the prospect of such a powerful rival, entered into negotiations which resulted in the absorption by their college of the men intended for the Miami Medical College, Drake himself accepting a chair in the institution he had meditated destroying. This caused the trustees of Miami College to forego their plan for a medical school.

In 1852, Reuben D. Mussey, then seventy-two years old, had resigned in disgust from the Medical College of Ohio. He now led the movement to establish a new medical school, under the name of the Miami Medical College, though entirely distinct from any connection with the old Miami College, at Oxford, Ohio. The new institution was operated under a charter granted by the commissioners of Hamilton County, who were authorized to do so by an Act of Legislature passed during the previous session. Mussey was elected Professor of Surgery; J. P. Judkins, Dean and Professor of Surgical Anatomy and Pathology; Charles L. Avery, Professor of Descriptive Anatomy; John Davis, Adjunct Professor of Anatomy; John F. White, Professor of the Practice of Medicine; George Mendenhall, Professor of Obstetrics and Diseases of Women and Children; John A. Murphy, Professor of Materia Medica, Therapeutics, and Medical Jurisprudence; C. S. Comegys, Professor of the Institutes of Medicine; John Locke, Jr., Professor of Chemistry. The latter never occupied the chair to which he was elected, his place being filled by the election of H. E. Foote.

Clinical facilities for the new school were afforded by St. John's Hotel for Invalids, which was under the control of the faculty. In 1855 Dr. Elkanah Williams opened an eye clinic in connection with the college. This was the second clinic for diseases of the eye opened west of the Alleghanies, the first having been that opened by Daniel Drake and Jedidiah Cobb in 1827, which they called the Cincinnati Eye Infirmary.

The Miami Medical College achieved a fair degree of success but could not stand up against the competition of its older rival, the Medical College of Ohio, and the new Cincinnati College of Medicine and Surgery (Baker's College). In 1857 an amicable merger with the Medical College of Ohio was accomplished, Judkins, Comegys, Foote, and Mendenhall becoming professors in the amalgamated faculty. A year later four more former Miami professors were elected to the Medical College of Ohio, namely E. B. Stevens, B. F. Richardson, J. A. Murphy, and William Clendinin.

In 1860 all these former Miami men, with the exception of Judkins, withdrew from the Medical College of Ohio on account of friction with Blackman, Professor of Surgery, the dominant factor in the affairs of the College. Judkins followed them a year later.

In 1865 three of these men, Judkins, Murphy, and Mendenhall, revived Miami Medical College, appointing their former colleagues to chairs in the faculty. The College was successfully launched and held its own against powerful rivalry. For one thing there was more harmony in the faculty than had been usual in Cincinnati institutions. In 1908 it was absorbed into the medical department of the University of Cincinnati.

During its existence many men of much professional prominence were connected with Miami, but none deserves more special notice than Elkanah Williams (1822-1888) a native of Indiana. He graduated M.D. from Louisville University in 1840, where he was the pupil and friend of Samuel D. Gross. In 1852 he went abroad to pursue his studies. In Paris he became greatly interested in the ophthalmoscope, recently invented by Helmholtz and eagerly used by French physicians. When Williams went to England in 1854 he is said to have brought into that country the first ophthalmoscope ever seen there. In London Williams worked at Moorfields and while there published his first paper on

“Ophthalmoscopic Examinations” in the *Medical Times and Gazette*, 1854. In 1854 he studied under Albert von Graefe in Berlin. Returning to Cincinnati in 1855 he began the practice of ophthalmology as a speciality. In 1861 a department of ophthalmology was established in the Commercial Hospital, of which he was given the direction. The chair of ophthalmology established in Miami College in 1865, was the first professorship of its kind in the United States. Dr. Williams met much opposition from his professional brethren when he announced that he intended to limit his practice to diseases of the eye. He lived to overcome it. He was a most prolific contributor to the literature of his speciality, his papers being of the highest order. In 1876 he was elected President of the International Ophthalmological Congress.

WILLOUGHBY UNIVERSITY

This institution was incorporated at Willoughby, Ohio, in 1834. Its medical department was organized in the following year. In 1847 the medical school was transferred to Columbus, Ohio, and reorganized as Starling Medical College.



CHAPTER XII

OUTLINES OF THE DEVELOPMENT OF
MEDICAL PRACTICE AND EDUCATION
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THE HISTORY OF MEDICINE IN SOUTH CAROLINA

ACCORDING to Thacher¹ no less than ten natives of South Carolina received the degree of doctor of medicine at the University of Edinburgh in the decade between 1768 and 1778, a statement which goes far to account for the high standing of the medical profession in the State.

The first epidemic of yellow fever that was described by an American physician was that which occurred in Charlestown (as Charleston was then known) in 1748. It was written by Dr. John Lining, of Charlestown, and as far as I can ascertain first published in Colen Chisholm's "An Essay on the Malignant Pestilential Fever introduced into the West Indian Islands from Boullam, on the Coast of Guinea, as it appeared in 1793 and 1794." Chisholm's book was published at Philadelphia in 1799, thirty-nine years after Lining's death. Thacher states that Lining's account was published in 1748 but I can find no trace of it in print before 1799. Dr. Lionel Chalmers communicated some papers to the Medical Society of London in 1754, and published an essay on fevers in 1767 (Thacher). Dr. Alexander Garden² a native of Scotland and graduate of Edinburgh University, was distinguished as a botanist even more than as a physician. Linnaeus bestowed his name on the genus *Gardenia*. In 1772 he was elected a Fellow of the Royal Society, and after he returned to England became one of its vice-presidents. Garden was a classical scholar

¹ American Med. Biography.

² Consult a most delightful article "Alexander Garden, M.D., F.R.S. (1728-1791)," by Pierre Gautier Jenkins, *Ann. M. Hist.*, 9: No. 2, p. 149 1928.

and mathematician. Unfortunately he was also a royalist and he returned to England in 1783, there to pass the remainder of his days. Of William Bull, who was the first white person born in South Carolina, Thacher says:

He was a pupil of the great Boerhaave, and distinguished for his knowledge of medicine and literature.

In 1734 he defended and published at the University of Leyden, his inaugural thesis "de Colica Pictonum," and he is quoted by Van Swieten as his fellow student in very respectful terms, as the "learned Dr. Bull." He went into political life and was for many years Lieutenant Governor. Like Garden he was a Royalist and went to London in 1782. He died in that city in 1791. Dr. David Ramsay (1749-1815) was born in Lancaster County, Penn., graduated from the College of New Jersey (Princeton), and studied medicine in Philadelphia. He settled in Charleston, and became active in the patriotic cause from the outset of the Revolution both as an army surgeon and legislator. He afterwards wrote a history of the Revolution, a biography of Washington and other historical works which were held in much esteem.

THE MEDICAL COLLEGE OF SOUTH CAROLINA

With a profession containing men of the type of those just mentioned it was but natural that an attempt to establish a medical college should be made.¹ In the summer of 1821 Drs. H. R. Frost, James Ramsay and Samuel Henry Dickson were considering how they might start such an institution. Before they had succeeded in a definite plan, Dr. Thomas Cooper, the president of South Carolina College, delivered an address in which he urged the foundation of a medical school,

¹The Centennial Memorial of the Medical College of the State of South Carolina, Charleston, S. C., 1924, contains much information on the history of the institution.

and he also wrote to Dr. John Wagner, of Charleston, urging the cooperation of the medical profession of that city in the project. The matter was brought before the Medical Society of Charleston, who appointed a committee to consider Dr. Cooper's plan. They favored the founding of a medical college but thought it should be situated in Charleston, rather than at Columbia. The Society drew up a petition to the Legislature requesting the incorporation of a medical school, but as they also asked for an appropriation for buildings, apparatus and salaries, the Legislature turned the petition down. The Medical Society then tried unsuccessfully to have professorships established in the College of Charleston. During the summer of 1823 Drs. Ramsay and Dickson inaugurated private courses of lectures on physiology and surgery, which proved so successful that the Medical Society presented a new application for a charter to the Legislature, in which they merely asked authorization to establish The Medical College of South Carolina, which the Society offered to finance and conduct. This petition was granted. As the Society could not raise the necessary funds it was arranged that those who were elected professors should finance the project. The first faculty was composed as follows: Samuel Henry Dickson, Professor of the Institutes and Practice of Physic; Henry R. Frost, Professor of *Materia Medica*; Thomas G. Prioleau, Professor of Obstetrics and the Diseases of Women and Infants; James Ramsay, Professor of Surgery; John Edward Holbrook, Professor of Anatomy; and Edmund Ravenel, Professor of Chemistry and Pharmacy.

The first courses began on November 8, 1824, and on April 6, 1825, the degree of M.D. was conferred on five students who had been in attendance during the winter. Two years later funds for an adequate building were obtained by the trustees agreeing to furnish the charitable institutions of the city with free medical attendance

for twenty years in consideration of a grant of \$15,000 from the city. Subsequently grants were received at various times from the State Legislature.

The medical college prospered until 1831 when Dr. Ramsay resigned and the election of his successor in the chair of surgery brought the Medical Society into conflict with the faculty of the college. The Medical Society succeeded in electing Dr. John Wagner over Dr. Eli Geddings who had been the faculty's choice. The latter resigned in a body and got a charter for a new medical school which they established in 1833 with the title of the "Medical College of the State of South Carolina."

In 1839 the breach was healed and the two schools united under the title of the younger, "The Medical College of the State of South Carolina." The original faculty was reelected to the new institution. A new era of prosperity ensued which continued until the outbreak of the Civil War. In 1851 Louis Agassiz was elected to the chair of Comparative Anatomy, and taught in the college for two weeks before he went to Harvard.

During the Civil War the work of the college was necessarily suspended. All of the faculty entered the Confederate service. In October, 1865, Drs. Eli Geddings, James Moultrie, J. J. Chisolm and Hume reorganized the college and on March 1, 1866, a class of thirteen was graduated. The financial difficulties of the Reconstruction Period were very great. It is pleasing to find that the Federal military authorities seem to have tried to help the institution. Thus Dr. De Witt, Chief Medical Officer of the Freedman's Bureau, supplied the medicines for a medical and surgical out-patient clinic which was established in connection with it, and in 1865, General Canby, in charge of the Military District, authorized an appropriation of \$2000 for necessary repairs to the buildings. In the same year clinical facilities were afforded to the faculty by

appointing its members as visiting and consulting physicians to the city hospitals.

But even these measures failed to secure a return of prosperity to the college. In 1871 but three students matriculated, and but two graduated in 1872. The "Memorial Volume" states:

The poverty of the country was so great that it was realized that, unless some extraordinary action was taken to give young men the opportunity of pursuing the study of medicine, it was evident that very soon the number of students would be too small to warrant the continued operation of the college. [It was therefore decided to open the college the following session as a free school to] all worthy applicants whose preliminary education may in the opinion of the Faculty have fitted them for so responsible an undertaking.

The college remained a free institution until 1876, when the policy was discontinued.

In 1881 a department of pharmacy was established, which was discontinued two years later but resumed in 1892.

In 1913 an act was passed by the State Legislature making the Medical College of the State of South Carolina a department of the South Carolina University. Since then the medical school has been eminently successful.

MEDICINE IN ALABAMA

The Alabama Medical Association was organized under its present system in 1868. Alabama is the only state in which the Medical Association is part and parcel of the State government. The Governor of the State is the Chairman of the State Board of Health. Semi-annually the State Board of Censors meets to examine candidates for the practice of medicine in Alabama. These examinations are very rigid. The Health Department was perfected by Dr. Jerome Cochran, a man of great learning, and eminently

adapted to organizations. A good many foreign doctors come annually to study the system.

The Medical College of Alabama was founded by Dr. J. C. Nott in 1859 at Mobile, Ala. Nott went to Europe the following year and spent \$50,000 purchasing specimens for the museum. Dr. Nicholas Senn said that some of the preparations are "worth their weight in gold and cannot be duplicated." The college in 1907 became the School of Medicine of the University of Alabama and was moved to Tuscaloosa in 1920, and clinical teaching was discontinued.

The Birmingham Medical College was established in 1894. The first class graduated in 1895. The college was discontinued in 1915.

The Alabama Surgical and Gynecological Association was founded by Drs. John and Elias Davis, of Birmingham, Ala., and held its first meeting in that city, in 1888, with Dr. W. D. Haggard, Sr., of Nashville, as President and Dr. Elias Davis as Secretary. The name was subsequently changed to the Southern Surgical Association. A few years ago when the association met in Birmingham they erected a statue in memory of Dr. Elias Davis in Wilson Park.

THE HISTORY OF MEDICINE IN MISSOURI¹

The first physician who is known to have practiced medicine in Missouri was a Frenchman, Dr. André Auguste Condé. He had been surgeon to the trading port established by Laclède on the banks of the St. Louis in 1755, where he died on November 28, 1765. Goodwin states that he had a large practice on both banks of the river. He was a cultivated gentleman and built a comfortable home, where he lived with his wife

¹ The history of medicine in Missouri has been written with great thoroughness by Dr. E. J. Goodwin in his large volume entitled "A History of Medicine in Missouri" published in St. Louis in 1905. To it any subsequent writer on the subject must acknowledge a great debt as the chief source of information on the subject. I have drawn upon it very fully in the following pages.

and daughter whom he had brought from France. Two other Frenchmen, doctors, were among the early settlers in St. Louis, Jean Baptiste Valteau, who was surgeon of the company under Captain Rios, who was sent to take possession of St. Louis for the Spanish government in 1767, and Dr. Antoine Reynal, who arrived in 1776. Valteau did not practice among the citizens. He died in the year following his arrival. Reynal practiced in St. Louis for twenty-three years, and then removed to St. Charles.

A Dr. Bernard Gibkin (Gibkins or Gilkin) was practicing in St. Louis in 1779, because on July 18, 1779, he performed an autopsy on the body of Domingo de Bargas at the order of Governor De Leyba. He reported "that de Bargas had died from apoplexy superinduced by the excessive heat." Beyond this nothing is known about him except that he was a householder. Dr. Antoine François Saugrain¹ was a most interesting character. He was born at Paris on February 17, 1763, of good bourgeois stock with strong royalist proclivities, for his people emigrated into Germany at the outbreak of the Revolution. Though little is known of his early life he certainly received an excellent education especially in chemistry, geology and physics, as was shown by his subsequent career. Some years before the Revolution Saugrain made a journey to Mexico where he conducted some mineralogical investigations, apparently for the Spanish government. He returned to France, but in 1787 he came to America with a French botanist named Piquet, to explore the valley of the Ohio with the idea of establishing a French colony somewhere in that region. They passed some winter

¹ Dr. Goodwin quotes from the most interesting account of Saugrain which formed the basis of the presidential address of Dr. N. P. Dandridge at the meeting of the American Surgical Association in 1904, and published in the *Transactions* of the Association for that year. I desire likewise to express my indebtedness to Dr. Dandridge and would advise all those who wish to read a delightful account of a most interesting man to read Dandridges' original account.

months near Fort Pitt, having arrived too late to go down the river. While living there in an abandoned cabin they conducted a number of scientific investigations, finding deposits of iron, lead and other metals and testing various kinds of vegetable substances to ascertain which were the best from which to obtain potash. On March 19, 1788, they started down the Ohio, having been joined by a Frenchman named Raguet and an American named Pierce. On March 24th they were attacked by Indians. Raguet was drowned and Piquet killed. Saugrain was captured by the Indians, but escaped after receiving a wound in the neck. He rejoined Pierce, who had not been caught by the Indians, and the two wandered down through the woods along the river. After some days, in which Saugrain suffered terribly from his wound and from frozen feet, they encountered a boat, which rescued them. They finally arrived safely at the fort near Louisville. When Saugrain recovered he returned to France, but in 1790 returned to America with some French colonists who founded Gallipolis. Here he remained six years and during that time married Genevieve Michaud, a daughter of one of the colonists. In 1805 he was appointed surgeon to the army post at Fort Bellefontaine near St. Louis. On May 26, 1809, he advertised as follows in the *Missouri Gazette*: "Dr. Saugrain gives notice of the first vaccine matter brought to St. Louis. Indigent persons, paupers and Indians vaccinated gratuitously." He seems to have been very successful in his practice as at his death in 1820 he left a large estate to his wife and children. Although he practiced his profession very actively during the years he lived in St. Louis, Saugrain kept up his interest in chemistry and was continually building furnaces and making chemical investigations. He was also much interested in electricity and seems to have made many batteries with which to experiment and study the subject.

MEDICAL COLLEGES IN MISSOURI

The early history of organized attempts to establish medical colleges in Missouri is marked by the usual succession of proprietary schools, founded by groups of doctors, some of them animated by an honest desire to advance medical education but in other instances simply desirous of making money or gaining notoriety for their own selfish purposes. Towards the end of the nineteenth century we find the medical profession of Missouri uniting in a determined effort to improve the condition of medical education in the State and the result has been the weeding out of the proprietary schools and the creation of several really excellent medical colleges.

THE MEDICAL DEPARTMENT OF WASHINGTON UNIVERSITY, ST. LOUIS

This great institution has grown by the merger of several small medical colleges.

THE MISSOURI MEDICAL COLLEGE

In 1840 Dr. Joseph Nash McDowell¹ and a group of St. Louis physicians organized a medical school in St. Louis under the auspices of Kemper College, an institution maintained by the Protestant Episcopal Church. It was officially designated the Medical Department of Kemper College, but was properly known as "McDowell's College." When Kemper College failed in

¹ Joseph Nash McDowell was a nephew of Ephraim McDowell, the first ovariectomist. He was born at Lexington, Ky. in 1803 and received his medical degree from Transylvania University in 1825. After teaching anatomy for a year at Transylvania he went to Philadelphia where for one year he taught anatomy at Jefferson Medical College. Returning to the West he married a sister of Daniel Drake, and from 1835 to 1839 was Professor of Anatomy in Cincinnati Medical College. When the latter went out of existence in 1839, McDowell moved to St. Louis and at once proceeded to organize a medical college in which he could teach. McDowell had a brilliant mind but was extremely erratic. For an account of some of his eccentricities see the sketch of his life in Kelly and Burrage, "American Medical Biographies." He died in 1868.

1847 from lack of funds, the medical school became the medical department of the Missouri State University. Later under a reorganization of the University it became the medical department of the Missouri Institute of Science but was usually called Missouri Medical College. During the Civil War its buildings were used by the Federal Government as a military prison. In 1874 it was reorganized in the hands of a stock company, and began a new and prosperous career in close association with the St. Louis Polyclinic College which was situated next to it. In 1899 along with the St. Louis Medical College it was merged in the medical department of Washington University.

Probably the most distinguished member of its faculty was John Thompson Hodgen (1826-1882). From 1854 to 1864 he was Professor of Anatomy. When the institution was disorganized by the Civil War Hodgen tried hard to save it but finding his efforts vain he accepted the Chair of Anatomy and Physiology in St. Louis Medical College. In 1875 he was made Professor of Surgical Anatomy in that school and in that capacity lectured on fractures and dislocations, a field in which he attained great fame by his invention of the frames and splints which are still known by his name. Hodgen was not only a most skilful surgeon but also a man of great culture and splendid character.

ST. LOUIS MEDICAL COLLEGE

This institution was founded as the medical department of St. Louis University by the Board of Trustees and Faculty of that university in October, 1842, and fully organized during the ensuing year. As such it continued until 1855, when it severed its connection with the University and received an independent charter as the St. Louis Medical College. In 1891, it became affiliated with Washington University as its medical department, and in 1899 was merged with the Missouri Medi-

cal College to form the medical department of Washington University.

MEDICAL DEPARTMENT OF ST. LOUIS UNIVERSITY

There were two other medical schools formed at later dates in St. Louis which subsequently combined to form the medical department of a university. These were the Marion Sims College of Medicine, which was founded in 1890, and the Beaumont Hospital Medical College, which had been founded in 1886. In 1901 these two institutions combined to form the Marion Sims-Beaumont Medical College, and in 1903 the latter institution became the medical department of St. Louis University.

HUMBOLDT MEDICAL COLLEGE, ST. LOUIS

In 1859 Dr. Adam Hammer, a native of Baden, who had emigrated to the United States in consequence of the troubles in 1848, and settled in St. Louis, organized a medical college, the Humboldt Institute. Its classes were interrupted by the Civil War, but it was re-opened in 1866. Its founder and his associates delivered their lectures in German and the course of instruction was to be modeled entirely on Teutonic principles which were believed to excel all others. The great advantages of the school, however, failed to meet the appreciation of those for whom it was intended and it closed its doors in 1869.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF KANSAS CITY

In 1869 two charters were granted by the Legislature of Missouri for medical colleges to be established in Kansas City, Missouri. One was to be known as the Kansas City College of Physicians and Surgeons and the other as the Kansas City Medical College. In 1870 the two faculties agreed that all of the members of both

institutions should resign and a new school be organized, to be the College of Physicians and Surgeons, the faculty of which should be elected by the two old faculties from among their members. This wise move proved successful and the new school started well. In 1881 its name was changed to the Kansas City Medical College, as which it remained until early in the twentieth century when it merged into the medical department of the University of Kansas. The Medico-Chirurgical College of Kansas City, Mo., which was founded in 1897 as the Kansas City College of Medicine and Surgery, joined in the merger at the same time. The united schools were located partly in Rosedale, Kansas, which immediately adjoins Kansas City, Mo., and partly in the latter city.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF ST. LOUIS

This school was founded chiefly through the activities of Dr. Louis Bauer in 1878.

ENSWORTH MEDICAL COLLEGE, ST. JOSEPH, MO.

In 1879 a group of doctors founded the College of Physicians and Surgeons of St. Joseph, Missouri. In 1881 it merged with the St. Joseph Hospital Medical College. In 1886 Mr. Samuel Ensworth bequeathed \$100,000 for a medical college and hospital and the trustees therefore elected the faculty of the St. Joseph Hospital Medical College to be the faculty of the new institution which was to be known as Ensworth Medical College.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF MISSOURI, COLUMBIA, MO.

The medical department was really only opened in 1873, although, according to Goodwin, "from 1846 to 1856 there existed in St. Louis a medical department with only a nominal connection with the State Univer-

sity." The institution is affiliated with a small but well-equipped state hospital.

HOSPITALS IN MISSOURI

The first hospital in the state of Missouri was established in St. Louis in 1828 by some Sisters of Charity, on ground donated by Mr. John Mullanphy. The first building was a log house with two rooms and a kitchen. A new building had been erected in 1832, just in time to care for some of the victims of the cholera epidemic which devastated St. Louis in that year. In 1843 the hospital was incorporated as the St. Louis Hospital Association. As such it has continued to grow and maintain its good work.

THE CITY HOSPITAL, ST. LOUIS

The first city hospital in St. Louis was opened for patients in 1846, and was totally destroyed by fire on May 15, 1856. By July of the following year a new hospital was ready for occupancy. This in turn was completely wrecked by a tornado on May 27, 1896. Probably this was a blessing in disguise as the city has erected in its place one of the best modern city hospitals in the United States.

HOSPITALS IN KANSAS CITY

THE KANSAS CITY MUNICIPAL HOSPITAL

The first hospital in Kansas City was the Municipal Hospital which was opened in a small frame building in 1870. In 1903 the city voted the necessary funds to build an entirely new hospital on a site donated by Mr. Thomas H. Swope, and Kansas City now has a model municipal hospital.

Goodwin¹ states that all the hospitals in Kansas City, except the Municipal Hospital, are open to all reputable medical men to attend their own patients.

¹ History of Med. in Missouri, 1905.

ST. JOSEPH'S HOSPITAL

Founded in Kansas City by the Sisters of St. Joseph of Carondelet in 1875, it was originally located in a frame building accommodating about twenty patients. In 1886 a brick hospital was built and more buildings were added in 1900.

THE UNIVERSITY HOSPITAL OF KANSAS CITY

In 1881 the University Medical College took over a small hospital, previously called "All Saints Hospital," which had been founded by the Church Charity Association of Episcopal Churches of Kansas City. Its name was changed to the "University Hospital" and it has grown into a first-class hospital which is used in connection with the medical college to provide clinical instruction.

THE GERMAN HOSPITAL ASSOCIATION OF KANSAS CITY

Organized in 1886 by a group of German-Americans it now has a large and well-equipped hospital.

THE SCARRITT HOSPITAL OF KANSAS CITY

One of the activities of the Scarritt Bible and Training School, this hospital was founded in 1892 with a bequest of land and money left by the Rev. Nathan Scarritt, at one time a Methodist preacher, but later a banker and capitalist. It is highly praised by Goodwin, particularly for the excellence of its training school for nurses.

The Women and Children's Hospital of Kansas City was organized and incorporated in 1897.

ST. JOSEPH'S HOSPITAL

In the city of St. Joseph's, Missouri, there is one of the most completely equipped and best known hos-

pitals in the State. It was founded in 1869 by the Sisters of Charity of St. Vincent de Paul, in connection with a school. In 1872 the hospital feature of the work was abandoned and the school continued in the building it had occupied. In 1891 the institution was again turned over to hospital purposes and has continued as such ever since.

MEDICAL JOURNALISM IN MISSOURI

Missouri has always been very much to the fore in the publication of medical periodicals.

The St. Louis Medical and Surgical Journal, bi-monthly, was started by Dr. M. L. Linton in April, 1843. Two years later it was enlarged and Drs. W. M. McPheeters and V. J. Tourgeaud became associated with Dr. Linton. McPheeters left St. Louis to become a surgeon in the Confederate Army in 1861. The *Journal* suspended publication from November, 1861, to January, 1864, when it was resumed.

The Missouri Medical and Surgical Journal was founded in May, 1845, with Dr. R. F. Stevens as editor, and the faculty of Kemper College as associate editors. In September 1848 it was merged with the *St. Louis Medical and Surgical Journal*. It was continued under various proprietors and editors until 1897, when Dr. Ohmann-Dumesnil bought the property and became its editor.

The St. Louis Medical Reporter, was first issued in March, 1866. It was a semi-monthly under the editorship of Drs. J. S. B. Alleyne and O. F. Potter. Later it became a monthly and was edited by Drs. Wm. M. McPheeters and G. M. B. Maughs. It was illustrated.

The St. Louis Medical Review was published as a quarterly in Chicago prior to 1881, in which year Drs. Gamble and Engelmann purchased it and moving the offices to St. Louis continued its publication as a weekly.

In 1899 it was purchased by Dr. Hanau W. Loeb, who managed it until 1904, when Dr. K. W. Millican became editor.

The St. Louis Courier of Medicine was established in January 1879, under the management of Drs. A. J. Steele, W. A. Hardaway and E. W. Schauffler. In 1899 Dr. C. R. Dudley became its editor.

The Alienist and Neurologist was founded as a quarterly, by Dr. Charles H. Hughes, who was both its proprietor and editor, in 1880.

The Annals of Ophthalmology, Otology, Rhinology and Laryngology was founded by Dr. James Pleasant Parker, in 1892, as a quarterly. When Dr. Parker died in 1896 his brother, Mr. Jones H. Parker, continued the publication with Dr. Casey A. Wood, of Chicago, as editor. In 1897 *The Annals* had grown so bulky that it was decided to divide it into two publications, one *The Annals of Ophthalmology*, the other the *Annals of Otology, Rhinology and Laryngology*. In 1890 Dr. H. V. Wuerdeman, of Milwaukee, became managing editor. Later Dr. Hanau W. Loeb, of St. Louis, became editor of the *Annals of Otology, Rhinology and Laryngology*, and Dr. James Moores Ball, editor of the *Annals of Ophthalmology*.

The Medical Fortnightly was established in 1892, by Dr. Bransford Lewis, who was both proprietor and editor. In 1895 it was taken over by a company organized for the purpose and Dr. Frank Parsons Norbury, became chief editor.

In 1896 Drs. Frank M. Rumbold and M. A. Goldstein established *The Laryngoscope*, a monthly journal. In 1899, Dr. Rumbold retired and Dr. Goldstein continued the publication alone.

Outside of St. Louis there was the same activity on the part of the profession to enter the ranks of journalism.

The Medical Herald was founded in St. Joseph, by Drs. Jacob Geiger and F. C. Hoyt, in 1881. Its editor, Dr.

Hiram Christopher, is said by Goodwin to have been one of the most scholarly physicians in the State. It was later edited by Dr. Charles Wood Fassett.

The Kansas City Review of Medicine and Surgery, appeared as a bi-monthly in January, 1858. It was owned and edited by Drs. Theodore S. Case and G. M. B. Maughs. Its life was brief as it ceased publication in April 1861, because of the War.

The Kansas City Medical Journal began as a bi-monthly publication in January, 1871. It was conducted by Dr. A. P. Lankford, but after the second number was issued he resigned, because he left Kansas City to go to St. Louis as Professor of Surgery in the Missouri Medical College. Dr. E. W. Shauffler then became editor. In its third year of publication it became a monthly. It went out of existence in 1875.

The New Medical Era and Sanitarian was started in 1888 in Kansas City. Dr. A. L. Chapman was its proprietor and editor. It only lived two years.

The Kansas City Medical Record was founded in 1884 by Dr. A. L. Fulton, as a monthly publication.

The Kansas City Medical Index-Lancet had a varied career. Begun in 1879 as the *Kansas Medical Index* by Dr. F. F. Dickman at Fort Scott, Kansas, in 1883 it became the *Kansas and Missouri Valley Medical Index*. In 1885 it was moved to Kansas City Mo., and became the *Kansas City Medical Index*. In September of that year Drs. Emory Lamphear and J. W. Elston became its editors. In January, 1887, Dr. Elston retired and the publication was continued by Dr. Lamphear as *Lamphear's Kansas City Medical Index*. In 1894 it was purchased by Dr. H. E. Pearse by whom it was sold to Dr. John Punton in 1899. In 1897 Dr. John M. Langsdale had begun the publication of the *Langsdale Lancet*, and when Dr. Punton purchased Pearse's publication he also bought Langsdales and consolidated the two periodicals under the name of the *Kansas City*

Medical Index-Lancet and continued them in the capacity of publisher and editor. It became the official organ of a number of important medical societies in Kansas and Missouri.

One of the most important Missouri medical publication, the *Interstate Medical Journal*, was the successor of the *Tri-State Medical Journal*. It was founded in Keokuk, Iowa, by Dr. James Moores Ball in 1893. In 1894 it was moved to St. Louis. In 1896 the *Peoria Medical Record*, and in 1897 the *General Practitioner*, were merged with it.

THE EARLY HISTORY OF MEDICINE IN INDIANA¹

In 1816 the legislature of Indiana passed an "Act to Regulate the Practice of Physic and Surgery." The state was divided into the judicial or congressional districts, and in each a district medical society was to elect a board of censors for the purpose of examining candidates for a license to practice medicine. In 1817 the Medical Society of the First Medical District of Indiana was organized at Vincennes. In 1818 delegates were appointed to meet delegates from the other district medical societies for the purpose of forming a state medical society. The organization of the latter was not accomplished according to Dr. W. B. Fletcher, until 1820, when it met at Corydon. The most important function of the district medical societies was undoubtedly the granting of licenses to practice though papers were occasionally read at their meetings, and professional topics discussed. They held very infrequent meetings and were very unlike the county medical societies of later years.

¹ The chief authority is "A Medical History of the State of Indiana," by G. W. H. Kemper, published in Chicago, in 1911. Dr. Kemper collected a great amount of original material besides extracting freely from a number of articles which appeared in the *Tr. Indiana M. Soc.* The most important of these articles and the dates of their appearance were those by Drs. Ezra Read (1874), W. I. S. Cornett (1874), Alfred Patton (1874), W. H. Wishard (1893), and Hubbard M. Smith (1906). It is easier to give these references in this manner than to give each of them in a separate footnote.

In 1845 the physicians of Indianapolis organized the Marion County Medical Society, and the other counties all fell into line in subsequent years.

In June, 1849, a convention was held at Indianapolis for the purpose of forming a state medical society and in May, 1856, the first annual meeting of the Indiana State Medical Society was held in the same city. The first officers of the Society were: President, W. I. S. Cornett; Vice-Presidents, Drs. Asabel Clapp, Nathan Johnson, Livingston Dunlap and Uriah Farquhar; Secretary, John S. Bobbs; Treasurer, John L. Mothershead.

The early practitioners in the State were many of them men of considerable ability and education, if we may judge by the scattered notices of them which are to be found in the various articles collected in Dr. Kemper's "Medical History of the State of Indiana." A number of them had served as surgeons in the Army and had been led to settle in the newly established communities by what they had observed while on duty at various posts in the State. Although there were some who had never acquired a diploma from a medical college, many had graduated, or at least had followed some courses at the medical schools of New York and Philadelphia. An interesting picture of early medical practice in Indiana is given by Dr. Joel Pennington, a native of Pennsylvania, who settled in practice in Milton in 1825.¹ For more than twenty-five years he made all his professional visits on horseback. "Buggies had not reached so far West, and if they had they would have been useless, on account of the condition of the roads." The following is Pennington's description of the usual method of treating a case of "remittent fever," a form of malaria very frequent among the early settlers in the region:

¹ Kemper quotes from a paper which Pennington read before the Indiana State Med. Soc. in 1873.

When called during the fever and wild delirium, we seated the patient on the side of the bed and held him there, by the aid of assistants if necessary, opened a vein in his arm by making as large an orifice as practicable, and allowed the blood to flow until his pulse became soft and less resisting, or until syncope supervened. We relied more on the effect produced than on the quantity of blood extracted, our object being to produce a decided impression upon the heart's action. Our patient being in a sitting posture and the blood escaping from a free opening, it did not require a great length of time to produce the desired effect. Often within ten or twenty minutes after faintness or sickness occurred the subject of this mode of treatment would become bathed in a copious perspiration, and the violent fever and delirium existing a short time before would have entirely passed away. Now, if the indications seemed to require it, we directed an emetic to be given usually composed of tartarized antimony and ipecac combined, or wine of antimony. After free emesis and the sickness had subsided, if thought necessary we gave a brisk cathartic, usually containing more or less calomel. After the *primae viae* had been well cleared, it was our practice to give opium in such doses as the case required, in order to allay all irritability of the stomach and bowels. We directed the usual febrifuges to be given if the fever should return, and these were given in such doses as required to arrest or mitigate it. Under the above method of treating a case of remittent fever it was no uncommon thing on our second visit to find our patient sitting up "feeling pretty well except a little weak," and within a few days able to return to his ordinary avocations. When we met with more protracted cases we had recourse to the Peruvian bark, gentian, columbo, and most of the ordinary tonics of the present time, excepting quinine, which was not in use. For some time after quinine was introduced the price was such that Hoosiers could not afford to use it. The first I used cost at the rate of \$30.00 per ounce. I may state in this connection that tartar emetic was a favorite remedy in all the active or acute forms of the disease.

Dr. H. G. Hamer¹ has kindly permitted me to quote from a most interesting address which he read before the Indianapolis Medical Society some valuable historical data. In 1821 five medical practitioners settled in Indianapolis, but one of whom, Dr. Jonathan Cool, was a graduate of a medical school, a rather large number

¹ Presidential Address read before the Indianapolis Medical Society, January 3, 1920.

for a town whose total population was but five hundred. One of the most prominent of these doctors was Samuel G. Mitchell, who was licensed to practice although he had never attended a course of lectures. In this same year (1821) there was an epidemic of fever of a remittent or intermittent type, of which Dr. Mitchell published an account in the *Indianapolis Gazette*.

The Indianapolis Medical Society was organized in 1848. The following year it issued a call for a meeting to organize a state medical society. For some reason the Society passed out of existence in a few years, but in 1855-56 it was revived, but lapsed again during the Civil War. In 1864 it was reorganized as the Indianapolis Medical Association and shortly afterwards it united with the Marion County Medical Society, the combined societies forming themselves into the Indianapolis Academy of Medicine.

Hamer states that the Indianapolis Academy of Medicine was the regularly recognized local society, representing the county in the House of Delegates of the State Society until 1875. In the fall of 1874, owing to the organization of a new medical college (The College of Physicians and Surgeons) a division of the profession occurred and as a result the Marion County Medical Society was revived, the membership of which was the group which supported the Indiana Medical College. Those supporting the Academy of Medicine were of the College of Physicians and Surgeons. In 1875 the Indianapolis Academy of Medicine and the Marion County Medical Society both elected delegates to the State Society which met in May. Neither delegation was recognized and Marion County was not represented. On June 9, 1875, the two societies united under the name of the "Marion County Medical Society." In 1902 the name of the Society was changed to "The Indianapolis Medical Society; the Medical Society of Marion County."

No attempt seems to have been made to establish a hospital in the city of Indianapolis until 1858, when Dr. Livingston Dunlap, then a member of the City Council, persuaded that body to take steps to build one.¹ They erected a small building but made no provision to maintain it. During the Civil War the building was furnished and equipped for use as a military hospital. At the close of the War the city allowed it once more to stand idle, until 1867, when the medical men of Indianapolis succeeded in shaming the authorities into spending the necessary money and applying it to the purpose for which it had been built.

INDIANA MEDICAL COLLEGE

MEDICAL DEPARTMENT OF LAPORTE UNIVERSITY²

This short-lived institution was organized by Dr. Daniel Meeker at La Porte, Indiana, in 1842, receiving its charter as the "Medical Department of La Porte University." The charter was amended, changing the name to "Indiana Medical College" in 1848.

In 1841 Dr. Daniel Meeker and a lawyer named William H. Andrews were engaged in giving instruction in medicine and law respectively to a number of students in the town of La Porte, Indiana. They decided to organize an university with courses in different subjects, and by their united efforts procured a charter from the Legislature of the State of Indiana for La Porte University. The medical department was organized in 1842, with the following faculty: Daniel Meeker, Professor of Anatomy and Surgery; Franklin Hunt, Professor of Materia Medica and Botany; Jacob P. Andrew, Professor of Obstetrics and Diseases of Women and Children; Gustavus C. Rose, Professor of the

¹ See Dr. Thad. M. Stevens, *Tr. Indiana M. Soc.*, 1874, quoted by Kemper.

² Kemper, "A Medical History of the State of Indiana, Chicago, 1911," transcribes an account of it which was contributed by Dr. Tompkins Higday to the *Tr. Indiana M. Soc.* in 1874. See also Weaver, "Beginnings of Medical Education in and near Chicago," 1925.

Theory and Practice of Medicine; John B. Niles, Professor of Chemistry.

Daniel Meeker (1806-1876), born in Schoharie County, New York, after studying for one course at Fairfield, went to Willoughby College, Ohio, where he obtained his medical degree. He came to La Porte in 1835. He served as surgeon to the Ninth Indiana Volunteers during the Civil War. In 1857 he was president of the Indiana State Medical Society.

The school went out of existence after the course of 1849-50. During its eight years of life it had bestowed the medical degree on 127 graduates out of an enrollment of 565 students. The faculty underwent many changes, Daniel Meeker and John B. Niles being the only men who remained members of it from the beginning to the end. George W. Richards, A. B. Shipman, and Moses L. Knapp were the best known men to serve as teachers, and they only taught for a few terms. The rest of the professional staff could not stand comparison with the teachers in the other medical schools which had sprung up in their vicinity, and the school was vanquished by its more vigorous rivals, especially the Central Medical College at Indianapolis to which Daniel Meeker went as Professor of Anatomy and Eleazar Deming as Professor of the Institutes of Medicine and Pathology.

CENTRAL MEDICAL COLLEGE¹

(INDIANAPOLIS)

Central Medical College was opened at Indianapolis in the autumn of 1849 as the medical school of Asbury University, which was located at Greencastle, Indiana. The first faculty consisted of A. H. Baker, Professor of Anatomy; L. Dunlap, Professor of the Theory and

¹G. W. H. Kemper, "A Medical History of the State of Indiana," gives an extract from an account of the Central Medical College, which was contributed by Dr. Thad. M. Stevens to the *Tr. Indiana M. Soc.* in 1874, from which I derive the following facts.

Practice of Medicine; Charles G. Downey, Professor of Chemistry; James Harrison, Professor of Materia Medica and Therapeutics. In 1850 the faculty was augmented by two men who had been professors in the Indiana Medical College of La Porte, which had just closed its doors. These were Daniel Meeker and Eleazar Deming. The latter was made Professor of the Institutes of Medicine and Pathology, and Meeker was made Professor of Anatomy to replace John S. Bobbs, the latter having assumed the chair of surgery, rendered vacant by the resignation of Baker.

The Central Medical College came to an end at the close of the session of 1851-52 because of difficulties over a plan of reorganization proposed by the trustees of Asbury University. Its most distinguished teacher was undoubtedly John S. Bobbs, the first surgeon who performed cholecystotomy.¹

In his will Bobbs bequeathed a sum of money to be used for the poor of the city. This money was used as the nucleus of a fund for the establishment of the "Bobbs Free Dispensary," the first charitable institution of its kind in Indianapolis. It was governed by a board of directors, consisting of the faculty of the medical school and had a superintendent, resident physician and druggist.

Dr. Bobbs also left \$5000 to the trustees of the Indiana Medical College to found the Bobbs Medical Library. The trustees of the college and Mrs. Bobbs entered into an agreement by which this money and the control of the library was turned over to a separate board of directors.

THE INDIANA MEDICAL COLLEGE

In 1869 the Indianapolis Academy of Medicine organized a new medical school which was given the name of

¹ For an account of Bobbs see *infra*. When he died, in 1870, he was Professor of Surgery in the newly established Indiana Medical College.

the defunct Indiana Medical College. The following were chosen to the faculty: John S. Bobbs, Professor of Surgery; J. A. Comingore, Professor of Orthopedic Surgery and Surgical Pathology; R. N. Todd, Professor of the Practice of Medicine; T. B. Harvey, Professor of Diseases of Women and Children; W. B. Fletcher, Professor of Physiology; R. T. Brown, Professor of Chemistry; Dugan Clark, Professor of Materia Medica; G. W. Mears, Professor of Obstetrics; L. D. Waterman, Professor of Anatomy. When Dr. Bobbs died a year later his chair was combined with that of Dr. Comingore, and the latter elected to fill the position. In 1871 the college became the medical department of the State University, a relationship which only lasted a few years.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF INDIANAPOLIS

This college was organized in 1874. Its faculty consisted of D. W. Yandell, Professor of the Principles and Practice of Surgery; R. E. Haughton, Professor of Materia Medica and Therapeutics; J. E. Link, Professor of Anatomy; Theophilus Parvin, Professor of Obstetrics and Diseases of Women and Children; R. N. Todd, Professor of Principles and Practice of Medicine; Thad. M. Stevens, Professor of Medical Jurisprudence and Toxicology; Henry Jameson, Professor of Chemistry. Four years later, in 1878, the College of Physicians and Surgeons united with the Indiana Medical College to form the Medical College of Indiana.

In 1879 yet another medical college arose, the Central College of Physicians and Surgeons. In 1906 the Medical College of Indiana, the Central College of Physicians and Surgeons, and the Fort Wayne College of Medicine, were united to form the Indiana Medical College. By a state law in 1928 all previously existing medical schools of Indiana were absorbed into the medical department of the State University.

THE HISTORY OF MEDICINE IN ILLINOIS¹

In 1818 the site of the future city of Chicago was occupied by Fort Dearborn and two frame houses. According to Dr. Hyde the first medical man to come to Chicago was a Dr. Alexander Wolcott, of Connecticut. He had graduated from Yale College but where he received his medical degree is not known. In 1820 he arrived in Chicago as Indian agent for the Government. He seems to have practiced at Fort Dearborn and among the scanty population of its neighborhood. Wolcott died in 1830. The first practicing physician in the settlement which gradually came into being around Fort Dearborn was Elijah Dewey Harmon, a native of Burlington, Vermont. He studied medicine in the office of a Dr. Swift in Manchester, Vermont, for some years, and then opened a drug-store and practiced medicine in his native town. In the War of 1812 he served as surgeon on the flagship of Commodore McDonough at the battle of Plattsburgh. After the war he resumed his practice at Burlington but in 1829, having suffered some financial losses he decided to try to better his fortunes in the West, and finally settled at Chicago in the autumn of 1830. The surgeon at Fort Dearborn being absent Harmon took up his residence in the Fort and attended to the medical needs of the soldiers as well as the civilians at the post. At that time there were but two companies at the Fort, but when the Black Hawk War broke out in the following year Gen-

¹ Chiefly biographical sketches in various journals. The "History of Medicine and Surgery and Physicians and Surgeons of Chicago, endorsed and published under the supervision of the Council of the Chicago Medical Society, Chicago, 1922," is a very large book which contains most valuable information, and from which many of the details which follow have been compiled. In 1879 Dr. James Nevins Hyde published a small pamphlet entitled "Early Medical Chicago, an historical sketch of the first practitioners of medicine, with the present faculties and graduates since their organization of the Medical Colleges of Chicago," which contains most interesting but not always accurate information. "Beginnings of medical Education in and near Chicago," by George H. Weaver, published in the *Proc. of the Institute of Medicine of Chicago*, vol. 5: 1925, and in the *Bull. of the Soc. of Medical History of Chicago*, vol. 3: 1925, is a well written and reliable account of the subject.

eral Winfield Scott arrived there with more companies in July, 1832. The cholera epidemic of that year attacked the men, one out of every three acquiring the disease. General Scott therefore sent two companies into camp outside the Fort, and Dr. Harmon was appointed to look after them. When the troops under Scott were transferred Harmon moved into a house with his wife and family and settled in civilian practice. During the winter of 1832, Harmon performed in the Fort the first major operation of which there is any record in medical annals of Chicago, amputating one foot and part of the other, of a Canadian half-breed mail carrier, who had had them frozen. The man recovered. Dr. Harmon died on January 3, 1869.

Dr. Phillip Maxwell, another native of Vermont, after studying medicine with Dr. Knott in New York, began practice in Sackets Harbor, New York, but abandoned it for a time when elected a member of the State Legislature. In 1832 he became an assistant surgeon in the United States Army; and in the following year was sent to Fort Dearborn. Later he was sent to Florida and Louisiana. Resigning from the Army from 1845 to 1855 he practiced medicine in Chicago in partnership with Dr. Brockholst Mc Vickar. Maxwell died November 5, 1859.

By 1834 it was estimated that Chicago had 1000 inhabitants, and among them were several medical practitioners besides those mentioned before. Among them were a few noteworthy men. Dr. Jonathan Temple graduated from Middlebury College, Castleton, Vt., in 1830, and came to Chicago in 1833. He is credited with making the first recorded autopsy in Chicago, on the body of a man who had been murdered. Temple also received the first contract to carry mail from Chicago to Ottawa. He drove the mailcoach on its first trip himself. Dr. William Bradshaw Egan, an Irishman who was a relative of Daniel O'Connell, had studied in

London and in the Dublin Lying-in Hospital. On coming to the United States he first practiced in Newark and New York, but in 1833 he went to Chicago. Here he became very popular and also made a great deal of money in real estate. At one time he was elected to the State Legislature, and he also served as recorder of the city and county.

By all odds the most outstanding of the early physicians of Chicago was Daniel Brainard (1812-1866) a native of Oneida County, New York. He began the study of medicine at the College of Physicians and Surgeons of the Western District of New York at Fairfield, with Dr. John Delamater as his preceptor, and completed it by graduating from Jefferson Medical College of Philadelphia in 1834. After practicing for several years at Whitesboro, New York, Brainard came to Chicago in 1836. His ardent zeal to teach caused him to take private pupils, while formulating his plans to establish Rush Medical College, for which he received a charter from the Legislature of Illinois in 1837. In 1839 he went to Paris and remained there until 1841, studying to prepare himself for his future duties. In 1843 Rush College was formally organized and until his death Brainard was Professor of Surgery and the most prominent man in its councils. In 1850 he was one of the organizers of the Illinois State Medical Society and the Chicago Medical Society, and was also vice-president of the American Medical Association. In 1852 he visited Europe again. He was one of the editors of the *Northwestern Medical and Surgical Journal* and wrote many contributions for its columns. Dr. Brainard died of cholera in 1886.

Dr. Weaver gives in the following succinct statement an excellent summary of the five early schools of medicine which were founded in Chicago or its neighborhood:

The 5 pioneer medical schools in and near Chicago were the Medical Department of the La Porte University (later Indiana

Medical College), La Porte, Indiana, organized in 1842; Franklin Medical College, St. Charles, Illinois, organized in 1842; Illinois College Medical School, Jacksonville, Illinois, organized in 1843, and the Rock Island Medical School, Rock Island, Illinois, organized in 1848. Of these schools, 3 were later discontinued, the La Porte school in 1850, the St. Charles school in 1849, and the Jacksonville school in 1848. The Rock Island school was removed after a year to Davenport, Iowa, later to Keokuk, Iowa, and finally merged into the State University of Iowa College of Medicine. Rush Medical College is the only one which has continued without interruption to the present time, and it was the only medical school in Chicago until 1859, when the medical department of Lord University was established.

Weaver also points out that all of the men who were the leading spirits in the organization of these five pioneer schools had received all or part of their medical education in the College of Physicians and Surgeons of the Western District of New York at Fairfield, New York. They were Daniel Meeker, of La Porte, Indiana; Daniel Brainard, of Chicago; George W. Richards, of St. Charles, Illinois, and David Prince, of Jacksonville, Illinois. In this connection it should be recalled that Nathan S. Davis was also a Fairfield graduate.

RUSH MEDICAL COLLEGE

In 1837 at a time when the population of Chicago was little more than 3000, Rush Medical College of Chicago was granted a charter by the Legislature of Illinois, the first granted to any institution of learning in the State of Illinois. It owed its foundation chiefly to Daniel Brainard.

Associated with Dr. Brainard in procuring the charter of Rush Medical College was Josiah Cosmare Goodhue (1794-1847), who graduated from the medical department of Yale in 1829. He settled in Chicago in 1832 and became prominent in city affairs. It was Goodhue who designed the seal of the Corporation of Chicago. In 1838 he left Chicago and became one of the founders

of the city of Rockford. A money panic delayed the opening of the new medical school until 1843, though Dr. Brainard had given instruction to a few students during the intervening years. The first faculty was composed of John Mc Lean, Professor of the Theory and Practice of Medicine; M. L. Knapp, Professor of Obstetrics, and the Diseases of Women and Children; James V. Z. Blaney, Professor of Chemistry and *Materia Medica*, and Daniel Brainard, Professor of Anatomy and Surgery.

Weaver quotes a letter from Brainard's widow in which she states that, "when the question of a name for the college was discussed, it was decided to name it after Dr. Benjamin Rush of Philadelphia, then deceased in hope of his heirs handsomely remembering it. However, at that time they received no more than a letter of thanks."

The courses were given in two small rented rooms until 1844 when the college occupied a building of its own which had been erected at a cost of \$3500 at the corner of Indiana (Second Avenue) and Dearborn Streets.

In 1844 the faculty received a brilliant addition when it was joined by Austin Flint (1812-1886), a native of Massachusetts, who had received his M.D. from Harvard in 1833. He lectured for only one session and then returned to Buffalo where a few years later he was one of the founders of the Buffalo Medical College. From 1852 to 1856 he was Professor of the Theory and Practice of Medicine in the University of Louisville. Later he became Professor of the Principles and Practice of Medicine in Bellevue Medical College, New York, and Professor of Pathology and Practice of Medicine in the Long Island Hospital College. Flint was president of the American Medical Association in 1884. In 1844 W. B. Herrick was appointed Lecturer on Anatomy and Dr. Brainard devoted himself entirely to surgery.

William B. Herrick (1813-1865), born at Durham, Maine, graduated from the medical school of Dartmouth College in 1836. In the following year he went to Louisville and was appointed Assistant Demonstrator of Anatomy in the Louisville Medical Institute. In 1839 he moved to Hillsboro, Ill., but left there to live in Chicago in 1844. From 1845 to 1850, he was Professor of Anatomy in the Rush Medical College. In 1850 the chair of physiology was joined to his anatomy professorship and he taught both subjects until 1855, when he was made Professor of Physiology and Pathology. During the Mexican War he was assistant surgeon to the First Regiment of Illinois Volunteers. He helped organize the Illinois State Medical Society and was its first president. He was compelled to retire from teaching in 1859 because of ill-health.

James Van Zandt Blaney (1820-1874), was a native of Delaware. In 1838 he graduated from Princeton College, and in 1842 from the medical department of the University of Pennsylvania. In 1844 he founded the *Illinois Medical and Surgical Journal*, the first medical periodical in the Northwest. This journal lived under various names for forty-five years. Weaver summarizes its career as follows: *Illinois Medical and Surgical Journal* (1844-1846); *Illinois and Indiana Medical Journal* (1846-1848); *Northwestern Medical and Surgical Journal* (1848-1859); *Chicago Medical Journal and Examiner* (1875-1889).

Nathan S. Davis (1817-1904), a native of Chenango County, New York, graduated from the College of Physicians of western New York, Fairfield, in 1837. In 1849 he went to Chicago at the invitation of Dr. Brainard and was appointed Professor of Physiology and General Pathology in Rush Medical College. In 1850 he occupied the chair of Principles and Practice of Medicine, in addition to that of Pathology and Dr. W. B. Herrick became Professor of Physiology.

Davis was a strong, aggressive character and advocated the lengthening and grading of the course. This was strongly opposed by Dr. Brainard. As a consequence of this dissension Davis left Rush in 1859 and started the Chicago Medical College, which later became the Northwestern University Medical School. Davis is generally regarded as the chief founder of the American Medical Association. In 1850 he founded the Illinois General Hospital of the Lakes. A year later the nursing was placed in charge of the Sisters of Mercy and the name changed to Mercy Hospital.

In 1855 Joseph W. Freer became Professor of Anatomy, and Dr. Hosmer A. Johnson Professor of Materia Medica and Medical Jurisprudence.

Joseph Warren Freer (1816-1877), a native of Washington County, New York, began the study of medicine with a Doctor Lemuel C. Paine, but after a short time gave up his medical studies and in 1836 went to Chicago. For some years he occupied himself in land speculation, taking up claims in lands in Illinois still occupied by the Indians. In 1844 he married a Miss Emeline Holden. They had one son, Henry C. Freer. Within two years after their marriage Mrs. Freer died. Her husband was so greatly dissatisfied at the medical treatment she had received during her last illness that he removed to Chicago for the purpose of studying medicine. Dr. Daniel Brainard took him as a student, and in 1848 he graduated from Rush Medical College. In the following year he married a Miss Katherine Batter by whom he had a daughter and three sons. Freer was an able and brilliant surgeon as well as a good anatomist and microscopist. In 1859, when the Rush faculty was reorganized, he was transferred from the chair of Anatomy to that of Physiology and Microscopic Anatomy. He was a brigade surgeon for a few months during the Civil War but was obliged to resign because of ill-health.

In 1857 Dr. William Heath Byford (1817-1890), a native of Ohio, became Professor of Obstetrics and Diseases of Women. He had graduated from the Ohio Medical College in 1845. Byford became one of the most prominent gynecologists of his time in the United States. He was a strenuous advocate of medical education for women and in 1870 was one of the founders of the Woman's Hospital Medical College of Chicago, which later became the Woman's Medical College and still later Northwestern University Woman's Medical School. He was a copious contributor to medical literature.

In 1859 a serious crisis occurred in the affairs of Rush Medical College. Drs. N. S. Davis and W. H. Byford, with several others of the faculty, resigned owing to their contention with Dr. Brainard in regard to establishing a graded course of instruction, they insisting that this was necessary to give it proper standing. They not only left Rush but at once proceeded to establish a medical department of Lind University, which later became the Chicago Medical School, finally becoming the Northwestern University Medical School. Davis and Byford also took away from Rush the control of the clinical service at Mercy Hospital. This was a severe blow to Brainard and to his remaining colleagues but they did not allow themselves to be disturbed. Brainard had shown before his ability to secure good men for his institution and his capacity to build it up. The seceders were replaced. Dr. Jonathan Adams Allen (1825-1890), who had been Professor of Physiology and Pathology at the University of Michigan, became Professor of Medicine; Dr. De Laskie Miller, (1818-1903), Professor of Obstetrics and Diseases of Women; Dr. Robert L. Rea, Professor of Anatomy; Dr. Joseph W. Freer, Professor of Surgical and Microscopic Anatomy, and Dr. Ephraim Ingals, Professor of Materia Medica and Medical Jurisprudence. The college utilized

the clinical facilities afforded by the City Hospital until that institution was taken over as a military hospital for diseases of the eye and ear during the Civil War.

When Brainard died in 1866, Dr. James V. Z. Blaney, who had filled various teaching chairs in the college, was elected president of the institution. Dr. Moses Gunn (1822-1887) was elected his successor as Professor of Surgery. A native of New York State he had graduated from Geneva Medical College in 1846. When the department of medicine of the University of Michigan was organized, Gunn was chosen as Professor of Anatomy and Surgery. Later he occupied solely the surgical chair. He was an authority on dislocations.

In 1868 Dr. Joseph Presley Ross (1828-1890) was elected Professor of Clinical Medicine and Diseases of the Chest. He was most active in founding the Presbyterian Hospital. In 1869 a professorship of ophthalmology was established and Edward Lorenzo Holmes (1828-1900) was elected to fill it. Holmes was the leading ophthalmologist of the West for many years. A graduate from the Harvard Medical School in 1854, after serving as an interne in the Massachusetts General Hospital, he had gone abroad for post-graduate work. In 1858 he founded the Illinois Charitable Eye and Ear Infirmary, which he supported from his own means for a number of years. Later it became a state institution.

In the great fire on October 8 and 9, 1871, Rush Medical College was completely destroyed and until 1875 when a new building was erected at the corner of Harrison and Wood Streets it occupied temporary quarters.

Henry Munson Lyman (1835-1904) was Professor of Chemistry and Pharmacy, 1871-1877, Professor of Physiology and Diseases of the Nervous System, 1877-1890, and Professor of the Principles and Practice of Medicine from 1890-1900. Lyman had graduated from

the College of Physicians and Surgeons of New York in 1861. He became one of the most widely known physicians of the West. In 1891 he was president of the Association of American Physicians. He wrote much on medical subjects.

James Nevins Hyde (1840-1910) was a tower of strength to Rush Medical College. He was born in Norwich, Connecticut, and graduated from Yale in 1861. In the same year he had begun the study of medicine with Dr. William H. Draper in the College of Physicians and Surgeons, New York. He abandoned this temporarily to enter the Navy, in which he became Passed Assistant Surgeon. He left the Navy in 1869 and in the same year received the degree of M.D. from the University of Pennsylvania. He was Lecturer on Dermatology at Rush Medical College from 1873 to 1876, when he resigned to become Professor of Dermatology in the Chicago Medical College. In 1876 he returned to Rush as Professor of Skin, Venereal and Genito-Urinary Diseases, in which position he remained for thirty-one years. He wrote much on his speciality. His treatise on diseases of the skin went through many editions. He was twice president of the American Dermatological Association.

E. Fletcher Ingals (1848-1918) was one of the leading laryngologists of his day in the United States. He graduated from Rush Medical College in 1871. From 1883 to 1890 he was Professor of Laryngology in his Alma Mater. From 1890 to 1893 he was Professor of the Practice of Medicine. He was a copious writer on laryngological subjects. Besides his position at Rush Dr. Ingals was Professor of Diseases of the Throat and Chest in the Northwestern University Woman's Medical School and Professor of Rhinology and Laryngology in the Chicago Polyclinic.

In 1882 a dental department was established in connection with the college. Drs. W. W. Allport, Truman

W. Brophy and Eugene S. Talbot conducted the course. When Dr. Moses Gunn died in 1887 he was succeeded as Professor of Surgery by Dr. Charles Theodore Parkes (1842-1891), who had graduated from Rush in 1868 after having attained the rank of captain of infantry in the United States Army during the Civil War. From 1875 until he succeeded Dr. Gunn he had been Professor of Anatomy. Parkes was a pioneer in abdominal surgery, particularly in gunshot wounds and the surgery of the gall bladder. In 1885 he had originated and performed the operation of choledochotomy.

In 1890 Dr. Byford died and Dr. James K. Etheridge (1844-1899) was elected Professor of Obstetrics and Gynecology. He had graduated from Rush Medical College in 1869, and been Professor of Materia Medica and Medical Jurisprudence in the institution from 1871 until he succeeded Byford. Dr. Daniel Roberts Brower (1839-1900) was elected Professor of Mental Diseases, Therapeutics and Materia Medica. Nicholas Senn (1844-1908), a native of Switzerland, whose family had emigrated to the United States in 1852, graduated from the Chicago Medical College in 1868. For some years he practiced in Milwaukee, and then went abroad to study. In 1872 he was appointed Professor of Surgery in the College of Physicians and Surgeons of Chicago. In 1888 he became Professor of the Principles of Surgery and Surgical Pathology in Rush Medical College, and when Dr. Parkes died in 1891 he succeeded him as Professor of Practice of Surgery and Clinical Surgery. Senn was an admirable lecturer and a voluminous writer. He is said to have written twenty-three published books besides innumerable contributions to periodical medical literature. He was president of the American Medical Association in 1897. In the Senn Room of the John Crerar Library in Chicago is lodged the valuable "Senn Collection" of medical books which he gathered and presented to the Newberry Library.

Later they were transferred to the John Crerar Library. Senn also gave \$50,000 to Rush Medical College towards the erection of a clinical laboratory which bears his name. He endowed the Senn professorship of Surgery and the Senn fellowship in Surgery in Rush Medical College and gave \$35,000 to St. Joseph's Hospital to endow a room for the care of members of the medical profession. He was a great traveller and wrote several books about his journeys. He died while in the Andes Mountains.

At the time when Senn was elected to Parkes' chair Dr. John B. Hamilton (1847-1898) was chosen as Professor of the Principles of Surgery and Clinical Surgery.

In 1893 a five-story laboratory building was built and thoroughly equipped. Two years later Dr. Theodore A. Edwin Klebs (1834-1913) became Professor of Pathology and soon built up a strong department in that subject. A German by birth Klebs had been a pupil of Virchow and at various times had held professorships in pathology in the Universities of Berne, Würzburg, Prague, and Zürich. He came to the United States in 1894. He held the chair at Rush until 1900, when he resigned and returned to Europe. He was the discoverer of the bacillus of diphtheria and was one of the foremost bacteriologists and pathologists of his day. In June, 1898, Rush Medical College became affiliated with the University of Chicago.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL

Nathan S. Davis was the chief factor in establishing this institution. As early as 1844 Davis had begun preaching in the New York State Medical Society, of which he was a member at that time, urging the adoption of higher standards of medical education and the grading of the course of studies. When he had succeeded in his efforts to organize the American Medical Asso-

ciation he utilized that body for the propagation of his reform ideas from its first meeting. When he came to the Rush Medical College of Chicago in 1849 he at once tried to get that institution to adopt higher standards. He met determined opposition from Dr. Brainard, the dominant personality in Rush, and the dissensions thus aroused grew so fierce that Davis and some of his friends on the faculty seceded and proceeded to found a new school.

Their plans were aided by the fact that Lind University was seeking to establish a medical department. An arrangement was easily entered into by those concerned and the new school was even opened in October 1849. Hospital facilities were afforded by Mercy Hospital the service of which was controlled by Davis and the other seceders from Rush to which its wards had formerly been available.

The first faculty consisted of Titus Deville, Professor of Descriptive Anatomy; John H. Hollister, Professor of Physiology and Histology; F. Mahle, Professor of Chemistry and Toxicology; Hösmer A. Johnson, Professor of Materia Medica and Therapeutics; M. A. Taylor, Professor of General Pathology; Ralph N. Isham, Professor of Surgical Anatomy; Edmund Andrews, Professor of the Principles and Practice of Surgery; N. S. Davis, Professor of the Principles and Practice of Medicine; William H. Byford, Professor of Obstetrics and Diseases of Women; Henry G. Spofford, Esq., Professor of Medical Jurisprudence; David Rutter, Emeritus Professor of Obstetrics; Horace Wardner, Demonstrator of Anatomy.

Things went well for four years when most unexpectedly Sylvester Lind, the chief financial backer of the university, and for whom it was named, failed. Thereupon the name of the institution was changed to Lake Forest University and the trustees abrogated their contract with the medical faculty.

The medical faculty proceeded to organize an independent school, the Chicago Medical College. A suitable building was erected at State Street and Twenty-second (then Ringgold Place), and the college opened its first term in October, 1863. It was incorporated in the spring of 1864.

In 1869 the Chicago Medical College became the medical department of Northwestern University. In 1870 it moved from the State Street building to the corner of Twenty-sixth Street and Prairie Avenue, adjoining Mercy Hospital. About twenty years later it moved to a site near Twenty-fifth and Dearborn Streets, on land next to the newly erected Wesley Hospital.

In 1890 the name of the college was finally changed to Northwestern University Medical School and it became an integral part of the university. In the same year the four-year course was made compulsory.

THE COLLEGE OF MEDICINE OF THE UNIVERSITY OF ILLINOIS (THE COLLEGE OF PHYSICIANS AND SURGEONS OF CHICAGO)

In 1881 a group of physicians subscribed among themselves the necessary funds and having procured a charter, proceeded to erect a building, and established the College of Physicians and Surgeons of Chicago. The first faculty comprised A. Reeves Jackson, Professor of Surgical Diseases of Women and Gynecology; Samuel A. McWilliams, Professor of Clinical Medicine, Diseases of the Chest and Physical Diagnosis; D. A. K. Steele, Professor of Orthopedic Surgery; Leonard St. John, Professor of demonstrations of Surgery, surgical appliances and minor surgery; Charles Warrington Earle, Professor of Obstetrics; Henry Palmer, Professor of Operative Surgery, Clinical Surgery and Surgical Pathology; Robert L. Rea, Professor of the Principles

of Practice of Surgery and Clinical Surgery; Frank E. Waxham, Professor of Diseases of Children.

Soon after the following were added: John E. Harper, Professor of Ophthalmology and Clinical Diseases of the Eye; A. M. Carpenter, Professor of the Practice of Medicine; J. J. M. Angear, Professor of the Principles of Medicine; A. W. Harlan, Professor of Dental Surgery; W. A. Yohn, Professor of Inorganic Chemistry; Albert E. Hoadley, Professor of Descriptive Anatomy; Pinckney French, Professor of Surgical Anatomy; F. B. Eisen-Brockius, Professor of Medical Jurisprudence; T. A. Keeton, Professor of Genito-Urinary Diseases; C. C. P. Silva, Professor of Therapeutics; Oscar A. King, Professor of Diseases of the Mind and Nervous System; Romaine J. Curtis, Professor of State Medicine and Hygiene.

The West Side Free Dispensary which had been organized by Dr. McWilliams occupied the first floor of the building and was utilized for teaching purposes. The college opened in September, 1882, the first class numbering 165 students.

During its early years the college experienced much financial difficulty and there were the usual dissensions in the faculty which seem inevitable in all proprietary schools. Dr. Earle was driven to resign the chair of obstetrics and his place was taken by Dr. William E. Quine, who had previously been elected to the chair of medicine. In 1892 Dr. Quine was the chief factor in a thorough reorganization of the college. Dr. Earle was recalled to the professorship of obstetrics and soon succeeded Dr. A. Reeves Jackson as president of the college. In the same year the faculty received the following notable additions; Ludwig Hektoen, Professor of Pathology and Pathological Anatomy; Henry T. Byford, Professor of Gynecology; Walter S. Christopher, Professor of Pediatrics; John B. Murphy, Professor of Clinical Surgery.

John B. Murphy (1857-1916) was one of the most eminent surgeons of the United States. He was born in Wisconsin. After graduating from Rush Medical College in 1879 he studied abroad. From 1889 to 1893 he lectured on surgery in his alma mater. From 1892 to 1901 he was Professor of Surgery in the College of Physicians and Surgeons of Chicago, then becoming Professor of Surgery in the Northwestern University Medical School; later, from 1905 to 1908 he served as Professor of Surgery in Rush Medical College, returning to his former chair at Northwestern University in 1908 and holding it until his death. Besides the invention of the "Murphy button" he did much original work, especially in the surgery of the gastrointestinal tract, and was a daring and brilliant operator.

Walter Shield Christopher (1859-1902) was a very widely known pediatrician. In 1902 he was president of the American Pediatric Society. He rendered a great service by securing the establishment of the medical inspection of children in the public schools of Chicago.

Another benefit which the institution received from Dr. Quine was the establishment of the library which bears his name. Largely supported by him for many years it has grown by means of gifts of books and money so that the Quine Library is now one of the foremost medical libraries in the United States.

In 1900 the College of Physicians and Surgeons of Chicago affiliated with the University of Illinois and became henceforth officially the College of Medicine of the University of Illinois.

THE MEDICAL DEPARTMENT OF ILLINOIS COLLEGE AT JACKSONVILLE

Illinois College was established in 1830 but it was not until 1843 that a medical school was added to its curriculum. The first course began on November 1,

1843, some weeks before the first course was given at Rush Medical College. David Prince was Professor of Anatomy and Surgery; Samuel Adams, Professor of Chemistry, *Materia Medica* and Therapeutics; Henry Jones, Professor of Obstetrics; Daniel Stahl, Professor of the Theory and Practice of Medicine. Of these Prince and Stahl were notable men.

David Prince (1816-1889) was born in Connecticut, but passed most of his youth near Canandaigua, N. Y. After attending a course at the College of Physicians and Surgeons of the Western District of New York at Fairfield, Prince followed his teacher Reuben D. Mussey when the latter went from Fairfield to the Medical College of Ohio at Cincinnati, and received his medical degree from that institution in 1839. He then worked as Mussey's assistant for eighteen months, before moving to Payson, Ill., until he received his appointment as Professor of Anatomy and Surgery in Illinois College; then he moved to St. Louis where he was appointed to the chair of surgery in the St. Louis Medical College; in 1852 he resigned and went back to resume practice in Jacksonville. During the Civil War he was brigade surgeon in Grave's brigade in the Army of the Potomac. When a large number of the soldiers of the brigade were taken prisoners Prince voluntarily surrendered and went along with them to Libby Prison in order that he might look after their welfare. In 1867 he established a private hospital in Jacksonville. He was active in the affairs of the American Medical Association and in those of the American Surgical Association. Dr. Prince was especially distinguished for his skill in orthopedic surgery, on which subject he wrote a textbook in 1866, which was very highly regarded. He was also notable as a teacher of anatomy, instructing many private students in his dissecting room in which there was always an abundant supply of anatomical material.

Daniel Stahl (1797-1874) a German by birth, had studied medicine in his native country before emigrating to the United States. In 1844 he received his medical degree from Western Reserve College. Before this he had been practicing for some years in Vincennes, Ind. Later he practiced in Quincy, Ill. Stahl served as a surgeon in the army throughout the Civil War. A cultivated man and an excellent linguist Stahl was very popular among his associates and much esteemed by his pupils.

In spite of its able faculty the medical department of Illinois College passed out of existence in 1849, according to Weaver, chiefly because its leading spirit, David Prince, was so ardent in procuring subjects for his students to dissect that the school became an object of fear and hatred in the community of Jacksonville. Once the buildings were attacked by a mob. During the five years of its life 43 students received the degree of M.D., and more than 100 students were enrolled.

FRANKLIN MEDICAL COLLEGE, ILLINOIS

In 1842 a medical school, the Franklin Medical College, was organized at St. Charles, Ill., by Dr. George W. Richards (1810-1853) who was born at Norfolk, Conn. In 1828 he graduated from the College of Physicians and Surgeons of the Western District of New York at Fairfield. For a few years he practiced in Camillus, N. Y. He moved to St. Charles, Ill. about 1841, and became the leading physician of the town. He was teaching and had attempted to organize a medical school when La Porte University was organized and in 1844 and 1845 he held the chair of anatomy in the medical department. He was then transferred to the chair of medicine which he held until 1847. In the following year he organized the Rock Island Medical School, in which he was Professor of the Theory and

Practice of Medicine and President of the Faculty Weaver¹ says that in 1849 he was suspected of having in his office the body of a young woman which had been stolen from the grave. A mob tried to search his home and a bullet fired by one of its members entered his shoulder and injured the nerves so that his right arm was permanently paralyzed. When the medical school was moved from Rock Island to Davenport in 1849, Richards remained with it, and he continued to hold his chair after it was moved again to Keokuk, Iowa, in 1850. He resigned in 1851 owing to friction in the faculty and located at Dubuque, Iowa. He was an upright and able man and seems from the reports of his pupils to have been a remarkable teacher.

Weaver quotes M. L. Knapp as authority for the statement that Richards had an amphitheater in the upper story above his office where he gave lectures to students, and also had a dissecting room with an abundance of material. According to the same authority Nichols Hard, of Aurora, was teaching in the same way. Richards associated Hard with him in establishing the new school.

Dr. Nichols Hard (1818-1851) was born in Geneva, N. Y. He graduated from the Medical College of Ohio, at Cincinnati, in 1841. In 1844 along with Richards he joined the faculty of La Porte University medical school. Hard was Professor of Obstetrics and Diseases of Women and Children in La Porte from 1844 until the school was discontinued in 1850. He then became Professor of Anatomy in the University of Iowa at Keokuk but died on October 16, 1851. He was a popular and able teacher, with literary and artistic tastes, and had a very large practice.

The first faculty of Franklin Medical College was a strong one. Besides Richards and Hard it consisted of

¹ Beginnings of Medical Education in and near Chicago, Reprinted from the *Proc. of the Institute of Med. of Chic.*, 5: 1925.

John Thomas, Professor of Chemistry and Materia Medica, John Delamater, Professor of Surgery; Edward Mead, Professor of Materia Medica, Therapeutics and Pathologic Anatomy, and Samuel Denton, Professor of the Theory and Practice of Medicine. Of those Delamater and Mead deserve special notice.

John Delamater (1787-1867), was a native of New York State. When only nineteen years old he received a license to practice medicine from the Medical Society of Oswego County, N. Y. Probably no medical man, even in that period of peripatetic medical teachers, ever taught in so many subjects in so many different medical schools. In 1823 he was appointed to the chair of Materia Medica and Pharmacy in the Berkshire Medical Institution at Pittsfield, Mass. Three years later he became Professor of Surgery in the College of Physicians and Surgeons of the Western District of New York at Fairfield. He remained at that school until 1840 and during that time lectured not only on Surgery but also on the Theory and Practice of Physic, Obstetrics, and the Diseases of Women. At the same time from 1828 to 1842 he was delivering a course of lectures on various subjects at the Medical School of Maine at Bowdoin College; at Dartmouth Medical College; at the University of Vermont; at Willoughby University in Ohio, and at the Medical College of Ohio at Cincinnati. In 1843 the Willoughby Medical School was moved to Cleveland and he went there to teach General Pathology, Obstetrics and Diseases of Women in Western Reserve College for seventeen years. According to Weaver he was the first surgeon in America to perform excision of the scapula.

Edward Mead (1819-1883), was born in England, and came to the United States when twelve years old. In 1841 he graduated from the Medical College of Ohio at Cincinnati, after which he went abroad for post-graduate study. He settled in St. Charles,

Ill. In 1845-46 he was Professor of Materia Medica and Therapeutics in the medical school of Illinois College. In 1847 he opened a private hospital for insane patients in Chicago. It was very successful until its destruction by fire in 1851. Mead then became Professor of Obstetrics in the Cincinnati College of Medicine and Surgery, but resigned two years later because of dissatisfaction with the way in which the affairs of the college were managed. He then founded the Cincinnati Retreat for the Insane which he managed until 1869, when he moved to Boston, in the vicinity of which city he established several private hospitals for the insane. Mead's real field was mental diseases and he did much good work in it. It was chiefly through his persistent effort that the first state hospital for the insane in Illinois was established at Jacksonville in 1847. In 1853 he began the publication of the *American Psychological Journal*, which unfortunately only survived for a year.

Dr. Weaver sums up the history of Franklin Medical College as follows:

Extensive search has failed to reveal any circulars or other items printed by the St. Charles School, and there is no available information as to the number of students given instruction. However, Franklin Medical School at St. Charles represents the first organized effort to teach medicine in Illinois. Good teachers were included in the faculty, and some of them were later prominent in other schools. None of the trustees of the school were members of the faculty. The work was carried on in quarters above a store, and in the offices of the teachers.

ROCK ISLAND MEDICAL SCHOOL

COLLEGE OF PHYSICIANS AND SURGEONS OF THE UPPER MISSISSIPPI

This school was organized in 1848 as a branch of Madison Medical College, a Wisconsin institution, which by its charter had been given the power to

create branches elsewhere than in Madison. Weaver states that as a matter of fact the Madison Medical College never did anything at Madison, the Rock Island school being its only activity. "It is likely that the organization was effected in this way because a charter was easier to secure from the newly organized legislature of Wisconsin than in Illinois." The first faculty consisted of George W. Richards, Professor of the Theory and Practice of Medicine; Moses L. Knapp, Professor of Materia Medica and Therapeutics; C. B. Chapman, Professor of Surgery; W. S. Pierce, Professor of Anatomy; John F. Sanford, Professor of Midwifery and Diseases of Women and Children; Calvin Goudy, Professor of Chemistry and Pharmacy; S. G. Armor, Professor of Physiology, Pathology and Medical Jurisprudence, and Orpheus Everts, Demonstrator of Anatomy. Only one course was given at Rock Island, beginning November 7, 1848, and ending February 20, 1849, with the confirming of the degree of M.D. on twenty-one students. A new charter was then secured in Iowa under the name of the College of Physicians and Surgeons of the Upper Mississippi and the school was moved to Davenport in the autumn of 1849. Pierce and Goudy resigned from the faculty; Richards, Knapp and Armor continued to occupy their respective chairs. Chapman took the professorship of anatomy. Surgery was joined to John F. Sanford's chair, and Everts assumed the chair of Chemistry and Pharmacy. The school remained at Davenport for only one session. In the spring of 1850 it became the medical department of the State University of Iowa and was removed to Keokuk, Iowa. In 1908, the College of Physicians and Surgeons of Keokuk, the direct descendant of the Rock Island Medical School, was merged with Drake University, Des Moines, and the merged schools were in turn merged with the State University of Iowa College of Medicine in 1913.

NORTHWESTERN UNIVERSITY WOMAN'S MEDICAL
SCHOOL IN CHICAGO

In 1865 women were admitted as students to the Chicago Medical College (later Northwestern University Medical School), largely through the efforts of Dr. W. H. Byford, the distinguished gynecologist who was then a professor in that institution. Four women entered the class, and the following year it was decided to discontinue admitting them. Dr. Byford then suggested the establishment of the Women's Hospital Medical College in connection with the Hospital for Women and Children, which had been founded in 1865 by the efforts of Dr. Mary Harris Thompson (1829-1895), a graduate of the Women's Medical College of Philadelphia. Dr. Byford became the head of the institution which began its first session in 1870 with the following faculty: W. H. Byford, Professor of Clinical Surgery of Women; W. S. Dyas, Professor of the Theory and Practice of Medicine; M. A. Fisher, Professor Emeritus of Surgery; Roswell G. Bogue, Professor of Obstetrics; Charles Warrington Earle, Professor of Physiology; Charles G. Smith, Professor of Diseases of Children; Mary H. Thompson, Professor of Hygiene, Clinical Obstetrics and Diseases of Women; Samuel C. Blake, Professor of Diseases of the Mind and Nervous System; Gerhard C. Paoli, Professor of Materia Medica and Therapeutics; Samuel A. McWilliams, Professor of Anatomy; Norman Bridge, Professor of Pathology; Addison H. Foster, Professor of Surgical Anatomy and Operative Surgery; Samuel Cole, Professor of Ophthalmology and Otology; P. S. MacDonald, Professor of Anatomy; M. A. Delafontaine, PH.D., Professor of Chemistry.

The Hospital for Women and Children in which the College was housed, was destroyed in the great fire of 1871; but the faculty decided to carry on and for some

years the courses were given in miserably inadequate quarters. Unfortunately, dissensions prevailed in the faculty, and there were many changes in the personnel.

Finally in 1877 a thorough reorganization was carried out. Though Dr. Byford remained as president of the faculty, it is sad to have to record that Dr. Mary Thompson refused to accept the place which was offered to her in it. The faculty then organized a stock company and got a charter incorporating it as the Woman's Medical College of Chicago. All relations with the Hospital for Women and Children were severed. From that time the college prospered. In 1892 it became affiliated with Northwestern University and became Northwestern University Women's Medical School. In 1902 the school was officially closed. It was found that a separate school for women did not pay its expenses and that co-education was more practicable.

HOSPITALS OF CHICAGO, ILLINOIS¹

MERCY HOSPITAL

The "oldest institution of its kind in Chicago and the Middle West" owes its establishment to the desire of Dr. N. S. Davis to obtain material for clinical instruction, when he had undertaken a professorship in Rush Medical College. Largely through his efforts enough money was raised to rent rooms in a hotel known as "The Lake House," and in 1850 the institution began its work with the somewhat grandiloquent title of the "Illinois General Hospital of the Lakes." In the following year the nursing was placed in the hands of the Sisters of Mercy. In 1851 the Sisters obtained a charter for the hospital known as the Mercy Hospital. When Dr. Davis and his adherents seceded from Rush Medical College and established a new

¹ Information about the hospitals of Chicago is derived almost entirely from the invaluable "History of Medicine and Surgery in Chicago endorsed and published under the Supervision of the Council of the Chicago Medical Society in 1922."

medical school they entered into a contract with the Sisters to attend the patients free of charge in return for the right to give clinical instruction in the hospital. In 1869 a handsome new building was erected with all the most recent improvements in hospital construction, at Calumet Avenue and Seventy-sixth Street. "At this time Mercy Hospital was considered the finest hospital west of New York." Since then it has undergone frequent reconstruction and has been greatly added to.

When the Chicago Medical School was merged with the Northwestern University the contract with Mercy Hospital was maintained under the new management. In 1919, however, it was abrogated and Mercy Hospital became affiliated with Loyola University School of Medicine.

UNITED STATES MARINE HOSPITAL No. 5

This hospital was opened in 1852, on part of the old Fort Dearborn reservation. In 1867 a new hospital was erected midway between Chicago and Evanston. This was destroyed in the great fire of 1871 but afterwards rebuilt on the same site. It is under the charge of the United States Public Health Service and originally intended for sailors in the merchant marine service. Since the World War veterans of that conflict are admitted as well as several other classes of patients who now fall under the care of the U. S. Public Health Service.

CHICAGO STATE HOSPITAL

In 1855 a poorhouse was built on the Cook County Farm at Jefferson about twelve miles from Chicago. The insane were lodged in a small brick building adjacent to it.

The cells measured seven by eight feet. The doors of these cubicles were fitted with apertures through which to pass food. The only heat came from a stove in the corridor which did not

raise the temperature in some of the cells above the freezing point. The cold, however, did not freeze out the vermin with which the beds, walls and floors were alive. The arrangements for bathing were so imperfect that during the winter months there were no ablutions of the body; even in summer the number of tubs was too small and they were inconveniently located.¹

In 1870 a handsome new building for the asylum was opened, and since then cottage wards and other necessary buildings have been added from time to time.

The asylum was the first in the West to appoint women physicians and the first in the state to employ women graduate nurses.

ISOLATION HOSPITAL OF CHICAGO

In 1856 a smallpox hospital capable of housing twelve patients was built in what is now Lincoln Park. It was much enlarged in 1865 but was completely destroyed in the fire in 1871. Rebuilt in the following year it was again destroyed by fire a few months later. A new building was erected at Twenty-sixth and Sacramento Avenue. From 1881 to 1883 smallpox prevailed in epidemic form in Chicago, and again in 1894. The hospital, though it had been added to during these years, proved totally inadequate for the needs of the city and was condemned as entirely unsuitable for its purposes. Chicago had the good fortune in 1894 to possess an able and fearless health commissioner in the person of Dr. Arthur R. Reynolds. In spite of fierce opposition Dr. Reynolds succeeded in putting through the erection of a new isolation hospital on South Hamlin Avenue.

THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY

In 1858 Dr. Edward L. Holmes and a few others established the Chicago Eye and Ear Infirmary. In 1870

¹ The History of Medicine and Surgery in Chicago endorsed and published under the Supervision of the Council of the Chicago Medical Society.

it became a state institution and the name was changed to the Illinois Charitable Eye and Ear Infirmiry. The institution is one of the best known of its kind in the United States. Its staff has numbered many of the most noteworthy ophthalmologists and aurists of the country and its services have benefited many thousands of patients.

ST. LUKE'S HOSPITAL OF CHICAGO

This hospital was founded in 1864 in connection with Grace Church in a small frame building with accommodations for seven patients. From its earliest years St. Luke's Hospital has always had a notable staff. In 1869¹ among the staff we find the names of John E. Owens, Moses Gunn, Isaac N. Danforth and William H. Byford. Dr. Owens was the most active member of the staff from 1865 until his retirement in 1912. St. Luke's Hospital moved into larger quarters on Indiana Avenue in 1871. Since then adjoining property has been purchased and buildings added to make up the magnificent institution as it exists today.

THE DEACONESS HOSPITAL OF CHICAGO PASSAVANT MEMORIAL HOSPITAL

At a meeting of the Institution of Protestant Deaconesses of Alleghany County, Pennsylvania, in 1865, the Reverend William A. Passavant, who had previously founded the Pittsburgh Infirmiry "said to be the first Protestant Hospital in the United States," suggested the necessity of a hospital in Chicago to care for the numerous immigrants who passed through that city. His proposal was endorsed and in July, 1868, the Deaconess Hospital was opened in a frame building on Dearborn Avenue, with a capacity of fifteen beds. In 1871 it was wiped out by the fire just as plans were

¹ History of Medicine and Surgery in Chicago endorsed and published under the Supervision of the Council of the Chicago Medical Society.

maturing to utilize funds which had been promised for the erection of a more suitable building on a new site. It was not until 1885 that a new hospital could be built. After the death of the Reverend William A. Passavant in 1894 the name was changed to the Passavant Memorial Hospital. It is now a large and most beneficial institution.

THE COOK COUNTY HOSPITAL, ILL.

Until 1863 the authorities of Cook County contracted with the Mercy Hospital, Chicago, to take care of their sick poor. In 1863 a building was provided for them at Jefferson, which Dr. Quine¹ terms "the first Cook County Hospital."

In 1854 Chicago established its first "City Hospital" in a frame building. It was intended especially to provide for the care of cholera patients. In 1856 it was torn down and replaced by a brick building which though it was ready for occupancy in 1857 was not occupied until two years later owing to the bitter hostility existing at that time between the homeopathic and the regular physicians. The deadlock was broken in 1859, when some of the members of the Rush Medical College Faculty associated together and leased the hospital from the city, at the same time entering into a contract with the latter to care for its sick poor. Rush Medical College had lost the clinical facilities that it had possessed at Mercy Hospital with the secession of Nathan S. Davis, W. H. Byford and others from its faculty in 1859 and it was a great boon for it to be able to secure other wards for teaching purposes. In 1862 the United States Government seized the hospital for military purposes and converted it into an army hospital. From August 23, 1864, until it was closed as a government institution on November 12, 1865, it was known as "Desmarres General Hospital"

¹ History of Medicine and Surgery in Chicago, p. 257.

although it was used exclusively for soldiers suffering from eye and ear diseases. Before the War Dr. George K. Amerman had been one of the surgeons and Dr. Joseph P. Ross one of the physicians to the hospital. When the United States Government returned the property to the city they succeeded in getting the city and county authorities in accord and having the institution established as the Cook County Hospital. It was reopened on January 1, 1866.

In the organization of the staff it was agreed that there should be an equal number of men on it from the Chicago Medical College and Rush Medical College, and a sufficient number of men who represented no college to constitute a majority of the entire faculty. Both Amerman and Ross were on the staff. This gave rise to a bitter contest but a short time afterwards. Amerman died in 1867. He had been one of the non-college men. Dr. Edwin Powell, who was a professor in Rush Medical College, applied for the vacancy, resigning his professorship in order that he might be eligible. He was elected, and shortly afterwards was re-elected to his chair at Rush. This infuriated the men who represented the Chicago Medical College, and after several years the dissensions in the staff had become so serious that in 1871 the county commissioners dismissed all its members and appointed new ones. Dr. Quine¹ who wrote the history of these years says:

The basis of organization was acceptable to everybody and fair to every interest, but the act of Dr. Powell led to its destruction. To that act may be traced responsibility for the transformation of a noble institution nobly administered into the toy of politicians and the scandal of the medical profession.

Dr. Frank Billings² who wrote in the same manner as Dr. Quine of the later history of Cook County Hospital says:

¹ History of Medicine and Surgery in Chicago, p. 262.

² History of Medicine and Surgery in Chicago, p. 264.

Under the jurisdiction of the Board of Commissioners of Cook County, for many years the hospital management was dominated by political methods. It mattered not whether the majority of the board of commissions during a period was Republican or Democratic. Political activities often detrimental to the best interests of the public were manifested by favoritism in the appointment of members of the attending staff, at one time by an actual graft in the sale of positions on the staff to ambitious doctors by members of the board of commissioners, by interference with the teaching of medical students in the wards, and at one period by an attempt to interfere with the methods of surgical treatment and of research which was carried on with the unanimous approval of the staff.

This state of affairs culminated in 1887 when the conditions led to the arrest and trial of some of the county commissioners and a number of subordinates, who were convicted and punished by imprisonment and fines.

Dr. Billings gives a curious instance which occurred in 1882 and illustrates this unhappy state of affairs:

Dr. Edward Lee was at this time making some experiments on skin grafting to hasten the recovery of patients who suffered from large superficial skin defects. These experiments included the attempt to graft the skin of a chicken upon a human being and also the skin of a lamb upon a patient. These attempts which were unattended with any cruelty to either fowl, beast or man, were finally interfered with by the hospital committee of the board by the suspension of Dr. Lee from the staff. This was followed by an indignant protest from the remainder of the staff and the demand for the reinstatement of Dr. Lee; this being refused the whole staff resigned.

In spite of all these troubles the Cook County Hospital during all these years usually numbered many eminent and able men on its staff, probably because of the splendid clinical facilities which were to be had in its wards.

Among these men may be mentioned the names of Nicholas Senn, William E. Quine, John B. Murphy, James B. Herrick, Ludwig Hektoen, Christian Fenger

and Howard Taylor Ricketts. The two latter deserve especial notice at this place.

Christian Fenger (1840-1902) a native of Denmark, where he received his medical education, served as assistant surgeon in the Danish army during the Schleswig-Holstein campaign, and as a surgeon in the Franco-Prussian War. He practiced in Cairo, Egypt, for some years, and then came to the United States, settling in Chicago. In his autobiography he states:

In the spring of 1878 I secured by means of borrowed money a place as physician to Cook County Hospital. Here I commenced to give lectures and demonstrations in pathologic anatomy, a science which was unknown to physicians there. At this hospital I served first as pathologist, later as surgeon, for twelve or fourteen years, and introduced Lister's antiseptic operative methods.

In 1880 he became curator of the museum at Rush Medical College, and in 1884 Professor of Surgery in the College of Physicians and Surgeons of Chicago. In 1893 he was elected Professor of Surgery in Northwestern University Medical School, and in 1899 Professor of Surgery in Rush Medical College, then affiliated with the University of Chicago. Much of his surgical work was done at Mercy Hospital. Fenger was a brilliant operator and an excellent teacher although he never attained fluency in speaking English.

Howard Taylor Ricketts (1871-1910), born at Findlay, Ohio, received his M.D. from Northwestern University Medical School in 1897. After serving as an interne in Cook County Hospital he went abroad for post-graduate work. He was appointed Assistant Professor of Pathology and Bacteriology in the University of Chicago. In 1906 Ricketts proved that Rocky Mountain spotted fever was conveyed to man by a tick, and three years later he discovered the causative bacillus. In order to investigate tabardillo, or Mexican typhus fever, a disease with very high mortality which presents some analogy with Rocky

Mountain spotted fever, Ricketts went to Mexico. He found that the disease was conveyed by the body louse. While engaged in further research he contracted tabardillo himself and died on May 3, 1910, one of the many brilliant young men who have achieved great things in medical science in spite of the shortness of their lives.

ALEXIAN BROTHERS HOSPITAL

Founded in 1866 under the auspices of the religious order of the Alexian Brothers it was destroyed in the great fire of 1871, but soon rebuilt. In 1896 this hospital had to be removed from its location on North Avenue because of the construction of the Northwestern elevated railroad. It was reopened in a handsome new building at Belden and Racine Avenues in 1898.

MICHAEL REESE HOSPITAL

In 1866 the Jewish citizens of Chicago held a meeting to raise funds to erect a hospital. A small institution was established under the control of the United Hebrew Relief Association and the United Hebrew Charities of Chicago. It was destroyed in the fire of 1871. Henceforth for some years these organizations paid for the care of Jewish patients in various hospitals in the city.

In 1873 Michael Reese died leaving \$50,000 to Joseph and Henry L. Frank, of which \$20,000 was to go to the Cleveland Orphan Asylum, and \$30,000 to be expended in charity at their discretion. They decided to give the latter sum for the erection of a Jewish hospital to be known as the Michael Reese Memorial Hospital. This plan was put into execution and in 1882 the institution was opened for the reception of patients. Mr. Reese had also left an additional sum of \$200,000 to Henrietta Rosenfield and Joseph Rosenberg to be expended in charity at their discretion. They spent the money in the years which followed in

reconstructing and helping the hospital. The hospital has since received many large donations and bequests and has grown to large dimensions. Although entirely non-sectarian as regards both staff and patients it is under the control of the United Jewish Charities.

ST. JOSEPH'S HOSPITAL

Originally founded as the Providence Hospital in 1868, by the Sisters of Charity of Saint Vincent de Paul, it was first located at Lake View. In 1871 it occupied its present site on Burling Street. It became affiliated with Rush Medical College. Nicholas Senn and Ferdinand Henrotin did much work in its wards.

THE CHICAGO MEDICAL SOCIETY¹

This Society was organized on April 15, 1850, at a meeting of doctors held in the office of Drs. Levi D. Boone and Brockholst McVickar. Dr. David Rutter acted as chairman of the meeting and Dr. N. S. Davis took a prominent part in the meeting. A few days later, April 15, another meeting was held and the following officers were elected: Dr. Levi D. Boone, president; Erial McArthur, vice-president; Brockholst McVickar, secretary. Drs. Boone and John Evans were elected delegates to the convention of the American Medical Association.

According to N. S. Davis there was so much quarrelling and dissension among the physicians of Chicago that much doubt was expressed as to whether any organization could be formed amongst them. It is noted as proof of this statement that several who participated in the formation of the society subsequently withdrew their participation from it, so much so that in 1852 it was found impossible to get a quorum for the meetings. The great and indomitable organizer

¹ Information concerning the medical societies of Chicago is chiefly derived from the "History of Medicine and Surgery in Chicago endorsed and supervised by the Council of the Chicago Medical Society, 1922.

N. S. Davis then showed his ability for organization.¹ He pushed through a plan by which the society changed its name to the Cook County Medical Society and revised the constitution and by-laws. He then sought to interest the younger men of the city in the society and secure their cooperation. Meetings were held in different physicians' offices once a month and gradually the society began to prosper. In 1858 it changed its name again to the Chicago Medical Society. It weathered the Civil War and the fire of 1871 with but little interruption of its activities. The society from its earliest years sought to elevate the standard of medical education in Illinois and the ethical standards of the profession.

For many years it continued to meet at the houses of the members but its growth finally compelled them to meet in public halls. As late as 1922 it had no hall of its own though it had 3879 active members.

CHICAGO PATHOLOGICAL SOCIETY

This Society was founded in 1878 as the West Chicago Medical Society. In 1881 at the suggestion of Dr. Henry M. Lyman who was their president the name was changed to the Chicago Pathological Society.

THE CHICAGO GYNECOLOGICAL SOCIETY

It was organized in 1878 and incorporated in 1880. It was organized at a meeting at the office of Dr. William H. Byford, who was elected its first president.

BENNETT MEDICAL COLLEGE OF CHICAGO (LOYOLA UNIVERSITY SCHOOL OF MEDICINE)

In 1868 a group of eclectic practitioners founded the Bennett College of Eclectic Medicine and Surgery of Chicago. It was chartered in the following year. In 1907 the college was changed from an eclectic to a regular

¹ A brief history of the Chicago Medical Society from 1850 to October 1, 1902, *Chicago M. Rec.*, April 1915.

medical school and the name changed to the Bennett Medical College. In 1910 the Illinois Medical College and Reliance Medical College were consolidated with it as the medical department of Loyola University. In 1915 this became the Loyola University School of Medicine.

IOWA¹

Dr. Bierring refers to a Dr. Samuel C. Muir, a graduate of the University of Edinburgh, who was a surgeon in the United States Army, and was stationed at Fort Edwards, now Warsaw, Ill., in 1820. Muir married an Indian girl and when some years later an order was issued requiring army officers to sever their relations with their Indian wives, he resigned from the Army and became the first white settler in what is now Keokuk. He died of cholera in 1832 leaving his Indian wife and five children destitute.

Another doctor Isaac Galland in 1829 settled on the west shore of the Mississippi at a place which was afterwards known as Nashville. Here in 1830 his wife gave birth to a daughter Eleanor, the first white child born in Iowa. According to Dr. Bierring he was a friend of Dr. Muir and they collaborated in laying out the city of Keokuk and naming its principal streets. Dr. Galland originated a medical chest, a square box on which was inscribed, "Dr. Isaac Galland's Family Medicine," containing such remedies as were in usual demand. These boxes were widely distributed among the various families in the area in which lay his practice, and as Bierring says must have been very useful in such a district where medicines and physicians were both scarce. Galland established the second newspaper published in Iowa, *The Western Adventurer*, in

¹ On the early history of medicine in Iowa consult the interesting paper of Dr. David S. Fairchild, "Medicine in Iowa from its early settlement until 1876," in the "Journal of the Iowa State Medical Society, 1: 1911-12, and "The Diamond Jubilee," an address read by Dr. Walter L. Bierring at the seventy-fifth annual session of the Iowa State Medical Society, published in the *J. Iowa M. Soc.*, December, 1926.

which he published much valuable material bearing on the Indians and the natural history of the region. He became a Mormon elder and was at one time secretary to Joseph Smith, but he gave up Mormonism when Smith left Navhoo whither Galland had moved. Galland died at Fort Madison in 1858. Bierring considers Dr. Frederick Andros the first real pioneer physician of Iowa. Andros graduated from the literary department of Brown University in 1822, and received his medical degree from the same institution in 1826. In 1833 he settled in Dubuque to practice medicine. Andros was appointed surgeon for the Indian agencies and this required him to move about a good deal. In 1861 he finally settled in McGregor. In 1880 he found Iowa was becoming too civilized and decided to move farther West "to grow up with the country." He practiced in Dakota for ten years and then moved to Minneapolis where he died at the age of ninety-one years.

Another pioneer physician of Iowa was Dr. James Moore Robertson, who graduated from Jefferson Medical College of Philadelphia in 1827 and settled in Burlington, Iowa, in 1838, whence he removed a few years later to Columbus City, where he practiced until 1870 when he moved to Muscatine, where he died in 1878. During his long life Dr. Robertson did much to organize the new country. He knew the language and customs of the Indians and was of much service in making treaties and agreements with them. His son, Dr. William S. Robertson, practiced in Columbus City and Muscatine until his death in 1887. He was the first professor of medicine in the University of Iowa Medical School at Iowa City, and was president of the Iowa State Medical Society in 1873.

The Iowa State Medical Society was organized in June, 1850, at Burlington. Its establishment was chiefly due to Dr. John F. Sanford, of Farmington, and later of Keokuk. Its first meeting was held at Fairfield in May 1851.

Dr. Sanford was also the most active spirit in founding the College of Physicians and Surgeons of Keokuk, in which he was Professor of Surgery for four years.

The first medical journal published in Iowa was the *Western Medico-Chirurgical Journal*, the first number of which appeared in Keokuk, September 1, 1852. According to Bierring it was the first medical journal published west of the Mississippi and north of the Missouri. In 1853 its name was changed to the *Iowa Medical Journal* and as such with occasional lapses, it continued to be published until 1869, when it passed out of existence. In 1867 the Iowa State Medical Society began the publication of its proceedings and these remained the only periodical medical publication in Iowa until 1883, when the *Iowa State Medical Reporter* was established at Des Moines, which was published until 1888. In 1891 Dr. Woods Hutchinson began the publication at Des Moines of a bi-monthly medical journal with the somewhat unusual title *Vis Medicatrix*. It lived through but six issues. In 1895 the *Iowa Medical Journal* began publication. It maintained a high standard until 1914 when it ceased to be published. In 1911 the Iowa State Medical Society began the publication of the *Journal of the Iowa State Medical Society*, with Dr. David S. Fairchild as editor. This excellent journal has continued its flourishing and useful career to the present time.

THE HISTORY OF MEDICINE IN MICHIGAN¹

The earliest recorded medical men to practice in Michigan were surgeons to the French garrison and

¹The history of medicine in Michigan has been fully written up in the "Medical History of Michigan, compiled and edited by a Committee, C. B. Burr, M.D., Chairman, and published under the auspices of the Michigan State Medical Society, 2 vols., 1930." This large work contains minute details on the history of every phase of the subject and is the source of most of the information contained in the following pages. Victor C. Vaughan's "A Doctor's Memoirs," 1926, is valuable for the recent history of the University of Michigan Medical College.

settlement at Detroit. In 1701 Henry Bellisle came with Cadillac to the settlement. He remained as surgeon until 1711. His successor was Jean Baptiste Forestier. In 1719 Jean Baptiste Chapoton assumed the duties. He lived until 1761, when Fort Detroit was surrendered to the British. Chapoton had a son, Jean Baptiste, who was a physician and his daughter married Dr. Gabriel Christophe Le Grand, who was appointed to succeed the elder Chapoton towards the end of his life when he was probably too old to perform the duties of the position. When the British took over Fort Detroit and the neighboring settlement Dr. Le Grand was, of course, no longer surgeon to the garrison, but continued to practice among the civilians. The fort surgeon to the British garrison at Fort Detroit was Dr. George Christian Anthon (1734-1815), a native of Germany, in which country he received his medical education, later getting another degree in Amsterdam. He began his medical career as a ship surgeon in the Dutch West India trade. On his second voyage the ship on which he served was captured by a British privateer. "He was friendless and without means but his usefulness was recognized, for after serving as assistant surgeon in the General Military Hospital at Albany he was appointed assistant surgeon to the First Battalion Sixtieth Regiment Royal Americans and held a commission in 1761, as 'Surgeon's Mate to His Majesty's Hospital in North America.'" Anthon remained at Detroit until 1764, when he went to New York. The West seems to have had a lure for him and likewise fighting Indians. From the latter he had had a narrow escape with his life during Pontiac's attack on Detroit. Nevertheless in 1765 he accompanied Croghan on his expedition into Illinois. In its course he was taken prisoner by the Indians, but finally released at Detroit. He again went to New York but in 1767 returned to Detroit where he was appointed surgeon to the Indians settled there, and later surgeon to the garrison, which

position he held until the end of the War for Independence. His position as "Surgeon to the Garrison" seems to have been more or less unofficial as C. B. Burr¹ gives a letter from General Gage, dated September 10, 1772, in which he writes:

Mr. Anthon's demand for taking care of the post of your Regt. at the Detroit is too high, if your surgeon makes him a reasonable allowance besides the Medicine Money the charge may be admitted in your Bill of Extraordinaries. And in case of extraordinary sickness amongst the troops the surgeon may supply him with a Proportion of Medicines which will be returned to him again from the Stores of the General at this Place (New York). I can't deal with Mr. Anthon as a Garrison Surgeon.

After the Revolution Dr. Anthon lived in New York. One of his sons, Charles Anthon, was a distinguished Greek scholar, and author of the excellent "Greek Lexicon."

In 1796 Detroit was turned over to the United States and the Fort occupied by American soldiers. The first American army surgeon stationed there was William McCoskrey, a native of Pennsylvania. In 1803 he resigned from the Army and entered on private practice at Detroit. One United States Army surgeon won imperishable fame when stationed at the army post on Mackinac Island. In 1822 Alexis St. Martin, a French Canadian voyageur at Mackinac received a penetrating gunshot wound of the stomach which resulted in a gastric fistula. He was attended by the post surgeon William Beaumont, who was keen enough to realize the opportunity afforded him to study the gastric juice in the living human being. The story of Beaumont's great work is told elsewhere in this book and is only referred to here as it was largely carried out in Michigan territory.

A less famous Army surgeon was Dr. Zina Pitcher (1797-1872) who won eminence as a naturalist as well as earning a high reputation for his surgical ability.

¹ Medical History of Michigan, p. 94.

Dr. Pitcher graduated in medicine from Vermont College, at Middlebury, in 1812, and served as a surgeon in the Army from soon after his graduation until 1836. Much of this period was passed at posts among the Indians and he profited by devoting his leisure time to a study of their customs and characteristics. He contributed the chapter on Indian therapeutics to Schoolcraft's great work on "Indian Antiquities." On his resignation from the Army he practiced in Detroit and took a prominent part in the public life of that city. He was a member of the first Board of Regents of the University of Michigan. In 1853 he and Dr. E. Andrews founded the *Peninsular Journal of Medicine*. Dr. Burr¹ gives the names and many interesting details of the lives of a number of the pioneer practitioners of medicine who practiced in Michigan during the early years of the nineteenth century when it was yet frontier territory. As under similar conditions elsewhere in the United States the great majority of these men were not graduates of medical schools, and many of them pursued other avocations besides that of physician. Some kept stores or mills, some held political positions to eke out the scanty returns to be derived from medical practice. In the "Medical History of Michigan" there are many pages filled with thrilling tales of the hardships experienced by these pioneer doctors. Dr. Burr gives extracts from their diaries and account books which show a terrible disproportion between the amount of the services rendered and the fees received.

Although Grand Rapids had less than one hundred inhabitants in 1835, within a few years it had a number of doctors several of whom were much above the average run of pioneer practitioners. Dr. Charles Shepard (1812-1893) settled at Grand Rapids in 1837 and practiced there until his death. He was a native of the State of New York, and had graduated from the Medical College

¹ Medical History of Michigan. Op. cit.

at Fairfield, which was then sending out many graduates who subsequently distinguished themselves. He was a remarkably skillful surgeon. From 1837 to 1839 he had as his partner another Fairfield graduate Dr. Stephen A. Wilson. The latter died in 1839. In the latter year Dr. F. J. Higginson, a graduate of the Medical School of Harvard settled in Grand Rapids, but he only remained in the town for two years.

MEDICAL SCHOOLS IN MICHIGAN

The University of Michigan was established as a state institution under the control of a board of regents in 1837. Dr. Zina Pitcher was a member of the first board of regents and soon after the organization of the University became interested in the project to organize a medical college in connection with it. He received much aid in his plans from Drs. Abram Sager, Silas H. Douglas and Moses Gunn. Pitcher was appointed by the Board of Regents chairman of a committee to consider the establishment of a medical school. In 1849 his committee presented a detailed report which was accepted by the Regents and in 1850 the University of Michigan Medical School, Ann Arbor, the first medical college in Michigan was formally opened. The first faculty comprised Dr. Abram Sager, Professor of Obstetrics and Diseases of Women, who was also Dean; Moses Gunn, Professor of Anatomy and Surgery; Samuel Denton, Professor of the Theory and Practice of Medicine; J. A. Allen, Professor of Physiology and Pathology, and Silas H. Douglas, Professor of Chemistry. All of these men were fired with zeal to make the new school a success, and several of them, notably Sager and Douglas were excellent teachers and highly cultivated. Gunn left Michigan after some years to become Professor of Surgery in Rush Medical College.

The medical school's great deficiency was a lack of clinical facilities. A quarter of a century elapsed before a

hospital was connected with it. In 1877 a one hundred and fifty bed hospital was erected and from that time the clinical teaching has been of the highest quality. Michigan was one of the earliest medical schools in this country to adopt the ideas set forth by President Eliot of Harvard in 1871 as to the elevation of the requirements for entrance and the prolongation of the courses in medical colleges.

Two notable men joined the Faculty in 1854, Corydon L. Ford and Alonzo B. Palmer. Ford (1813-1894) graduated from the Geneva Medical College, N. Y., in 1842. He had been demonstrator in anatomy in Buffalo Medical College for some years before becoming Professor of Anatomy and Physiology at Michigan in 1854. He held this chair until his death forty years later. He was an inspiring teacher and did much to forward the fame of the school. Alonzo B. Palmer (1815-1887) graduated at the College of Physicians and Surgeons of the Western District of New York, the famous medical school at Fairfield which sent forth so many men who subsequently became leaders in their profession, in 1839. After practicing for some years at Tecumseh, Mich., he went East to study in Philadelphia and New York. From 1850 to 1852 he practiced in association with N. S. Davis in Chicago. In 1854 he was appointed Professor of Materia Medica and Therapeutics and Diseases of Women and Children at Michigan, transferring in 1860 to the chair of pathology and practice of medicine which he held until his death in 1887. Palmer had a strong appreciation of the value of post-graduate study. We have seen that after having been in practice some years he had gone to the then chief medical centers in the country for further study, and some years later he went to Europe for the same purpose. He sought to establish post-graduate courses at Ann Arbor but was not able to carry out his plan. Vaughan speaks very highly of his culture and learning, and of his ability and

devotion as a teacher. Palmer wrote "The Science and Practice of Medicine" which was published in two large volumes, in addition to several smaller works and a number of contributions to current medical literature.

In 1875 when the bill for an appropriation of funds for the University was before the Legislature a rider was appended to it depriving the University of the appropriation unless the Regents established a department of homeopathy in the medical school. In order not to lose the money the Regents established two homeopathic professorships, one of materia medica and therapeutics, the other of the theory and practice of medicine. All other subjects were to be taken by such students as desired to be homeopaths in the regular classes with the other students. For some years this duality of teaching continued but in the nineties the rider was omitted from the act appropriating funds for the University and there being therefore no provision for a homeopathic department of the medical school, it automatically ceased to exist.

THE DETROIT MEDICAL COLLEGE
MICHIGAN COLLEGE OF MEDICINE

DETROIT COLLEGE OF MEDICINE AND SURGERY

As has been noted previously the great deficiency of the University of Michigan Medical School was the lack of clinical facilities in its early years. In 1864 many wounded soldiers were being sent by the Government to Harper Hospital in Detroit. A group of the physicians on the staff of the Hospital decided to use the clinical facilities which it afforded, and in 1864 they organized a school in connection with it. The teachers were Drs. Edward Jenks, Theodore A. McGraw, D. R. Farrand, George P. Andrews and S. P. Duffield. The project was so successful that in 1868 a regular medical school was organized as the Detroit Medical College. In 1880 the Michigan College of Medicine was founded by some

rival doctors. As there was hardly a large enough field for two such institutions they wisely decided to amalgamate and in 1885 were united with the name of the Detroit College of Medicine. Until 1912 the latter continued as a proprietary medical college, the majority of the stock in the company being owned by the faculty. Then a reorganization was effected. The title was changed to the Detroit College of Medicine and Surgery and an endowment fund was raised to enable it to enlarge its scope. In 1918 the institution was taken over by the city of Detroit and is now a part of the municipal department of education.

Besides the University of Michigan Medical School and the Detroit College of Medicine and Surgery there were a number of medical schools organized in Michigan during the second half of the nineteenth century, which owing to their ephemeral existence need only be mentioned.¹ In 1871 the Detroit Homeopathic Medical College was founded. It closed its doors in 1876. Two other homeopathic schools were established in rapid succession. The Michigan Homeopathic Medical College, at Lansing, was founded in 1872 and only survived its birth one year. As has been said the University of Michigan Homeopathic Medical School was established at the University of Michigan by the creation of two homeopathic chairs in conjunction with the medical faculty of the institution in 1875. This arrangement was continued until 1922 when the chairs of the homeopathic professors were abolished by the Board of Regents.

In 1888 the Michigan College of Medicine and Surgery was organized in Detroit. In 1903 there was amalgamated with it the Saginaw Valley Medical College which had been founded in 1896. In 1907 it died a natural death.

¹ In the "Medical History of Michigan," published under the auspices of the Michigan State Medical Society, Vol. 1, p. 558, there is given a chronological list of these colleges taken from the *J. A. M. A.*

MEDICAL JOURNALISM IN MICHIGAN¹

The homeopaths were first in the field of medical journalism in Michigan, the earliest medical periodical to be published in the State being *The Michigan Journal of Homeopathy*, which was first issued on November 11, 1848, in Detroit, and was published thereafter chiefly as a monthly, until June, 1854. During part of its career it was known as the *Michigan Homeopathic Journal*. Its editors were Drs. John Ellis, A. B. Thayer, and in later years John J. Hewitt. In 1872 the Detroit Homeopathic Medical College resumed the publication of the *Michigan Journal of Homeopathy*.

In 1853 *The Peninsular Journal of Medicine and the Collateral Sciences*, the first organ of the regular medical profession in Michigan was founded. The first editor was Dr. Edmund Andrews, with whom in the following year Dr. Alonzo B. Palmer was associated. Later Andrews moved to Chicago and resigned and Drs. Zina Pitcher, W. Brodie and E. P. Christian joined the editorial staff. In 1856 the *Medical Independent and Monthly Review of Medicine and Surgery* was founded under the editorship of Drs. Henry Goodby, Edward Kane and L. G. Robertson. Two years later it was consolidated with *The Peninsular Journal*, the new publication being called *The Peninsular and Independent Medical Journal*.

In 1866 the publication of the *Detroit Review of Medicine and Pharmacy*, was begun under the editorship of Drs. George P. Andrews, Samuel Duffield and Edward Jenks. Later for a number of years the *Review* was both published and edited by Dr. Leartus Connor. In 1876 it was united with the *Peninsular and Independent Medical Journal* to form the *Detroit Medical Journal*. The

¹My information is derived practically entirely from Dr. Walter H. Sawyer's most interesting article on Medical Journalism, contained in "Medical History of Michigan" published under the auspices of a committee of the Michigan State Medical Society, 1930.

latter only lived for two years to be replaced by the *Detroit Lancet*, edited by Drs. H. A. Cleland and Leartus Connor. In 1886 the name was changed to *The American Lancet*, which ceased to be published in 1895.

Dr. Sawyer gives some very interesting details about the contents of these journals. Unfortunately, as he shows, their failure in most instances is to be attributed to professional jealousy and lack of cooperation. Many of their pages were soiled with personal attacks and recriminations, and the scientific material contained in them was apt to be of inferior quality because most of the men best qualified to contribute to the Michigan journals preferred to send their contributions to the better known and more dignified Eastern publications.

A first class medical periodical *The Physician and Surgeon* came into being in 1879, at Ann Arbor, with the late Victor C. Vaughan, as managing editor.

In 1902 the Michigan State Medical Society adopted the plan of publishing its proceedings as *The Journal of the Michigan Medical Society*.

MEDICAL HISTORY OF WISCONSIN¹

The beginning of Milwaukee as a settlement is generally dated from 1835, when some families settled there permanently. Heretofore a few fur traders had conducted business with the Indians on the site of the future city. Among the early settlers were a number of physicians but many of them found that they had better outlet for their activities in business enterprises or in politics than in strictly professional lines.

According to Dr. Frank the "first educated physician of Milwaukee was Dr. Enoch Chase, a native of Vermont and a graduate of Dartmouth College." Although his medical services were in great demand he gave up

¹There is but little data available concerning the medical history of the State. "The Medical History of Milwaukee, 1813-1914," by Louis Frederick Frank, has been my most valuable source of information for the following pages.

practice in 1839 and engaged in business and politics. He died in 1892. Dr. Alfred L. Castleman was born in Kentucky and had attended lectures at Louisville before his arrival in Milwaukee in 1835. Although he was popular as a physician in the community he was engaged in many matters connected with its development. He served several terms as president of the State Medical Society. During the Civil War he served as a surgeon in the Army of the Potomac, and afterwards published his wartime diary with the title, "The Army of the Potomac Behind the Scenes." Dr. Castleman died in California in 1877. Dr. Lucius Barber, a native of Connecticut, had apparently a good medical education but gave up practice to enter politics and deal in real estate.

One doctor contrary to the usual course settled in Milwaukee with the intention of being a merchant, but finding the practice of medicine more profitable engaged in it instead. This was Dr. William M. Gorham, a native of New Jersey. He graduated from Castleton Medical College, Vermont, in 1833, and in 1836 went to Milwaukee with a stock of goods to open a store. As there was no demand for the goods he had bought he began to practice. Gorham died in 1884.

Dr. Frank gives the names and describes what is known of a number of other doctors who came to Milwaukee in its early years but there were few worthy of more than local interest.

Dr. Erastus Bradley Wolcott is a notable exception. A lineal descendant of Dr. Oliver W. Wolcott, one of the few medical men who were among the signers of the Declaration of Independence, Dr. Wolcott was born in Benton, New York, October 18, 1804. After studying for three years with Dr. Joshua Lee, he was licensed to practice by the Medical Society of Yates County in 1825. He then went to North Carolina as surgeon to a mining company, but returned North after a few years and studied at the Medical College of Western New

York, Fairfield, from which he received the degree of M.D. in 1833. He was commissioned as a surgeon in the Army. In 1839 he resigned from the Army and settled in Milwaukee, where he acquired a very large practice, and was held in much esteem.¹ This is in curious contrast with the following statement made by Marion Wolcott Yates, in the sketch of Wolcott in Kelly and Burrage's "American Medical Biographies": "The illiberal rules of the medical societies of that day excluded Dr. Wolcott from membership because he would extend his surgical and consultation aid to homeopathic physicians." During the Civil War he was Surgeon General of Wisconsin and rendered splendid service. He was a Regent of the State University. On June 4, 1861, assisted by Dr. Charles L. Stoddard he performed the first recorded nephrectomy.² Dr. Wolcott died January 5, 1880. After the death of his first wife Dr. Wolcott married Laura J. Ross, who had received the degree of M.D. in Philadelphia and was the first woman doctor in Milwaukee.

Owing to the political trouble in Germany in the late forties there began an influx of Germans into Wisconsin and among the emigrants were many medical men who settled in Milwaukee. Many of these were highly cultured and undoubtedly did much to elevate the tone of the medical profession in the city, besides exerting a very considerable influence in civil affairs and social life. None of them, however, acquired more than local celebrity. The most prominent surgeon of his time in Wisconsin was Solon Marks (1827-1914) a native of Stockbridge, Vermont, who graduated from Rush Medical College, Chicago, in 1853, and practiced first

¹ In Frank's account of Wolcott he says: "He was a member of the Milwaukee County Medical Society when first organized in 1846 and among the originators of the first local society the, 'Milwaukee City Medical Association,' in 1843. His personality is intimately connected with Wisconsin State Medical Society, in which he occupied every position of honor."

² See p. 1101 of this book. Dr. Wolcott did not report the case. See "The First Nephrectomy," by M. B. Tinker, *Johns Hopkins Hosp. Bull.*, 12: 1901.

at Jefferson and afterwards at Stevens Point, Wisconsin, until he became a surgeon in the United States Army during the Civil War, in which capacity he served with distinction. During his service in the Army he was wounded and taken prisoner. At the conclusion of the War he settled in Milwaukee where, in 1870, he performed his most famous operation, the removal of a bullet from the region of the heart, where the patient had carried it since 1864. "This is probably the first operation ever reported for suture of a heart wound."¹ Dr. Marks was Chief Surgeon to St. Mary's Hospital, and Professor of Military Surgery, Fractures and Dislocations, in the Wisconsin College of Physicians and Surgeons. He was a frequent contributor to periodical medical literature. Nicholas Senn (1844-1908), better known for the work he performed while living in Chicago, practiced in Milwaukee from 1874 to 1893, when he removed to Chicago. Senn was born in Switzerland, but his parents brought him to America at an early age. They settled in Ashford, Wisconsin. Senn graduated from the Chicago Medical College in 1868. He was always interested in military surgery and was made Surgeon-General of Wisconsin in 1888. He was attending physician to the Milwaukee Hospital. For some years after he was made Professor of Surgery in the College of Physicians and Surgeons of Chicago in 1884, Senn continued to live and practice in Milwaukee, likewise after his election as Professor of Surgery and Surgical Pathology in Rush Medical College in 1888, and to the chair of Practice of Surgery in 1891; but, in 1893, he finally left Milwaukee and practiced in Chicago until his death in 1908.

MEDICAL SOCIETIES OF MILWAUKEE

As early as 1837 the physicians of the new settlement formed an organization known as the

¹*Med. Fortnightly*, 6: 1893.

Milwaukee Medical Society, of which Dr. Thomas J. Noyes was the first president. Noyes did not practice many years. He became a justice of the peace and proprietor of a hotel known as the Milwaukee House.

In 1845 the Milwaukee Medical Association was formed with Dr. J. S. Hewitt as president. Hewitt was an erratic character. Although very prominent in Episcopal Church affairs he became a Roman Catholic, and shortly after his election to the presidency of the Milwaukee Medical Association he began to practice homeopathy and was expelled from it in consequence. In 1847 the name of the society was changed to the Milwaukee City Medical Association and Dr. E. S. Marsh became its president. Marsh came to Milwaukee from Rochester, New York. He was killed in a steamboat explosion at New Orleans in 1849. The Association was in a state of suspended animation from 1849 to 1855, when it was revived with Dr. John R. Donsman as president. Donsman, born in Mackinaw, Michigan, had studied medicine in Boston and New York but it is not known whether he ever graduated from any medical school. Nevertheless he was universally esteemed as man of probity and culture, and as having high professional attainments. Dr. Erastus B. Wolcott's first wife was Donsman's sister. He died in 1868. The Milwaukee City Medical Association held meetings very irregularly until a last gathering took place on March 20, 1871.

A meeting was held on May 5, 1846 for the purpose of organizing the Medical Society of Milwaukee City, which organization was duly incorporated in May, 1847. Dr. E. L. Marsh was the first president. It held semi-annual sessions until 1853. It then went into a sleep, which as Dr. Frank points out, exceeded in length that of Rip Van Winkle, from which it was revived by a group of physicians, including Solon

Marks and Nicholas Senn and Edwin W. Bartlett,¹ in 1879. The last-named was elected president. The society was active until 1885 when it once more lapsed and nothing was heard of it until an attempt was made by a group of physicians to form a new county society. The Society then awoke to vigorous life. A reorganization took place, the new society abandoned its charter, and its members were admitted to the old organization. Since 1902 the Medical Society of Milwaukee County has led an active and useful existence.

Many other medical societies flourished from time to time in Milwaukee. One that deserves especial mention is the Milwaukee Medical Society, which is an outgrowth or lineal descendant of several preceding organizations, the first of which was the Clinical Club, organized in 1886, which held a meeting, preceded by a dinner once a month. Alden B. Farnham² was very active in forwarding all the projects of the organization of which he was the first president. In November 1886, the club gave a dinner to Dr. John R. Bartlett³ in view of his approaching departure to live in California. At this meeting the name of the club was changed to the Bartlett Clinical Club. In 1885 it organized a Nurse's Directory which has proved of great service to the city. In 1890 the name was again changed to the Milwaukee Clinical Society, and finally, in 1891, the name of The

¹ Edwin W. Bartlett, a native of Vermont, was born in 1839. After graduating from the medical department of the University of Vermont in 1866, he attended courses at the College of Physicians and Surgeons of New York. He then spent two years studying in Paris, Vienna and London. In 1870 he settled in practice at Milwaukee. A few years later he returned to Europe to devote himself to the study of diseases of the eye and ear. Returning to Milwaukee he succeeded in establishing The Wisconsin Eye and Ear Infirmary in which to pursue his special work. Dr. Bartlett died in 1913.

² Alden B. Farnham (1884-1912), born in Bath, Maine, graduated from Harvard College, 1868, and Bellevue Hospital Medical College, 1875. He came to Milwaukee in 1883, specializing in diseases of the nose and throat.

³ John R. Bartlett, born in Portsmouth, N. H., in 1816, graduated from Yale College. A very scholarly man with a great interest in the organization of the medical profession. He was active in founding the public library and in other projects for civic improvement in Milwaukee. Bartlett Avenue, Milwaukee, is named in his honor.

Milwaukee Medical Society was adopted for it. In 1892 the Society purchased a building, known as the Ethical Building, financing the project by sharing the building with the Elms Hospital, which had been founded by some of its members. In 1894 it was found impossible to finance the Society in these premises and they were accordingly evacuated and the Society moved to quarters in the Goldsmith Building which were leased to it at a nominal rental.

There are a number of societies in Milwaukee devoted to the various specialities, among which may be mentioned The Milwaukee Dermatological Society (1910), The Milwaukee Surgical Society (1913), and The Milwaukee Oto-Ophthalmic Society (1914).

MEDICAL JOURNALISM IN MILWAUKEE

In June, 1866, a meeting of the homeopathic practitioners was held in Milwaukee and it was resolved to publish a monthly journal to be known as *The Homeopathic Expositor*. Its last issue appeared in May, 1867.

The Wisconsin Medical Journal, was founded in January, 1903, as a monthly. In 1904 it became the official organ of the Wisconsin State Medical Society.

THE MEDICAL LIBRARY OF THE MILWAUKEE MEDICAL SOCIETY

After the death of Dr. John R. Bartlett, in 1889, the Milwaukee Medical Society purchased his library for \$200. With this as a nucleus the library has continued to grow and the Society now has a very good collection, which is constantly being added to.

HOSPITALS IN MILWAUKEE

The first hospital established was St. John's Infirmary, opened in a frame building, by Sisters of Charity of St. Vincent de Paul, in 1848. This has grown into a

fine modern hospital, with an excellent training school for nurses connected with it.

Milwaukee Hospital was founded in 1863, chiefly through the efforts of the Rev. William Passavant, with the aid of other Lutheran pastors and laymen, and especially the Deaconess Institution. The hospital has been conducted by Lutheran sisters ever since, with an officer known as the Director and Rector as chief administrator. It has grown into a very large institution. Nicholas Senn was for some years chief medical director.

The Milwaukee Eye and Ear Infirmary, a private institution, was incorporated in 1870.

In 1871 the Milwaukee City Dispensary was opened for the purpose of giving gratuitous medical advice and medicine to the poor.

In 1878 the city of Milwaukee erected a hospital for the care of contagious diseases, Isolation Hospital No. 1, and in 1903 a second, known as Isolation Hospital No. 2. In 1912 these two hospitals were combined to form the South View Municipal Hospital located on the original site of Isolation Hospital No. 1.

In 1880 the old buildings used for a hospital for the county were destroyed by fire. On the site a new modern hospital was erected and the Milwaukee County Hospital is one of the best equipped institutions of its kind.

In 1888 some of the members of the Bartlett Clinical Club undertook to found a hospital for women and children. It was first located in a private house but in 1892 shared the Ethical Building with the Milwaukee Medical Society, which had succeeded the Bartlett Clinical Club. The hospital was called The Elms. It failed for lack of financial support, ceasing to exist in 1896.

The Emergency Hospital, which was another project formed by members of the Bartlett Clinical Club, in 1888, was more successful. The city authorities realiz-

ing its usefulness to the community came to its support in 1892, and in 1894 erected a new building in which to house it. It has continued to the present time.

WISCONSIN MEDICAL SCHOOLS

As early as 1847 The Wisconsin Medical College was incorporated, to be located in or near Milwaukee. Nothing more is known of it. In 1850 some physicians attempted to organize a medical college under the charter of the State University. Dr. Erastus B. Wolcott was elected president but nothing ever came of the scheme. The attempt was renewed in 1868 with similar lack of success. In 1881 the Milwaukee College of Physicians and Surgeons was incorporated. It was also known as the Coney Medical Institute. It was declared fraudulent and deprived of its charter in 1883.

The Milwaukee School of Surgery and Anatomy was incorporated in 1885, as the result of a meeting held in Dr. Senn's office. He was chosen as president. The object of the school was to furnish instruction only in the primary branches of medical science. It was not proposed to confer degrees or grant licenses or diplomas. Although a teaching staff was organized and rooms secured for its location, no instruction seems ever to have been given. Another abortive effort was made to establish a college in 1891.

The Wisconsin College of Physicians and Surgeons was incorporated in May, 1893, and opening its first session in the following October, had better fortune. It flourished from the start. In 1913 it merged into the Marquette School of Medicine of Marquette University.

In 1894 The Milwaukee Medical College and School of Dentistry was founded. It got into trouble because of laxity in the requirements and a generally low standard in its affairs. In 1907 it was taken over by Marquette University and henceforth constituted its medical, dental and pharmaceutical departments. Marquette University in 1913 acquired also the Wisconsin College of

Physicians and Surgeons. This merger has proved most satisfactory. The evil features of the old proprietary schools have been eliminated and Wisconsin has now a first-class medical school conducted on the most approved lines.

In 1864 La Crosse Medical College was founded at La Crosse. It seems to have had a very short existence. On October 20, 1864, it conferred an honorary degree of M.D. on Lafayette Houghton Bunnell, the discoverer of the Yosemite Valley.¹

MINNESOTA

There is but little available information concerning the early history of medicine in Minnesota. The oldest medical society in the State was the Minnesota Medical Society² which was founded July 23, 1853, when Minnesota was still a territory. Dr. Hamilton quotes a statement published by Dr. William W. Finch, of St. Paul, in the *Boston Medical and Surgical Journal*, October 12, 1853:

On the 23rd of July, 1853, the first medical society was organized in this territory, and christened "The Minnesota Medical Society." Considering that there are scarcely twenty regular physicians in the territory, the meeting was well attended, matters were discussed in a friendly manner, and the following officers chosen: Dr. Potts, of St. Paul, President; Dr. Ames, of Minneapolis and Dr. Murphy, of St. Anthony, Vice-presidents; Dr. Anderson, of St. Anthony, Recording Secretary; Dr. Goodrich, Treasurer; Dr. Marin, Corresponding Secretary; Drs. Day, Dewey and Finch, Censors. The last five officers are residents of St. Paul. Though few in members, we mean to do what we can to sustain and advance medical science in this new Territory, and we hope to receive the good wishes at least of the older societies in the States.

In December, 1855, we find the names of most of these physicians among the organizers of the Medical

¹ For an interesting account of this pioneer see, "Lafayette Houghton Bunnell, M.D., Discoverer of the Yosemite," by H. A. Kelly, *Ann. M. Hist.*, 3: 179, 1921.

² My information is derived chiefly from a most valuable contribution, "The Early History of Medicine in Minneapolis," by Dr. Arthur S. Hamilton, which was published in *Lancet*, March 1, March 15, and April 1, 1918.

Society of Minnesota. Until 1855 most of the land on which the city of Minneapolis is now situated was a military reservation surrounding Fort Snelling. In 1855 it was thrown open for settlement. Before this time there was quite a settlement at St. Anthony, a little north of St. Paul. Dr. Hamilton gives an amusing account of one Ira Kingsley, an herb doctor, who was the first man to try his hand at medical practice in St. Anthony. The first regular physician to come there was Dr. John H. Murphy, who arrived in the spring of 1849. In 1851 Dr. A. E. Ames came to St. Anthony and entered into partnership with Dr. Murphy.

One of the most interesting of the pioneer physicians was Dr. Charles L. Anderson, who was also a botanist. About a year before his death Henry D. Thoreau came out to Minnesota, hoping to receive some benefit from the climate. He seems to have fraternized with Anderson and they passed considerable time in enjoying their mutual love of nature together.

The Union Medical Society was organized in 1855 at a meeting held in the house of Dr. A. E. Ames who was elected its first president. In 1870 the Society was reorganized and the name changed to the Hennepin County Medical Society.

A. E. Ames was for many years the most prominent physician of Minneapolis. He was born in Colchester, Vermont, in 1814. He went West at an early age and staked claims in various places. For a time he worked as a brickmaker in Chicago. He went into politics and was at one time a member of the Illinois House of Representatives. In the midst of his pursuit of these various occupations he managed to study medicine at Rush College, beginning his studies in 1840 but not receiving his M.D. until 1845. He went to St. Anthony; but when the Reserve, now Minneapolis, was opened for settlement he built a claim cabin and was one of the first to settle there. He was a member of the bar and

at one time a probate judge. He was very active in Masonic circles and also in the educational affairs of Minneapolis. In 1871 he with the Reverend D. B. Krickerbacker of the Brotherhood of Gethsemane organized the Cottage Hospital, the first hospital in Minneapolis.

Dr. Ames died September 23, 1874.

The Minnesota Academy of Medicine was founded in October, 1887.

MEDICINE IN CALIFORNIA¹

Dr. Lyman describes the medical history of California under three heads:

The Spanish Period, 1769-1822.

The Mexican Period, 1822-1848.

The American Period, 1848-

THE SPANISH PERIOD, 1769-1822

In 1769 Galvez, the Royal Spanish Visitador-General, and Fray Junipero Serra, the head of the Franciscan missions in California, sent an expedition from La Paz, Mexico, to establish a mission in Alta Califor-

¹ In May, 1925, *California & West. Med.*, vol. 23, published a number of articles bearing on the history of medicine in California. From this most excellent material most of the following chapter has been compiled. The authors and articles contained in this issue of *California & West. Med.* were the following: "The Beginnings of California's Medical History," by George D. Lyman; "The Historical Collection of the Lane Medical Library," by Louise Ophuls, Librarian; "The History of the Development of Women in Medicine in California," by Adelaide Brown; "The California Pandemic of 1833," by Edward W. Twitchell; "California's Medical Practice Acts," by F. T. Gundrum; "An Address" delivered by Dr. Emma L. Merritt at a banquet given by women physicians, October 11, 1924, in honor of the eighty-third birthday of Dr. Lucy Maria Field Wanzer; "Origin and Essence of the Lane Medical Lectures," by Adolf Barkan; "Early Californian Medical Journals," by Emmet Rixford. A remarkably vivid and interesting episode in the medical history of California, concerning the shooting of James King of William and the scandal involving the doctors who treated him, is told by Dr. George D. Lyman in an article entitled *The Sponge*, published in the *Ann. M. Hist.*, 10: 1928. Lafayette Houghton Bunnell, M.D., the discoverer of the Yosemite, has been well written up by Dr. Howard A. Kelly, in the *Ann. M. Hist.*, 3: No. 2, 1921. To Dr. Lyman's "The Beginnings of Medical History in California" I am especially indebted as from its pages I have compiled practically all my information on this subject. J. Marion Read's well-written "History of the California Academy of Medicine," San Francisco, 1930, is a valuable book on the more recent history of medicine in San Francisco.

nia at Monterey. The colonists sailed in two ships, the *San Carlos* and the *San Antonio*. Although the latter sailed one month later than the *San Carlos*, she was the first to arrive. An outbreak of scurvy had occurred on the latter and the captain had stopped at Cedros Island to take on water. The spring from which he drew his supply was contaminated and dysentery broke out among the passengers and crew. To add to the misery of the voyage the captain lost his way in a fog and did not reach San Diego Bay until one hundred ten days after sailing from La Paz. The *San Antonio* had had better luck and was lying in the harbor when the *San Carlos* arrived. There was a surgeon on board the *San Carlos*, Pedro Prat, a graduate in medicine from the University of Barcelona, holding the rank of *Capitan* in the Royal Spanish Army. He had a terrible time on the voyage and a bad time awaited him on shore. All of the crew of the *San Carlos* had died excepting a sailor and a cook, and those of the passengers who survived were in such a desperate condition that they had not the strength to lower a boat when they reached San Diego Bay. With the help of the *San Antonio's* crew Dr. Prat constructed a tent hospital on the shore to which the sick from the *San Carlos* were removed. Unfortunately the crew of the *San Antonio* also contracted the disease. According to Dr. Lyman only one-third of the original colonists intended for Monterey survived. When the remainder were sufficiently restored Dr. Prat accompanied them to Monterey, where he assumed the post of surgeon-general. Unfortunately the horrors of the voyage and the early experiences ashore had so affected his mind that he became demented and died in 1771.

Dr. Lyman gives a list of the surgeon-generals of the Spanish Army who were stationed at the Presidio in Monterey during the Spanish regime. Some of them were notable men. Dr. Pablo Soler occupied the posi-

tion from 1791 to 1800. Like Dr. Prat he was a graduate of the University of Barcelona. He had been in the Royal Navy. Dr. Lyman quotes from the Spanish archives of the Mission San Carlos the following statement:

Dr. Don Pablo Soler is a great physician and a great surgeon. Had not his humanity prompted him to give his profession to the service of the California colony, he would have been renowned in Spain, but he gave the best years of his life for the welfare of the people, travelling many miles to minister to officers and soldiers, to settlers rich and poor, to the missionaries and to the Indians, to all with equal kindness.

His successor Dr. Juan de Dios Morelos, believed in the infectiousness of tuberculosis. Lyman quotes the following passage from Bancroft, as to what Morelos did when the Commandant Hermengildo Sal died at Monterey of phthisis: "His disease was in those days considered contagious and, therefore, at the recommendation of the surgeon (Juan Morelos) all his clothing and bedding were burned, as was the roof of his house after the plastering had been removed from the walls." Bancroft also refers to another instance in which the furniture and clothing of a deceased consumptive were consumed with fire.¹

Dr. Manuel Quixano, who was surgeon-general from 1807 to 1824, was a graduate of the University of Madrid. On October 12, 1812, Padre Andres Quintana of the Santa Cruz Museum was found dead in his cell.

He had been ailing for sometime, and when found the Holy Oils and Consecrated Host were clasped to his breast. He was buried as

¹ Dr. Lawrence Flick, in his book, "Development of Our Knowledge of Tuberculosis," Phila., 1925, points out that during the first half of the eighteenth century "there was a practical application of knowledge of tuberculosis in Spain which would seem to indicate a fuller knowledge of the subject there than in other parts of Europe." He gives the text of a law established by royal decree in 1751, which declares phthisis a contagious disease, requires the physician in attendance to report it to the magistrate and orders that the chamber in which a patient suffering from phthisis has died, shall be disinfected, and his clothing and bedclothes burnt.

found. Two years later, an old Indian neophyte of the Mission, lay dying and requested the rites of the Church, and on his deathbed confessed that the good Padre, having been summoned in the dead of night to a dying Indian, had been treacherously murdered under a tree. Later the corpse had been placed in his own bed, and the door of his cell locked on the inside. Dr. Quixano being summoned from Monterey, the poor Padre's body was exhumed from his tomb in the chapel, and an autopsy was performed, disclosing that the Fray had been murdered in a most cruel manner, the details being so revolting that they were withheld from the general records.

Dr. Lyman, from whose article this account is quoted, states that this was the first recorded autopsy in California. Lyman also quotes from the San Carlos records of 1815 that, "Dr. Quixano made a tour of medical inspection of the missions, as serious illness afflicted especially the missionaries and Indians of Southern California. In every mission he was treated with respect due to his rank, but especially due to his ability and benevolence."

When the Spanish regime ended Dr. Quixano retired to private practice on the Monterey peninsula. His office chair, mahogany box containing his instruments, and scales for weighing drugs, are in the possession of his descendants in Monterey to the present day. Dr. Lyman's article is accompanied by pictures of them.

In those early days besides the few regular physicians at Monterey the padres at the various missions used to render aid to the sick and injured. Each mission had a room for the accommodation of a few patients, and the padres had medicine chests and a few instruments for use in emergencies. Dr. Lyman notes that the first two Cesarian sections recorded in California were performed by Franciscan friars, one in San Francisco in 1805, the other in San Jose in 1825. "The missionaries were required to perform that operation on all women dying undelivered during labor." Both of these operations were unsuccessful. The first successful Cesarian

operation in California was performed by Dr. Elias S. Cooper, in San Francisco in 1859.

Dr. Lyman gives an amusing account of the *bechiceros*, or Indian medicine men.¹ He points out that these remedies in general use among the Indians were subsequently admitted into the United States Pharmacopeia.

Eriodictyon Glutinosum, which grows profusely on our foothills, was used by the medicine men in afflictions of the respiratory tract. So efficacious and so valuable did it prove to the missionaries, that they called it *yerba santa*, or holy plant. The second, the *Rhamnus Purshiana*, which grows luxuriantly in the timbered mountains of Southern California, was used extensively as a cathartic. So highly esteemed was it by the followers of the Cross, that they christened it *casara sagrada*, or sacred bark. The third, *Grindelia Robusta*, was used in pulmonary troubles and as external skin applications following exposure to the *Rhus Toxicodendron*, or poison oak.

During the Spanish regime syphilis was one of the most prevalent diseases, especially severe among the Indians. The other chief diseases were scurvy, chronic dysentery and phthisis.

Between 1829 and 1833 a terrible pandemic disease prevailed among the Indians of California.² Dr. Twitchell quotes C. Hart Merriam as authority for the statement that at the time of the discovery the Indian population of California was 260,000, which was reduced to 210,000 by 1834, and to 100,000 by 1849. After the settlement by the Spaniards, syphilis and smallpox wrought havoc with the Indians, but beginning in 1829 and reaching its climax in 1833 an epidemic disease with great mortality swept over the country.

Twitchell quotes the statements of several explorers who a few years later testified to finding numerous deserted Indian villages with great numbers of unburied

¹ Among the ignorant people in the central parts of Lancaster and York Counties, Pennsylvania, there exists a class of witch-doctors, who are called "hex" doctors. We wonder if there is any significance in the similarity of the names.

² The California Pandemic of 1833, by Eduard P. Twitchell, M.D., in *California & West. Med.*, 23: 1925.

corpses lying in their ruins. One, Colonel Warner, states in 1832 on a trip through the central part of California

. . . On no part of the continent over which I had been or have since travelled was so numerous an Indian population as in the villages of the Sacramento and San Joaquin Rivers . . . On our return late in the summer of 1833, we found the valleys depopulated. From the head of the Sacramento to the great bend and slough of the San Joaquin, we did not see more than six or eight live Indians. The disease appeared as far as I could judge, to be a most acute and violent type of remittent fever.

What was this fatal disease? As Twitchell says, Colonel Warner thought it was a remittent fever; Colonel P. I. Edwards, writing in 1837, thought it was an intermittent fever; De Mofras in 1841, wrote that he had heard it was cholera visited upon a syphilitized people. Twitchell denies malarial disease. "It is never so fatal nor comes in such waves." The white men who witnessed its ravages would probably have recognized smallpox. He is inclined to think it may have been typhus or cholera, or possibly measles similar to that which slaughtered the Fiji Islanders in 1876.

THE MEXICAN PERIOD, 1822-1848

Smallpox first appeared in California in 1798. It prevailed with great virulence for many years. In 1834 no less than 12,000 Indians died of it in the province of Sonora alone. In 1825 there was a widespread epidemic of measles. Dr. Lyman gives a list of the surgeons who practiced at Monterey during the Mexican period. None of them were particularly noteworthy. The career of one, Edward Turner Bale, is interesting. He was a young English surgeon when he first arrived at Monterey in 1837, well-educated but quarrelsome. Soon after his arrival he married a niece of General Vallejo, and in 1840 the latter appointed him surgeon of the Presidio, "the only Anglo-Saxon who ever occupied that position," which he held until 1843, when he retired to live

on a ranch which had been granted him by his wife's uncle. Sometime later Vallejo came to the ranch and was greeted most affectionately by Mrs. Bale. This excited the jealous anger of Dr. Bale and he challenged Vallejo to a duel. The latter was a famous swordsman and easily defeated the Doctor, who then tried to shoot him. For this he was arrested, and nearly lost his life. Later Dr. Bale went into the lumber business, and died a wealthy man in 1849.

The scarcity of doctors was very great throughout the Mexican regime. Dr. Lyman relates many interesting stories of the non-medical practice which had to be resorted to, and of the rough-and-ready surgery which was employed in emergencies. He states that the first regular physician to settle in California in those days was Dr. James L. Ord, assistant surgeon of Company F., Third United States Artillery, who arrived in 1847. He only made a short stay on this occasion, but returned later to spend the rest of his life. Ord was a native of Maryland. His father was a son of George IV and Mrs. Fitzherbert. He had a widespread reputation for his surgical skill.

The first physician to settle in Los Angeles was Dr. John Marsh, a graduate from Harvard in arts but having no medical degree. He only practiced there about a year, when having acquired a ranch near Mount Diablo, he settled on it, and proceeded to make a fortune raising livestock. Marsh was murdered in 1856.¹

An interesting figure in the early days of Los Angeles was Dr. Richard Somerset Den. He was an Irishman, who after graduating from the medical school of the University of Dublin in 1842, had gone as a ship's surgeon to Australia. On his return he visited his brother Nicholas Augustus Den, who had studied medicine at Dublin but had not graduated. He had settled at Santa

¹ Dr. Lyman has just published "John Marsh, Pioneer," New York, Scribners, 1930, an account of his career.

Barbara and made a fortune in the cattle business. On account of his partial training in medicine, he was frequently applied to for medical advice. While Dr. Richard S. Den was staying with his brother, he was called on several occasions to Los Angeles to exercise his surgical skill. Some of the citizens of Los Angeles urged him to settle there, and he did so in 1844. "From that time until his death in 1895, he devoted himself to his profession there, with the exception of a brief period in 1848, which he spent at the mines, and about twelve years from 1854 to 1856, which he employed in stockraising at his ranch at San Marcos. During the Mexican War he was chief physician and surgeon of the Mexican army." Lyman quotes the following description of him from Newmark:

He was seldom seen except on horseback, in which fashion he visited his patients, and was, all in all, a man of mystery. He rode a magnificent coal-black charger, and was himself always dressed in black. He wore, too, a black felt hat; and beneath the hat there clustered a mass of wavy hair as white as snow. In addition to all this, his standing collar was so high that he was compelled to hold his head erect; and as if to offset the immaculate linen, he tied around the collar a large black silk scarf. Thus attired and seated on his richly caparisoned horse, Dr. Den appeared always dignified and even imposing.

He was generally known as "Don Ricardo." He never married, and his great amusement was horse racing.

Another early physician of Los Angeles was Dr. J. T. Griffin, a native of Virginia, who had received his medical degree from the University of Pennsylvania. He was a brother-in-law of General Albert Sidney Johnston. Griffin was chief surgeon of the First Dragoons, and accompanied General Kearney overland to San Diego. In 1847 he had charge of the General Hospital at Los Angeles. He began civil practice there in 1854 and continued it until his death in 1898.

An interesting figure in the early medical history of San Diego, though not a doctor, was James Ohio Pattie, a Kentucky trader, who came with his father to San Diego in 1828. Echeandia, the Mexican governor, put them in jail, where the father died.

Smallpox was raging throughout California, causing thousands of deaths. Pattie had some vaccine among his goods, and he promised if he were released to vaccinate the Governor and everyone possible. His terms were accepted, and he claims in his "Personal Narrative" that he vaccinated 22,000 persons. He was offered 500 mules and 500 cattle with land on which to graze them, if he would become a Catholic and a citizen of Mexico. Pattie declined this generous offer.

The settlement of Yerba Buena, which later became San Francisco, owed its name to a plant which grew luxuriantly on the hillsides surrounding the cove on which it was located. "Yerba Buena was a great favorite among the Indians, who had proved its medical worth as a febrifuge, emmenagogue, carminative and anthelmintic, and early Spaniards added it to their pharmacopeia."

In 1846 the future San Francisco had 79 buildings and of its 459 inhabitants three were doctors: John Townsend, Victor Fourgeaud and E. P. Jones, all of whom left their mark in California medical history.

John Townsend, a Virginian, journeyed overland from Missouri with his wife and brother-in-law, Moses Schallenberger, in 1844. They brought with them a large quantity of silks and satins which they hoped to sell in California. After a short period in Monterey, Townsend moved to Yerba Buena and began practice. In 1848 at about the time that the name was changed to San Francisco, he was elected mayor of the town. He and his wife died of cholera in 1849. In 1848 he was one of the founders and first trustees of the first school in San Francisco.

Dr. Victor Jean Fourgeaud, was a native of Charleston, S. C., and a graduate of Charleston Medical College. After graduating he spent four years in study in Paris. He should attract the attention of those interested in medical history because Dr. Lyman says he commenced, while in France, a history of medicine, a subject in which he maintained his interest throughout his life. Unfortunately Dr. Lyman has found no record of its publication, though Fourgeaud wrote a series of "Historical Sketches" for the *Pacific Medical and Surgical Journal* in 1859.

On his return to the United States he settled in St. Louis, Missouri, where he became the leading medical man of his time. He founded the *St. Louis Medical and Surgical Journal*. In 1847 he migrated with his family to California, when he settled in Yerba Buena. At the time of the gold fever he went to Sacramento where he remained until 1863, when he returned to practice in San Francisco, until his death in January, 1875. With Dr. Townsend in 1848 he was one of the founders and first trustees of the first school in San Francisco, and he made the first assay of the gold found by Marshall at Sutter's Mill. He was first editor of the pioneer *San Francisco Medical Journal*.

Dr. Albert P. Jones, the other member of the trio of physicians at Yerba Buena, was a native of Kentucky. Although always known as Dr. Jones, his claims to the title are not known. At any rate, his medical activities, if any, were overshadowed by his achievements in politics, and in the accumulation of gold.

Gold became the grand passion of his life, and one of his greatest pleasures was to spread sheets upon the floor of his bedroom and to pour his gold dust upon them. Then pushing his naked feet through the dust, he would take it up in great handfuls and shower it upon his head and shoulders, and roll and wallow in the glittering metal.

He was the editor of the *San Francisco Star*, the first newspaper published in San Francisco. Dr. Jones died in 1851.

THE AMERICAN PERIOD, 1848-

Dr. Lyman gives a vivid picture of the turmoil and excitement which followed the discovery of gold in the tailrace of Sutter's Mill in the winter of 1848. Practically the entire population of California, doctors included, rushed to the new Eldorado. Although diseases of various kinds were rampant in the unsanitary mining camps, there was also a great demand for surgical skill. Accidents were frequent in the hastily dug pits and mines, and gunshot and pistol wounds were of frequent occurrence among the hordes of adventurers. Dr. Fayette Clappe, from Massachusetts, was the first physician to open an office at Rich Bar on the Feather River. In a few weeks no less than twenty-nine other doctors had followed his example.

Dr. Edward Willis, an Englishman, and a graduate of Edinburgh and London, opened an office in Placerville. It was in a tent divided in two apartments by a piece of sail cloth. In one of these he lived, and in the other he saw his patients. At the entrance was a blue sign inscribed in gold letters "Surgery," and below: "Dr. Edward Willis, M.R.C.S., Surgery and Physic in all branches. Sets bones, draws teeth painlessly, bleeds, advice gratis." An American calling himself "Doctor" Hullings was already established in Placerville, when Willis arrived. He was a drunkard and though said to have some ability was usually incapable of exercising it. Hullings resented the presence of a rival. One day he went to the Englishman's surgery and demanded that he be shown his diplomas. Willis produced them, whereupon Hullings tore them in two and spat a lot of tobacco juice in Willis's face. Willis had to resent the insult, and in the duel which followed he killed Hullings.

Lyman quotes from the "Diary of a Physician," written by James L. Tyson, some of the latter's experi-

ences in the "Diggings." He located in the Dry Digging on the south fork of the American River.

There he set up his office in a tent and indulged in considerable bleeding. Although perfectly well, the miners would insist on its performance, and as the charge was an ounce of gold for each, he would gratify them, and sometimes would have two or three bleedings around his tent at once. As the food supply at the mines was limited, the miners were forced to a diet of dried and salted meat. Vegetables and fruit were almost unknown. As a result, scurvy was one of the chief complaints of the mountains, and was the underlying cause of most of the existing diseases, consisting of rheumatism, dysentery, brain fever, intermittent, remittent and continued fevers, the latter early assuming a typhoid character.

Tyson says he never saw so many broken-down constitutions as during his brief stay in California.

Sacramento was the metropolis of all the mining. In May, 1850 there were fifty doctors practicing there who signed the roll of the Medico-Chirurgical Association. Stillman thought this was the first medical organization in California, but Lyman shows that it was antedated by one which was founded in Los Angeles in January, 1850.

One of the first hospitals in California was opened in Sacramento in 1850, and in 1856 the State Medical Society was founded there, and in the same year Dr. John F. Morse began in Sacramento the publication of the first medical journal in California.

Dr. Lyman shows that many of the medical men who came to California during the gold rush were of first-class merit and had already achieved prominence in their profession in other places. Of these he particularly mentions Elias S. Cooper, Hugh H. Toland, J. D. B. Stillman, Henry S. Gibbons, Sr., Beverly Cole, Isaac Rowell, Stephen R. Harris, Robert McMillan, and Henry M. Gray.

One of the most noteworthy of this group was Dr. Elias Samuel Cooper (1822-1862), a native of Ohio,

and a graduate of the medical school of St. Louis University. He practiced in Peoria, Illinois, from 1844 to 1853, when he went abroad and spent a year in European clinics. In 1855 he settled in San Francisco, and in the following year was active in organizing the Medical Society of the State of California. In 1858 he founded the medical department of the University of the Pacific, the first medical school on the Pacific coast, which was dissolved in 1864, two years after his death in 1862. In 1870 it was reorganized by his nephew, Dr. Levi Cooper Lane, as the Medical College of the Pacific. In 1882 the name was changed to Cooper Medical College, Dr. Lane presenting the institution with a group of very handsome buildings. In 1860 Dr. Cooper established the *San Francisco Medical Press*. Dr. Cooper was a very bold and skilful surgeon. He ligated the innominate artery on a patient who lived forty days and then died of secondary hemorrhage. In another case he resected three ribs, and removed the breechpin of a gun from immediately below the heart, the patient making a complete recovery.

Hugh H. Toland (1806–1880), a native of South Carolina, received his medical degree from Pennsylvania. After practicing for a time in Pageland, S. C., young Toland went abroad, and passed several years in Paris, devoting particular attention to surgery. In 1852 he went to San Francisco, where he acquired a very large and lucrative practice. In 1866 he founded Toland Medical College, which later became the medical school of the University of California.

Henry S. Gibbons (1808–1884), a native of Wilmington, Delaware, graduated from the medical department of the University of Pennsylvania in 1829. For a time during the forties he practiced in Philadelphia. For several years he was Professor of the Institutes of Medicine in the Philadelphia Medical College, and he was one of the incorporators of the Female Medical

College of Pennsylvania. In 1850 he moved to San Francisco. He was closely associated with E. S. Cooper, and when the latter founded his medical school Gibbons was appointed to the chair of Therapeutics and Materia Medica. His son, Henry Gibbons, Jr. (1840-1911) was also a very prominent physician. He was at one time dean of Cooper Medical College, and held the chair of Materia Medica. In 1882 he was elected Professor of Obstetrics, Gynecology, and Diseases of Women and Children.

Beverly Cole (1829-1901), born in Virginia, graduated from Jefferson Medical College of Philadelphia in 1849. He went to San Francisco in 1851, and soon became prominent in civic as well as in medical circles. In 1852 he was appointed surgeon-general of the guard raised by the Vigilance Committee, and in 1856 he sprang into prominence through his connection with the murder of James King of William.¹ After the shooting Cole was one of the first physicians to extend aid to the wounded man, but he was subsequently dismissed from the case, King being treated by Drs. Hammond, Bertody, H. H. Toland, and H. M. Gray, until his death five days later. At a meeting of the State Medical Society in 1857 Cole asserted that King's injury was only a flesh wound and that he probably would have recovered had it not been for a sponge which was left in the wound five days, "which he did not hesitate to denounce as a case of gross malpractice." In the subsequent trial for murder H. H. Toland and Beverly Cole were opposing witnesses and bitterly denounced each other. As Lyman says it is curious that when Toland some years later founded Toland Medical College, Cole was appointed Dean, and subsequently occupied the same position in the medical department of the University of California. When Cooper founded

¹ For a most picturesque account of this historic crime and of its surgical aspects see *The Sponge*, by George D. Lyman, M.D., *Ann. M. Hist.*, 10: 460, 1928.

the medical department of the University of California in 1858, he appointed Cole Professor of Obstetrics and Diseases of Women and Children, and Dean. At the meeting of the State Medical Society in 1859, Cole created a great sensation when he read a report on "Obstetrics and Diseases of Women in California," in the course of which he stated that the pioneer women of California were most of them victims of dissipation and a prey to disease.

The statement attracted attention in the lay press outside of California, and roused a tempest of indignation among his colleagues and fellow citizens. Finally the State Medical Society considered the matter and exonerated him from any "evil intent to defame the character of the women of the State, although there can be no doubt that the language of the report in question was very loose and improper."

One of the greatest medical benefactors of California was Levi Cooper Lane (1833-1902), a native of Ohio; he graduated from Jefferson Medical College of Philadelphia in 1851. For four years he served as a resident physician in the New York State Hospital on Ward's Island, and then entered the Navy, from which he resigned four years later to join his uncle Dr. E. S. Cooper in practice at San Francisco. He was appointed Professor of Physiology in the medical department of the University of the Pacific. After this ceased to exist Lane was appointed Professor of Anatomy in Toland Medical College. In 1870 Lane reorganized his uncle's old school and became professor of surgery in it. Twelve years later, when it was incorporated as Cooper Medical College, he presented it with some handsome buildings to which he later added Lane Hall, and Lane Hospital. In 1894 he founded the Lane Medical Lectures, providing a fund, the interest of which was to be used to provide a course of annual lectures to the students of Cooper Medical College.

A fine memorial to Dr. Lane is the Lane Medical Library, especially notable for its historical collection.¹ This most notable collection is owing chiefly to the zeal of Dr. Adolph Barken, who, in 1921, succeeded in persuading the authorities of Stanford University to purchase the great medical historical library of Professor Seidel, of Meissen, for the Lane Library. The collection is especially rich in Turkish, Persian and Arabian manuscripts, and in printed editions of the Eastern medical authors; but it contains also a large number of fine and rare editions of the Greek and Latin medical classics.

EARLY CALIFORNIAN MEDICAL JOURNALS²

In March, 1856, a convention was held in Sacramento to organize a state medical society. One of the first acts of the newly formed society was to pass a resolution favoring the foundation of a medical journal.

Dr. John F. Morse, Sr., of Sacramento, undertook to publish such a periodical if guaranteed two hundred subscribers at five dollars each, a year. Thus was founded the *California State Medical Journal*. It adopted a high tone and published some excellent material before it had to cease publication in 1858, because of lack of financial support.

In 1858 the *Pacific Medical and Surgical Journal* was started in San Francisco, with John B. Trask and David Wooster as editors. In April, 1865, the *San Francisco Medical Press* which had been run by Dr. E. S. Cooper, was united with it, and in 1884 it absorbed the *San Francisco Western Lancet*. It continued publication until 1917.

¹ See "The Historical Collection of the Lane Medical Library," by Louise Ophuls, Librarian, *California & West. Med.*, 23: May, 1925, for a most delightful account of this really great collection.

² My information is drawn from an article by Emmet Rexford, M.D., entitled "Early Californian Medical Journals," *California & West. Med.*, 23: May, 1925.

Dr. Rexford relates several lively contests which enlivened the pages of the *Pacific Medical and Surgical Journal*. Its first number contained a number of short, original articles by H. H. Toland, J. Morrison, Isaac Rowell, and E. S. Cooper, representing the various factions in the medical profession of the day. In the third number Dr. Wooster, one of the editors, published an account of a case of Cesarean section, which had been previously reported by Dr. E. S. Cooper at a meeting of the State Medical Society, in which he bitterly criticized Cooper's operation, at which he had been present as consultant and assistant. After the publication of Wooster's criticism, Cooper ceased to contribute to the journal.

Dr. H. H. Toland wrote an article for almost every issue of the journal. In the second volume Dr. J. D. B. Silliman published a caustic criticism of the quality of the material published in the journal, accusing Toland of plagiarism. Toland replied with equal acerbity.

Dr. E. S. Cooper began the publication of the *San Francisco Medical Press* in January, 1860. Two years later Cooper died and Dr. L. C. Lane became editor for a short time. The last volume was edited by Drs. Beverly Cole and Henry Gibbons. In 1865 it was merged with the *Pacific Medical and Surgical Journal*.

The *Western Lancet* was founded in 1862 under the editorship of Drs. E. Trainor and H. P. Babcock. In its ninth volume its name was changed to the *San Francisco Western Lancet*, with Drs. A. W. Parry and W. H. Mays as editors, and in volume 10, with Dr. W. S. Whitwell as editor. In 1884 it was merged with the *Pacific Medical and Surgical Journal*.

The *California Medical Gazette* was founded in 1868, with Drs. Thomas Bennett, J. Campbell Sharpe and W. F. McNutt as editors, and for the second volume, Drs. J. D. B. Silliman and W. F. McNutt.

The *Pacific Record of Medicine and Surgery* was founded by Dr. C. W. Moore in 1886, and continued publication for twenty years. At first it was bilingual, having English and Spanish in parallel columns.

After Dr. Moore's death in 1898, Dr. Louis A. Kengla assumed the editorship. In 1904 it was combined with the *Occidental Medical Times* with Dr. Kengla as editor.

In 1887 Dr. J. H. Parkinson established the *Sacramento Medical Times*. In 1889 its name was changed to the *Occidental Medical Times*. In 1904 it was merged with the *Pacific Record of Medicine and Surgery*.

MEDICINE IN NEBRASKA¹

The first physicians in Nebraska of which there is any record were two Army surgeons, Thomas G. Mower and John Gale, who came there in 1819 with some United States troops who garrisoned a post on the Missouri River, which subsequently became known as Fort Calhoun. The most important circumstance connected with their station was an outbreak of scurvy among the soldiers, which was accompanied by a remarkably high mortality. Tyler reprints their reports concerning it. The outbreak seems to have been due to a lamentable breakdown in the commissariat and was attributed by the surgeons to insufficient or unsuitable rations. Of 788 soldiers at the post in January, 1820, nearly 500 suffered from scurvy and 157 died. Dr. Mower continued in the Army and in due time was transferred to other fields, but Gale remained at the post and married an Indian girl. He seems to have been a man of good birth but was rough and dissolute. By his Indian wife he had a daughter Mary. About 1824 or 1825, Gale announced that he had to go to England to claim an

¹ My information on the history of the profession in Nebraska is derived almost entirely from the "History of Medicine in Nebraska," Albert F. Tyler, M.D., Editor; Ella F. Auerbach, Compiler, which was published in 1928.

inheritance which had fallen to him. He purposed to leave his wife but wished to take Mary along with him. Mrs. Gale suspecting his intention to desert her fled to the woods with her daughter and remained concealed until Gale had gone, after which she and her daughter emerged. Some years later believing Gale dead the deserted wife married Peter Sarpy, the post trader. The daughter, Mary Gale, married Joseph La Flesche, a half-breed. One of their children, Susan, after graduating from Hampton Institute studied medicine, graduating from the Woman's Medical College of Philadelphia, in 1888. She returned to her reservation where she acquired a large practice and was held in great esteem by both the Whites and the Indians. She raised money to build the first hospital in Walthill and was active in all kinds of enterprises for the good of the community. In 1894 Susan La Flesche married Henry Picotte, a French Sioux, by whom she had children who are still living.

Among the pioneers who came to Nebraska there were many self-styled doctors, as well as a few graduates of medical colleges. Practice was hard and not very remunerative and in the early years the temptation to settle in such a country was not very great. Nebraska never had any great gold, silver or copper rush such as filled up some of the heretofore unsettled regions of the United States in the middle years of the last century. Her growth, however, though slow, was steady and during the fifties many towns were founded which soon became flourishing communities. Some of the pioneer physicians, being men above the average intelligence, drifted into public life and became deflected from their strictly professional activities by the greater opportunities offered in a political or business career. One such was Dr. George L. Miller, who graduated from the College of Physicians and Surgeons of New York in 1852. Two years later he came to Omaha, the first regular physician to settle there. He became very in-

fluent in politics and in the newspaper world. In 1865 he retired altogether from practice, established the *Herald*, which became a successful newspaper and later he became president of the Western Associated Press, a news agency, which was later united with the Associated Press.

The second physician in Omaha, Charles A. Henry, began his career there under spectacular circumstances. He was engaged in some land speculations in Bellevue, where, in April, 1855, during a dispute over a boundary line, he shot and killed a man. He was arrested and brought as a prisoner to Omaha. While awaiting trial cholera broke out among some soldiers on a flottilla on which they were being conveyed up the Missouri to Fort Pierre. Dr. Miller, the only physician in Omaha was called upon to join the flottilla to help care for the sick among the soldiers. When some cases of the disease appeared in Omaha, Dr. Henry was conducted about the town by the sheriff to minister to them. This won him the sympathy of the citizens to such an extent that when the first grand jury ever impanelled in Omaha was assembled for his case, the Doctor's plea of self-defence was readily accepted, and he was acquitted. Dr. Henry was employed as a spy during the Civil War and at its close was commissioned as a captain in the quartermaster's department of the United States Army. He rose to the rank of lieutenant-colonel before his death in 1880.

MEDICAL COLLEGES IN NEBRASKA

The first incorporated medical school in Nebraska was the Omaha Medical College, which was chartered in May, 1869. Although a faculty was appointed and the institution well organized on paper, it never opened its doors. Ten years later the project was taken up again by some of those who had been interested in the projected medical school, and the Nebraska School of

Medicine, Preparatory, was started. After the new school was successfully launched its backers persuaded the stockholders of the projected Omaha Medical College to surrender their charter to them and the school then assumed the name of Omaha Medical College. A building was erected adjoining old St. Joseph's Hospital in the wards of which the students were afforded clinical facilities. The first class was graduated in 1882. Two of the class were women.

The Lincoln Medical School was organized at Lincoln in 1883. It received an appropriation of \$2000 from the Legislature and in consequence had to have representatives of the homeopathic and eclectic schools on its faculty. This led to dissension and the school went out of existence in 1887. It had been organized on the campus of the University of Nebraska. Subsequently efforts were made to reestablish the medical school at Lincoln as the medical department of the State University. These efforts were not successful because of the lack of clinical facilities in Lincoln. For a number of years those active in the affairs of Omaha Medical College and some of the Regents of the University worked towards an affiliation of the schools and finally in 1913 Omaha Medical College was amalgamated with the University of Nebraska as its medical school. The entire medical school was then located in handsome buildings in Omaha and has continued to flourish ever since. In 1915 the University of Nebraska Hospital was established by the Legislature to provide a teaching hospital in connection with the college.

In 1878 Creighton University opened its doors in Omaha. It was founded by Mrs. Edward Creighton as a memorial to her husband, and was a Catholic institution, conducted by Jesuit priests. Some years later, Mr. John A. Creighton built a new St. Joseph's Hospital as a memorial to his wife, and in 1892 he founded a medical school, the John A. Creighton Medical College,

as a department of the University. It was generally supposed that Mr. Creighton was prompted to establish the Medical School by Dr. William J. Galbraith, chief surgeon of the Union Pacific Railroad, who had been a member of the faculty of Omaha Medical College but who had become dissatisfied with some of the other members of the faculty. The founding of the new medical school hurt the Omaha Medical College as the clinical facilities of St. Joseph's Hospital which had hitherto appertained to it were transferred to the new institution. The buildings of the old St. Joseph's had been taken over by the new Creighton Memorial Hospital and were used for some time to house the new medical school. In 1898 Creighton Medical College moved into buildings especially constructed for it.

The first hospital established in Omaha was opened by Dr. Samuel David Mercer in the winter of 1868-9. It was soon after purchased by the city for use as a contagious disease hospital. Mercer then started the Omaha Medical and Surgical Institute, and later founded the Union Pacific Dispensary. Mercer was a native of Illinois and studied medicine at the Universities of Michigan and Chicago. He came to Omaha in 1866, and soon acquired a leading position in the profession. Mercer was the chief factor in the organization of the Omaha Medical College, in which he was professor of clinical surgery, for four years. During the Civil War he saw active service as a surgeon in the Union army. As chief surgeon of the Union Pacific railroad Mercer was energetic in establishing hospitals in Ogden, Laramie, Denver and other railroad centers. He was an acute business man and acquired a very large fortune, chiefly in real estate.

One of the most widely known Nebraska surgeons of his day was Dr. Victor H. Coffman, who was born at Zanesville, Ohio, September 10, 1839. His family moved to Indianola, Iowa, when he was fifteen years old. Here

he attended the Iowa Wesleyan College and studied medicine under Dr. C. W. Davis. In 1839 he went to Chicago to pursue his medical studies but at the outbreak of the Civil War he entered the Union Army as an assistant surgeon, although he had not got his M.D. degree. He saw very active service, was promoted to be regimental surgeon in 1863, and in 1865 was brevetted lieutenant-colonel for meritorious service at Mobile. At the close of the War he was mustered out of service and went to Philadelphia where he got his M.D. from Jefferson Medical College. He settled in Omaha in 1867. He was a very skilful surgeon. He performed a successful thyroidectomy in the nineties and was the first to perform an ovariectomy in Nebraska. He was one of the organizers of the Omaha Medical College in which he held the chair of obstetrics.

MEDICAL SOCIETIES IN NEBRASKA

The first attempt to found a Nebraska Medical Society was made in 1855. Dr. George L. Miller's name heads the list of seven doctors who obtained an act of incorporation for the Society. The effort proved abortive for reasons unknown. In 1857 the Legislature once more granted a charter to the Nebraska State Medical Society, which again included the name of Dr. George L. Miller among the incorporators.

The Nebraska State Medical Society was organized in May, 1860, at a meeting held in the office of Dr. James H. Peabody. Dr. Peabody had graduated from Georgetown University Medical School in 1860. He prospected for gold in the Black Hills until he entered the government service during the Civil War and had charge of the Marine Hospital in St. Louis. In 1864 he came to Omaha as major of the medical district of Nebraska. In 1866 he entered on civil practice there. Peabody contributed to current medical literature and was active in hospital work.

MEDICAL JOURNALS IN NEBRASKA

The first medical periodical published in Nebraska was the *Omaha Clinic*, which was first published April 10, 1888. The editor was Jacob C. Denise, of Omaha. It ceased publication some time shortly after 1899.

The Western Medical Review began publication May 20, 1896 with George H. Simmons as editor, a position which he held until 1899, when he went to Chicago to assume the editorship of the *Journal of the American Medical Association*. When Simmons left his position was filled by Drs. S. E. Cook and H. Winnett Orr, who ran the *Review* successfully for a number of years.

The Nebraska State Medical Association began the publication of the *Nebraska State Medical Journal* in 1915, under the able editorship of Dr. Irving S. Cutter, then dean of the University of Nebraska School of Medicine.

MEDICAL LEGISLATION IN NEBRASKA

Until 1881 there was no law of any kind regulating medical practice in Nebraska but in that year a law was passed which enacted that all persons holding a diploma from a legally chartered medical school could receive a certificate to practice by registering their diploma with a county clerk; all who came into the State thereafter to practice were required to have a diploma; anyone who had attended at least one course of lectures in a chartered medical college and had been practicing in the State for at least three years could register and receive a certificate; lastly those who had been gaining a living continuously by practicing for at least ten years, the last two having been in the State, could receive a license. This law was amended in 1891 and again in 1897. Under the provisions of the last amendment a diploma is required from a school having a four years' course of nine months each year.

A State Board of Health in Nebraska was created by the Legislature in 1891.

HISTORY OF MEDICINE IN OREGON¹
WILLAMETTE UNIVERSITY, OREGON
(UNIVERSITY OF OREGON MEDICAL SCHOOL)

In 1842 Willamette University, a Methodist Episcopal college, was founded at Salem, Oregon. Twenty-three years later, in 1865, a medical school was established in connection with Willamette University. This school was termed the "Oregon Medical College" and was located at Portland, Oregon. A faculty was chosen by the Board of Trustees of Willamette University, but its members never seem to have organized and the scheme accordingly fell through. The Board of Trustees of Willamette University adopted the following resolution, on November 14, 1866:

Resolved, That whereas the gentlemen heretofore elected by this board of professors of the Medical Department of Willamette University heretofore established in Portland have failed to organize or to perform the duties imposed upon them by their election and have also resigned their positions and discontinued their relations to the University; Therefore, Resolved that said Medical Department be and the same is hereby established and located at Salem. That it shall consist of seven or more professorships so organized and conducted as to afford a full course of instruction by lectures and studies conforming to the latest and most approved practice of the best Medical Institutions and of such grade and character as to thoroughly qualify its graduates for the responsible duties of a professional life.

A faculty was elected

. . . composed of physicians practicing in or near Salem: namely, H. Carpenter, M.D., Professor of Civil and Military Surgery; E. R. Fiske, M.D., Professor of Pathology and Practice of Medicine; John Boswell, M.D. Professor of Obstetrics and Diseases of Women and Children; J. H. Wythe, M.D., Professor of Physiology, Hygiene

¹ My information is chiefly derived from an address entitled "The Development of Medical Education in the Pacific Northwest," by O. Larsell, read at a meeting of the University of Oregon Medical History Club, February 21, 1924.

and Microscopy; D. Peyton, M.D., Professor of Materia Medica and Therapeutics; J. W. McAfee, M.D., Professor of Chemistry and Toxicology; A. Sharples, M.D., Professor of Descriptive and Surgical Anatomy; W. C. Worimer, M.D., Demonstrator of Anatomy; Hon. J. S. Smith, Professor of Medical Jurisprudence.

As Larsell points out, the facilities for clinical instruction at Salem were very meager, the town having a population of only twelve hundred. The first course of lectures was begun March 3, 1867, and on July 23, 1867, these candidates were given the degree of M.D. Soon after it was decided to hold the sessions in the winter. The course lasted twenty weeks and attendance on two courses was necessary for graduation. A curious light is thrown on the faculty of the new school in a memorial presented to the trustees by Drs. Wythe and Fiske, who were both trustees as well as members of the faculty. They describe themselves, "as the only members of the Board who had received a regular medical education," and that they had been asked by the Board of Trustees to aid in organizing the medical school:

In pursuance of our trust we found the chief difficulty to arise from the circumstance that a sufficient number of physicians resident in Salem could not be found to fill the professorships without appointing some whose educational qualifications were evidently defective. For the sake of founding the department, however, we consented to waive the objection and every regular physician in the town who had a diploma or who declared that he was a graduate of some medical college, was appointed to a professorship.

Joseph Henry Wythe, according to the account of his life in Watson's "Physicians and Surgeons of America," had some foundation for his statement. He was born in Manchester, England in 1822, and had emigrated with his parents to Philadelphia in 1832. Graduated from Dickinson College in 1844, and from the Philadelphia College of Medicine and Surgery in 1850, he was a surgeon in the United States Army during the Civil War. After

the War he practiced in Salem, Ore. until 1869, then in San Francisco and from 1880 to 1896 in Oakland, Calif. According to this sketch (it should be recalled that the biographies in Watson's book were mostly written by their subjects), "Dr. Wythe performed his first ovariectomy with Dr. Washington L. Atlee of Philadelphia, in 1853, and performed the first successful ovariectomy on the Pacific coast, in 1863." He wrote a number of books which went through many editions, among them may be mentioned, "The Physicians Pocket Dose-Book," eighteen editions; "The Microscopist," four editions. Wythe was also a minister of the Methodist Episcopal Church. Of Dr. Fiske I can find no biographical record. There were fierce dissensions within the faculty. At one time Wythe was expelled by a vote of the faculty but he managed to get himself reinstated. Carpenter, the Professor of Surgery, was a storm center also, but though his resignation was requested by the faculty because of "gross incompetence and want of knowledge of his profession," he managed to ride out the storm until 1875 when he resigned. In 1878 the Board of Trustees voted to remove the medical school from Salem to Portland, because of the better teaching facilities to be had there. Other reasons which Dr. Larsell thinks influenced them were the formation of the Oregon State Medical Society at Portland, which from its foundation took a deep interest in medical education, and the establishment of the Oregon Medical College at Portland, which was organized in 1877 and incorporated in 1878. An attempt had been made in 1865 to found a medical college of this name in Portland, but had failed, as did several similar attempts during the intervening twelve years. The college was a stock concern, the faculty being the shareholders. This time a faculty was organized and everything was apparently ready to launch the new school. Before a session was held, however, Willamette University had moved

its medical department to Portland. It was obvious that there was not field enough for two rival medical schools and after a series of conferences the founders of the new project agreed to a consolidation with Willamette, and the medical department of Willamette University began a new phase of its career in Portland. In 1887 it occupied a new building especially adapted for its needs. Here it remained until 1905 when the Board of Trustees of Willamette University transferred the medical department back to Salem alleging as a reason the lack of hospital facilities for the school in Portland. The reason lay deeper. In 1887 when the medical department of Willamette University was apparently flourishing in its new building, one of the so-frequent discussions broke out in the faculty and had most serious results on its future. The causes and actual circumstances of the event are obscure, but the faculty resigned as a body. Some of them were reappointed by the trustees, but a number of the dissidents united in securing a charter for a new medical school from the Board of Regents of the University of Oregon, and the University of Oregon Medical School was opened in 1887. The men on the faculty of the new school controlled the hospital facilities at the Samaritan and St. Vincent's Hospitals and consequently the Willamette school lost them. This was more severely felt because the Methodist Hospital, which had been utilized by Willamette, was closed in 1895. In 1893 the University of Oregon medical department occupied a building specially erected for its use and in which it remained until it was destroyed by fire in 1919. The faculty contained many first-class teachers and they worked hard to elevate the standard of the school. In 1895 a four-year graded course was required. The standard was hard to maintain with the limited financial resources available. The Willamette school had been unable to keep up with the requirements for higher medical educa-

tion. In 1910 it was rated in Class c. In 1913 the two schools were consolidated and since then the University of Oregon Medical School has ranged among the best in the United States.

THE MEDICAL HISTORY OF DAKOTA¹

In 1861 the Territory of Dakota was constituted, and in May of the same year President Lincoln appointed Dr. William Jayne, a practicing physician of Springfield, Illinois, governor of the new Territory. Beyond the fact of his receiving this appointment I can find nothing about Doctor, or Governor, Jayne, and Dr. Grassick gives no further information concerning him.

The first three medical men who figure in the records of the Territory of Dakota were army surgeons. Gold was discovered in what is now Montana and Idaho in the early sixties, and there was the usual rush of emigrants to the new El Dorado. The Government furnished military escorts to the parties of emigrants. In 1862 Captain James C. Fiske was in command of a detachment of this character, "To escort emigrants from Fort Abercrombie to Fort Benton and to Fort Walla Walla." Dr. William D. Dibbs, of St. Anthony, Minnesota, accompanied this expedition as its surgeon. The following year Dr. Dibbs again was with Captain Fiske's second journey over the same route. In 1864 Captain Fiske escorted an emigrant expedition on a different route, and Dr. Dibbs was again with him as surgeon. This journey was a hard one. In the Bad Lands, near what is now Amidon, they were attacked by Indians, and lost two wagons, besides having several killed and a number of wounded. It was necessary to con-

¹ In a work entitled "North Dakota Medicine, Sketches and Abstracts," published by the North Dakota Medical Association in 1926, Dr. J. Grassick has written a most valuable record covering this subject. My information is compiled from this excellent example of what should be done to place on permanent record the history of medicine in any region.

struct a temporary camp and send word to Fort Rice for reinforcements. After these exciting experiences Dr. Dibbs must have been glad to settle in private practice in St. Anthony, Minnesota, where he was located in 1868, according to a newspaper article quoted by Dr. H. S. Hamilton in his "Early History of Medicine in Minneapolis."

Dr. Samuel P. Sheardown, of Winona, Minnesota, was commissioned surgeon in the United States Army in 1862, when thirty-six years old. In 1863 he was surgeon of the Tenth Minnesota Volunteer Infantry, when it crossed Dakota as part of General Sibley's expedition. Grassick quotes from the official history of the regiment the following reference to Dr. Sheardown: "Eminently skillful both in surgery and medicine, kind-hearted, but not often imposed upon, he performed his duty, both to the government and to the men in his charge, thoroughly and unostentatiously."

Dr. J. S. Weiser, of Shakopee, Minn., when twenty-nine years old, was commissioned Chief Surgeon of the First Minnesota Mounted Rangers, on October 1, 1862. Dr. Weiser had been personally acquainted with many Sioux Indians in Minnesota, and when the Indians of Minnesota and the Dakotas rose against the Government in 1862, he felt he could be of use as a negotiator between them. General Sibley was ordered to North Dakota to put down the uprising, and Dr. Weiser accompanied him as chief surgeon.

When they came in contact with the enemy, previous to the Battle of Mound, an effort was made to bring about an understanding, and an amicable settlement of the difficulties. A parley was being held some 300 yards from the camp by representatives from both sides. Dr. Weiser was one of the party and while engaged in negotiating for peace was shot by an Indian and met almost instant death.

A marker has since been placed to indicate the scene of this tragic episode, and a small granite marker

has also been erected over the spot where Dr. Weiser is supposed to have been buried.

Dr. Grassick devotes a number of interesting pages to the experiences of the army surgeons who were stationed at Fort Totten and other government posts throughout the region of the Dakotas. Several of those who came out either as commissioned officers or contract surgeons settled in civilian practice in the rapidly growing towns. Some were men of fine education and most of them seem to have been of fine character and conscientiously devoted to their duties. Dr. W. D. O'Donnell, a native of New Hampshire and graduate of Dartmouth College, died on May 2, 1890. After his retirement from his official duties at Fort Totten he practiced until his death at Devil's Lake. He was a Greek and Latin scholar, especially devoted to the works of Hippocrates, and is said to have contributed original articles to the medical journals.

In 1889 the North Dakota State Medical Society was organized at a meeting of physicians held at Larimore. Dr. J. G. Millspaugh, of Park River, was the first president, and C. D. Conkey, vice-president, and Dr. John Montgomery, secretary and treasurer.¹ Dr. Grassick's book contains photographs of the presidents of the Society from Dr. Millspaugh to the present day.

MEDICINE IN TEXAS²

The earliest explorer of Texas was the Spaniard, Cabeza de Vaca, who went there on an expedition in 1528. He and some companions were captured by Indians and passed nearly six years with them before they managed to escape to a Spanish settlement. In his

¹ Dr. Millspaugh in his recollections of the founding of the Society, places the date of the first meeting as 1889. Dr. Conkey says that it "was at Larimore in 1887, I think." As Dr. Millspaugh's statement is the more positive it is probably correct.

² The medical history of Texas has recently been compiled by Mrs. S. C. Red in a volume entitled "The Medicine Man in Texas," to which I am indebted for most of the information in the following pages.

“Relaçion” he gives some interesting accounts of the medical practice of the Indians which are quoted at length by Mrs. S. C. Red. The earliest colonists of Texas, however, were some Frenchmen under La Salle, who started a settlement on Matagorda Bay in 1685. Among the party was a surgeon named Liotot. Two years later, January, 1687, the colonists ran so short of food that a party was organized to go to get some supplies which La Salle had hidden at a distance of some two or three leagues from the settlement. The supplies had spoiled but one of the Indians in the group killed a couple of buffaloes. La Salle sent his nephew Moranget, two men and horses to bring in the meat. Moranget quarreled with Liotot and the other members of the first party. That night when Moranget and his men were asleep the surgeon Liotot crept upon them and killed them with an axe while the others stood by ready to shoot. When his nephew did not return to the settlement La Salle went out to see what had become of him. One of Liotot’s companions, a villain named Duhaut, shot him dead from ambush. This tragedy broke up the colony and its members wandered back to other settlements. Some two months after the murders Surgeon Liotot was shot to death by another Frenchman in a quarrel over goods. This ends the inglorious record of the first white surgeon who is known to have practiced in Texas.

Until 1763 Texas was regarded as a French possession but in that year it was formally added to Spain and remained a Spanish possession until 1803. The Spanish had established many missions in the country while it was still French.

The first official ordinance concerning the practice of medicine in Texas, according to Mrs. Red, was issued by the Governor of the Province on April 26, 1777.

It was to the effect that surgeons, before notifying the authorities were to attend to any person wounded by violence or by accident

who might summon them or who might go to their home. Afterwards they were to notify the Royal Judge without loss of time under a very heavy penalty.

In 1780 there was an epidemic of smallpox among the Indians in the Presidio of Bahia del Espiritu. Mrs. Red quotes from a letter written by one Domo Cabello to the Governor in which he says the deaths among the Lipan Indians were so numerous that they could not be counted: "He did not wish to be thought uncharitable, but that it would not be greatly regretted if the whole tribe were exterminated, since they were so harmful despite their apparent peace and friendliness. There was no medicine to be had and no one to properly administer it if they had any." In 1789 a Royal Order was issued that smallpox patients should be isolated. It is evident that smallpox was a scourge which gave the authorities of the Spanish dominions in the New World much concern. In 1798 Jenner published his great discovery and five years later the Spanish government organized an expedition to carry vaccination to all the colonies or settlements under its authority. One of the physicians to the court of Spain, Francisco Xavier de Balmis, was the medical director of the expedition. He took with him two assistants, and a quantity of dried virus on threads, and "twenty-two children who were to form a living chain of vaccine carriers."¹ The expedition sailed from Cadiz November 30, 1803. It visited the Canary Islands, Porto Rico, Caracas, and then was divided, one portion going to Cuba and Mexico while the other went to various parts of South America. The vessels were reunited at Acapulco, and thence went to the Philippines and China, finally returning to Spain after an absence of nearly three years.

The vaccination expedition was heartily welcomed in Texas. Mrs. Red quotes an order in which reference is made to a Dr. Frederico Zerban, in charge of a "pro-

¹ L. H. Roddis. Edward Jenner and the Discovery of Smallpox Vaccination.

visional hospital" at San Antonio, under date of April, 1806, and states there is a document written in January of the same year referring to a hospital. These are the first references to an organized hospital in Texas.

Mrs. Red reprints a most curious Royal Decree, or Cedula, of April 13, 1804, "concerning the many spiritual and secular evils caused by not using the Cesarean operation according to proper instructions." Of course, the order applies to cases in which a pregnant woman died before the birth of her child.

First, that in towns where there are physicians, the person who is waiting on a pregnant patient, shall notify the priest of the parish as soon as she dies. If the priest happens to be a surgeon, and if not, by the surgeon of the town, he should, after being certain of the actual death of the pregnant patient, arrange for the Cesarean operation by means of and according to the rules of the aforesaid instructions¹ which he ought to have before him for its exact performance. Second, that the priest as well as the physician who may be called for this purpose should go at any hour, day or night, to the house of the deceased whenever they should summon him. No excuse under any pretext whatsoever shall be accepted for non-fulfilment of their respective duties. Third, that in the towns where there is no physician, the parish priest shall agree with the judicial authority in the selection of the man they consider the most capable and best prepared to perform the Cesarean operation with exact and accurate observance of the instructions which he must have at hand while making the operation. In order to carry out this operation with utmost care, the priest may help with his knowledge and advice if necessary. Fourth and last, that with this aim in mind, the parish and judicial authorities should keep the order, sent to them by the ecclesiastical prelates and governors, in their possession for cases that may come up. They must not consent to the burial of anyone, regardless of class, who may have died in childbirth, unless they know that the operation has been performed upon her.

Although there were a number of Americans settled in Texas, and several attempts by adventurous Ameri-

¹ These instructions were contained in a book entitled "Aspectos de Teologia Medico Moral," written by a Cistercian monk named Alonzo Joseph Rodriguez, which is recommended in a preceding paragraph of the Royal Cedula.

cans at military expeditions to capture the country, the first important migration from the United States was that of Stephen F. Austin in 1821, in the very year in which Mexico including Texas established its independence of Spain. Austin's father, Moses Austin, had obtained a large grant from the Spanish authorities but died at the outset of his enterprise. According to a letter from his widow to their son which is quoted by Mrs. Red, he was attended in his last illness by Dr. John M. Benhizel, who is said to have studied under Dr. Philip Syng Physick.¹ Stephen F. Austin established his settlement San Felipe de Austin on the Brazos River and it grew rapidly. Mrs. Red gives many extracts from the town records to show that the Mexican authorities were keenly interested in its hygiene, sanitary conditions and in the regulation of its medical affairs. They allowed no one to practice medicine who could not present evidence in the form of a diploma or certificate that he possessed the proper qualifications, and a careful register was kept of all births, marriages and deaths.

Soon after Santa Anna became dictator of Mexico in 1835 active hostilities began between the Americans in Texas and the new government, culminating in the overthrow and capture of Santa Anna at San Jacinto and the formation of the Republic of Texas with Sam Houston as president in September, 1836. In 1845 Texas became part of the United States. During the fighting which led to the establishment of the independence of Texas there were several doctors who distinguished themselves otherwise than in their professional capacity. Mrs. Red gives an account of Drs. John Sutherland and Joseph H. Barnard. Dr. Sutherland was a Virginian who came to San Felipe in December, 1835. He was in the Alamo on the approach of the Mexicans for their

¹The name Benhizel cannot be found in the catalogue of the alumni of the medical department of the University of Pennsylvania.

attack upon it in February, 1836, and was sent out by Colonel Travis, the commander of the garrison, as a scout to ascertain whether the Mexican army was in the vicinity. He was accompanied by John W. Smith. They came upon the enemy about a mile and a half from the Alamo and hastening back gave the alarm. On the way Sutherland's horse fell with him and his knee was so severely injured that he was unable to walk for some days. In spite of this injury Sutherland volunteered to ride right off at the request of Travis to give the alarm at Gonzalos and to try to get reinforcements for the garrison in the Alamo. After a hard ride they reached Gonzalos but the reinforcements could not get to the Alamo before the massacre of its brave defenders was over. Dr. Joseph H. Barnard was with the Texans at Goliad when the Mexicans massacred a large number of them but spared Barnard so that he could treat their wounded. Mrs. Red also refers to a Scotchman, Dr. James M. Grant, a large landowner, who apparently did not practice his profession. He led an expedition into Mexico during which he was killed.

Mrs. Red gives a list of the sixteen doctors who were with Sam Houston's army at the battle of San Jacinto. Dr. Alexander Ewing was the acting surgeon general. After the battle he attended Sam Houston, who had been wounded in the leg. In spite of the fact that President Burnet of the Provisional Government had ordered him not to do so, Dr. Ewing placed the wounded general on a boat and conveyed him to Galveston, and thence to New Orleans, where he could get the requisite care. For this act of insubordination Ewing was dismissed. Dr. Ewing is said to have studied surgery at Edinburgh.

Another of the surgeons at San Jacinto was Dr. Nicholas D. La Badie who was a French Canadian and had been educated for the priesthood in Missouri, but later gave up his theological pursuits to study medicine

in St. Louis. Afterwards he went to Texas and was for sometime surgeon of the Mexican Garrison at Anahuac. When Santa Anna invaded Texas La Badie enlisted in the Second Regiment of Texas Volunteers. He participated in the battle of San Jacinto and after the fighting was over Houston assigned him to care for the Mexican wounded. He was present when Santa Anna was brought as a prisoner to Houston and acted as interpreter on that occasion. Later he settled at Galveston and ran a drugstore as well as practiced medicine.

Dr. Charles Ballinger Stewart was also among the surgeons with the Texans at San Jacinto. He was more prominent in politics than in medicine, and was on the committee which designed the seal and flag adopted by Texas in 1839.

The last President of the Republic of Texas was a physician, Dr. Anson Jones. A lineal descendant of Oliver Cromwell, he was born at Barrington, Mass., January 20, 1798. In 1820 he received a license to practice medicine at Litchfield, Mass., but as his attempts to practice were unsuccessful he went to South America, where he remained several years. On his return he entered Jefferson Medical College of Philadelphia from which he graduated in 1827. He remained five years in Philadelphia. In 1832 he went to New Orleans where, according to Mrs. Red, his private papers show he drank and gambled to excess "which habits he laments pathetically." The following year he settled in Brazoria, Texas, where he soon acquired a large and lucrative practice. In 1835 he was chairman of a committee at Brazoria which drew up resolutions in favor of Texas independence, "the first on the subject of total separation from Mexico ever passed in Texas."¹ He enlisted as a private in the Second Regiment of Texas Volunteers but was persuaded by his friends that he should act as surgeon. After San Jacinto he was

¹ Mrs. Red. *The Medicine Man in Texas.*

Assistant Surgeon General and Medical Purveyor to the Texan army. Later he was a member of Congress, and in 1839, Minister from Texas to the United States. Afterwards he was elected to the Senate of Texas, and in 1844 President of the Republic. Two years later Texas entered the Union. Dr. Jones thenceforth abandoned politics and became interested in railroad construction. On January 9, 1858, he committed suicide.

Another physician who figured prominently in Texas politics was Dr. Ashbel Smith (1805-1886), a native of Connecticut who graduated from Yale College in 1824, and from the Medical School of Yale in 1828. He went abroad for post-graduate study in Paris. After practicing for a while in North Carolina he went to Texas in 1836 shortly after the battle of San Jacinto. He was an intimate friend of Sam Houston, who appointed him minister from Texas to Great Britain and France. During the presidency of Anson Jones he was Secretary of State. During the Civil War he served in the Confederate Army in which he attained the rank of colonel. He was one of the founders of the University of Texas, and his library is now a part of the University.

Mrs. Red states that on December 14, 1837, a law was enacted regulating the practice of medicine. It authorized the appointment of a board of censors to regulate the practice of medicine. It was given the power to examine all applicants to practice medicine upon presentation of satisfactory qualifications.

A medical society was organized in Houston about this time which adopted a scale of fees. It seems to have gone out of existence shortly after this meritorious effort, as Mrs. Red has found no further record of the activities of any medical society in Harris County until 1857. In 1852 a number of physicians issued a call for a medical convention to be held in Austin, Texas, on January 17, 1853. The convention was duly held and organized as the Texas Medical Association. Dr.

Joseph Taylor, of Harrison County, was elected as the first president. The second meeting of the Association was held in Austin in the following year but there is no record of any further meeting according to Mrs. Red until 1869, when a meeting was held at Houston.

The earliest medical school in Texas was the Galveston Medical College which was organized in 1865. It was originally intended to be the medical department of Soule University, a Methodist institution which was founded at Chapel Hill in 1856. Some years later the college was reorganized as Texas Medical College. This was given up in 1881, but reestablished in 1886. In 1891 it became the Medical Department of the University of Texas.

EARLY MEDICINE IN THE STATE OF WASHINGTON¹

The State of Washington was settled first as an extension northward from the Columbia River settlement in Oregon. The Hudson Bay Company was the first to penetrate the wilderness of the Northwest. They had a settlement at what is now Vancouver, Washington, in 1824 and another in the British Columbia territory on the Fraser River, known as Fort Langley, in 1827. Midway between these two points at Fort Steilacoon the next settlement was established. In 1830 the settlement on the Nisqually River was established. The Hudson Bay Company had physicians who would make the rounds of their various forts from time to time caring for the members of the Hudson Bay Company and the Indians. Seattle was established in 1834.

The first surgeon was Dr. William Fraser Tolmie, who was located at Fort Nisqually. Besides being educated in medicine and surgery, he had studied under Sir William Hooker, the famous naturalist,

¹Dr. George W. Swift of Seattle has kindly furnished me the following note on the medical history of the State of Washington.

and spent much of his time in the study of botany in the surrounding country. He remained at Fort Nisqually from 1833 until 1840, when he was stationed at Fort Vancouver. After a trip to England he returned in 1843 to Fort Nisqually and remained there until 1859.

Seattle, destined to be the great city of the State of Washington, was settled on September 20, 1851, at what is now known as Alki Point.

The first physician was Dr. D. S. Maynard. Maynard took up his donation claim on April the 3, 1852. The second physician in Seattle was Dr. H. A. Smith, for whom Smith Cove was named. He also located in 1852 and built the first hospital, which he called Smith's infirmary. Besides being an able physician, he was also a poet and scholar. He died in Seattle in 1915.

As Seattle was settled other settlements sprang up about the Sound. Port Gamble on Hoods Canal, Utsalady on Camano Island, Coupeville on Whidby Island, Port Townsend, Whatcom in the north part of the Sound district and Olympia in the southernmost part of the Sound, were all established at about that time. Transportation was accomplished chiefly by canoes.

One of the most interesting and picturesque characters of early day medicine was Dr. J. C. Kellogg, who was known about the Sound as the canoe doctor. Doctor Kellogg, in his large canoe, would travel from village to village administering to the needs of the people, doing such emergency surgery as was required, caring for obstetrical practice, and endearing himself in the hearts of these early pioneers. It was his custom to have prepared and leave at the various settlements a supply of pills, plasters, and stimulants, as he felt would be necessary until his next visit. Dr. Kellogg eventually located on Whidby Island from which he made his headquarters and in 1880 moved to Seattle.

The first specialist in the Northwest was Dr. A. B. Kibbe, an ophthalmologist, who located about 1887. Dr. G. B. McCullough, who was a pediatrician, located about 1892.

THE ORGANIZATION OF THE WASHINGTON STATE MEDICAL ASSOCIATION

On January 4, 1873, a preliminary meeting of the Washington Territorial Medical Association was held at Olympia, Washington. The following representatives were present: Dr. A. H. Steele, Dr. S. Hemingway, Dr. J. W. Waughop, Dr. G. H. Sowers, Dr. R. Willard, and Dr. N. Ostrander. The second meeting was held in February, when the permanent organization was perfected with the following officers being duly elected: Dr. A. H. Steele, President; Dr. S. Hemingway, Vice-President; Dr. J. W. Waughop, Secretary; and Dr. Rufus Willard, Treasurer. This organization continued until 1889 holding regular yearly meetings. At that time they had a total membership of thirty-six, practically all of whom were from the west side of the State.

The present Washington State Medical Association was incorporated in 1889 and had its first annual meeting in Spokane in 1890. At the present time the membership exceeds 1700:

The secretary-treasurer of the present State organization, Dr. Curtis H. Thomson, has held his office for twenty-five years. On the occasion of his twenty-fifth anniversary as secretary-treasurer, he was given a silver set by the members of the organization. Dr. Thomson is probably the most popular medical man in the State of Washington and has contributed largely to the economic side of medicine.

In 1911 he conceived the idea of establishing a Defense Fund for the State Society to protect the members from malpractice suits. This Defense Fund

has grown until at the present time a sufficient reserve has been established so that all malpractice cases in the State of Washington are defended by this department of the State Society and it is the proud boast of Dr. Thomson that since its organization in 1911, he has never lost a single case.

Dr. Thomson's activities have been far reaching. Through his cooperation with the trustees of the various County Societies a uniform set of by-laws have been adopted throughout the State in the various medical societies. There is a comradeship among the different societies and the men about the State which equals that of any State in the Union. Dr. Thomson served in the World War in the Navy and is a roentgenologist in the practice of medicine.





CHAPTER XIII
FOREIGN INFLUENCES ON AMERICAN
MEDICINE



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FOREIGN INFLUENCES ON AMERICAN MEDICINE¹

IN order to understand the influences which from time to time have been exerted on American medicine by different foreign sources I have undertaken to group as far as possible the men who after studying abroad returned to America to exercise the advantages they had received by study abroad and who thereby influenced the trend of medicine in this country. It is impossible to make an arbitrary division into periods because of frequent overlapping but the following scheme will serve as a framework on which to work. Those who studied abroad after 1850 are not included as the practice became so general that it would be impossible to follow up all those who did so. There is not much literature bearing directly on this most interesting phase in the history of the development of scientific medicine in the United States. Osler² wrote much on the influence of the French school, particularly of Louis and his American students, Jackson, Gerhard, Holmes, Bowditch and many others. Dr. J. Gordon Wilson, of Chicago³ has recently dealt in a broad and philosophic way with the influence of Edinburgh on the many American students who studied there in the eighteenth century. He has carefully studied the matter from the records available in Edinburgh and has

¹ I have omitted the names of several men, such as John Lawrence Smith and Thomas Ward, because though they studied abroad the activities for which they subsequently became known were outside of the field of medicine. I must express my great debt to "American Medical Biographies," by H. A. Kelly and Walter Burrage, as a guide in working out the contents of this chapter. In the pages of that great work will be found the records of practically all the medical men of note in this country. I have used it freely in the compilation of the following pages.

² "The Influence of Louis on American Medicine," one of the essays in "An Alabama Student."

³ The Influence of Edinburgh on American Medicine in the 18th Century, *Proc. of the Institute of Med. of Chicago*, 7: 129-138, 1929.

unearthed much new information of the greatest importance. Thus prior to 1765 there were fifteen physicians who had graduated from Edinburgh, practicing in the American colonies. "From 1765 to 1799, despite the interruption of the American War of Independence, 1775 to 1783, there are 113 names of Americans who received the University degree of M.D.," but Dr. Wilson thinks there is reason to believe that they represent only a part of the great number who studied there. Wilson refers to some of the most distinguished of them, Cadwallader Colden, Samuel Bard, John Lining and Alexander Garden. He thinks that Benjamin Franklin's friendship with William Cullen had much weight in bringing American students to Edinburgh. Franklin provided many young men with letters of introduction to the distinguished professor of medicine at Edinburgh. John Morgan and William Shippen, Jr., were among them, and they were soon followed by their fellow-townsmen, Benjamin Rush and Adam Kuhn. All four of these men were subsequently professors in the medical department of the University of Pennsylvania, Morgan and Shippen holding the two first chairs in it. Shortly afterwards Caspar Wistar and Philip Syng Physick graduated from Edinburgh and returned to Philadelphia to teach in the same school.

One feature of undergraduate student life in Edinburgh to which Wilson draws attention was the Royal Medical Society, founded in 1737. It met once a week, "to consider the opinions of their professors, to discuss papers, and by speaking Latin to prepare themselves for the degree of M.D." To this society many of the American students were elected, and Wilson points out as significant of the kindly feeling towards them that in 1784, just after the Revolution, Caspar Wistar was elected one of the three presidents.

1. From the earliest settlement of the Colonies to the Revolution. During this time the vast majority

of those who studied abroad went to England and Scotland.

2. For some years after the Revolution the tendency was very naturally to avoid England and go to France, but, before the War of 1812 Americans were found availing themselves of the teaching of Cooper, Abernethy and the other leaders of the English school.

3. From the War of 1812 until the middle of the nineteenth century the greater number of American post-graduate students went to France though many went to Germany or Austria; but the number of them was so great and the clinics they studied in so numerous that it is hopeless to attempt any analysis of their tendencies. Thus those interested in the eye sought Helmholtz, Von Graefe and Donders, or went to Moorfields. Politzer and the otologists of Vienna for many years drew hundreds of post-graduate students to that city. Koch, and the other founders of modern bacteriological research caused an influx of students to Germany, and many other great names might be mentioned in Great Britain or on the Continent where men were drawn by the special line of work in which the teacher had distinguished himself. Accordingly there was not the same localization, or rather localities multiplied to such an extent that it is hopeless to attempt any particular survey of them.

QUALIFIED PHYSICIANS WHO EMIGRATED TO THE COLONIES

Before the Revolution quite a number of educated physicians came to the Colonies. A number of them have been referred to already as lending medical assistance to their fellow colonists. In most instances they combined their medical practice with other pursuits. Thus Charles Chauncey, the second President of Harvard College had received the degree of M.D. from Cambridge University, England, and Thomas

Boylston, father of Zabdiel Boylston, was M.D. of Oxford.

About 1700 Dr. John Mitchell came to America from England and settled at Urbanna, a small town on the Rappahannock in Virginia. It is not known where he had received his medical education but he was a highly cultivated man who distinguished himself especially as a botanist. He went back to England about 1746. Mitchell left in manuscript an account of yellow fever as observed by him in Virginia in 1737, 1741 and 1742, which came into the hands of Benjamin Franklin, who sent it to Benjamin Rush. The latter valued Dr. Mitchell's observations so highly that shortly before his death he prepared them for publication. Dr. Hosack carried out Dr. Rush's intention and published Mitchell's material with some correspondence between Dr. Mitchell and Cadwallader Colden on the subject in Volume 4, of the *American Medical and Philosophical Register*.

A GROUP OF SCOTCH DOCTORS

Cadwallader Colden, was born at Dunse, Scotland, in 1688, and graduated in the collegiate and medical departments of the University of Edinburgh before coming over to Philadelphia about 1710. He practiced medicine in that city until he returned to England in 1715. When he came back to America, three years later, he settled in New York and gave up the practice of medicine to enter public life.

Gustavus Brown (1689-1765) was born at Dalkeith Scotland. Nothing is known as to where he received his medical education. He is said to have come out to Maryland in 1708 as surgeon's mate on an English ship, and that while he was ashore a storm arose, which caused the ship to weigh anchor and sail away, leaving him a castaway. Brown made the best of his situation.

He soon was able to support himself by practicing medicine, and in a few years he married a wealthy woman. He and his wife lived on an estate called Rich Hill, near Porto Tobacco, in Charles Co., Md. Brown had a number of students and two of his daughters married doctors who had been his pupils.

Dr. Lionel Chalmers, after receiving his M.D. from the University of Edinburgh, settled in South Carolina. Thacher¹ says that in 1754 he communicated to "the Medical Society in London" a paper on "Opisthotonus and Tetanus." In 1767 he published at Charleston "An Essay on Fevers" and in 1776 at London "A Treatise on the Weather and Diseases of South Carolina."

Dr. Peter Middleton, a Scotchman, of whom nothing is known before his arrival in America, came to New York, where, in 1750, he and Dr. John Bard dissected the body of an executed criminal and injected the blood vessels.² In 1768 when the Medical School of King's College was established Middleton was chosen as Professor of Physiology and Anatomy and later of *Materia Medica*. Middleton had been a surgeon in the army of the Pretender at Culloden, which probably explains his emigration. Another Scotchman, William Hunter, said to be a relative of his famous namesake, the anatomist of London, came to Newport, Rhode Island, in 1752. He received his medical education at the University of Edinburgh. Thacher³ says that he had served as surgeon's mate to Peter Middleton in the Pretender's army at Culloden. He did not come to this country immediately after that disaster. Thacher

¹ American Medical Biography.

² As the assertion is frequently made that Thacher in his "American Medical Biography," erroneously states that this was the first autopsy in America, in order to vindicate the fair name of our first real medical historian, I give the exact words in which he mentions this event: "He with Dr. J. Bard, in 1750, dissected a human body and injected the blood vessels, which was the first attempt of the kind to be found on medical record in America." I believe that Thacher refers to the injection of the vessels in this instance and not merely to the dissection of a body.

³ American Medical Biography.

implies that the Government forgave his offence because of his youth, and he was thus enabled to pursue his studies at Edinburgh. It may have been at the solicitation of his old chief that he decided to emigrate. In 1754 and for two subsequent years he gave lectures on anatomy at Newport, advertisements of which appear in the Boston newspapers of the day. Krumbhaar¹ who searched every available source of information about Hunter says that his medical library, which was said to be the largest in New England was dispersed at the Revolution but there were manuscripts of his lectures in existence at a much later date, and a descendant possesses his portrait.

Yet another Scotchman who came to this country about the middle of the eighteenth century was Dr. Alexander Garden. The son of a clergyman of Aberdeen "he received his clerical and philosophical education in the University of Aberdeen." He studied medicine under Dr. John Gregory and at Edinburgh, where he probably got his M.D. On coming to America, he settled in South Carolina, where he practiced medicine in Charleston about thirty years. He was a very scholarly man but especially distinguished as a botanist. Linnaeus, with whom he corresponded named the *Gardenia* for him. In 1772 he was elected a Fellow of the Royal Society. He left America about 1783, and died in London in 1792.

Dr. James Craik was born near Dumfries, Scotland, in 1731. After studying medicine at Edinburgh, Thacher says for the purpose of entering the medical service of the British Army, Craik came to America, finally settling in Virginia, where he began a lifelong friendship with George Washington. He served as surgeon to the Virginia Regiment which Washington commanded in 1754, and was at the battle of Great Meadows with it.

¹ The Early History of Anatomy in the United States, *Ann. M. Hist.*, 4: 211, 1922.

In 1755 he accompanied Braddock's expedition and gave his professional attention to the latter after he had been wounded. At the outbreak of the Revolution he was appointed Assistant Medical Director of the Middle Department at the special solicitation of Washington. In 1780 he was chosen to make the hospital arrangements for the army of Count Rochambeau when he arrived in Rhode Island. The exposure of the Conway Cabal against Washington was chiefly brought about by Craik's active fidelity to his chief. At the time of Cornwallis' surrender Craik was Director General of the Hospital at Yorktown. After the Revolution he settled at Alexandria, Va. In 1798 when war with France was threatening Washington secured Craik's appointment as Physician General of the Army. This position he held until 1800. His last sad duty to his great chief was his attendance upon him during his last illness. He died in 1814.

Dr. Alexander Baron was born in Kincardine, Scotland, in 1745. After graduating from the college at Aberdeen, he entered the medical school at Edinburgh, from which, according to Thacher¹ he received his M.D. in 1760, when he was but fifteen years old! He came to Charleston, South Carolina, where he practiced medicine until his death in 1819. He was one of the founders of the Medical Society of South Carolina.

William Brown (died 1792), was the son of the Reverend Richard Brown, of Maryland. He was a grandson of Dr. Gustavus Brown, of Charles Co., Md. After graduating in medicine at Edinburgh in 1770, William Brown settled in practice at Alexandria, Va. He was a man of culture and is said to have been on terms of intimate friendship with Washington, Jefferson, Madison, and many other prominent Virginians. He entered the Revolution as surgeon of Colonel Woodford's Virginia regiment, but in September, 1776, was

¹ American Medical Biography.

appointed assistant physician to William Shippen, Jr., who had succeeded John Morgan as chief physician of the Continental Army. In February, 1778, Congress appointed him physician-general of the Middle Department of the Continental Army, to replace Benjamin Rush. Brown wrote a "Pharmacopoeia for the Use of Army Hospitals." He resigned from the Army in 1780.

A Southern student who did not cut much of a figure as a physician but was very prominent in public affairs was William Bull (1710-1791), whose father was at one time lieutenant-governor of South Carolina. After some preliminary study at home young Bull went to Europe and studied under the famous Boerhaave at Leyden, where he was the first American to get a medical degree (in 1735). On his return to America he does not seem to have attempted to practice, but instead went into public life, holding many different offices. From 1764 to 1780 he was lieutenant-governor of South Carolina. He was an ardent royalist, and in 1782 left America and went to England where he passed the remainder of his days.

Charles Frederick Wiesenthal¹ (1726-1789) a native of Prussia, settled in Baltimore in 1755. Nothing is known of his medical education but he is supposed to have served in the army and tradition states that he had been physician to Frederick the Great. He served as surgeon with the Maryland troops throughout the Revolution. He gave private courses in anatomy in Baltimore. In 1788 a mob burned the building. Wiesenthal had a large practice and was highly esteemed in Baltimore. In 1788 he organized a medical society of which he was president. In 1789 Wiesenthal with his son Andrew and Dr. George Buchanan tried to establish a medical school but dissensions among the teachers caused the attempt to fail the next year.

¹ See article by Eugene F. Cordell, *Johns Hopkins Hosp. Bull.*, July-Aug., 1900, Nos. 112-113.

Samuel Clossey, or Clossy, an Irishman and graduate in medicine of Dublin University, had attained considerable professional reputation before coming to America, having published at London in 1753 a book entitled "Observations on some of the Diseases of the Human Body, chiefly taken from the Dissections of Morbid Bodies." Some years later he settled in New York. He was the first Professor of Anatomy in the medical school of King's College in 1768. The political troubles of the Revolution caused him to return to England.

Dr. Abraham Chovet's career has been related elsewhere in this book and Dr. William Snow Miller¹ has recently published a very interesting biographical sketch. Chovet was the son of a London wine merchant. Though Ruschenberger² thought that his name was not French, but English and should be pronounced like Levet or Collet, Peachey³ thinks that his family were French Huguenots, because of his close association with Lamarque and Desaugiers, two French Huguenot surgeons living in London. Chovet was a foreign brother of the Company of the Barber-Surgeons of London, and was appointed one of their Demonstrators of Anatomy in 1734 and 1735. He practiced for some years at Antigua and at Kingston, Jamaica, before coming to Philadelphia, where he began giving anatomical lectures in 1774. He is said to have fled from Jamaica with his wife and daughter to escape the horrors of a slave insurrection. His anatomical preparations and lectures were highly esteemed. Chovet's teaching was given entirely in private courses as he never held a position in the faculty of the University of Pennsylvania or on the staff of the Pennsylvania Hospital. He died in 1790, at the advanced age of eighty-five.

¹ *Ann. M. Hist.*, 8: 375, 1926.

² Centennial volume, *Tr. of the College of Physicians of Philadelphia*, 1887.

³ *Memoir of William and John Hunter*, 1924.

William James Macneven, was born in Ireland, in 1763. He was sent to Germany to be educated and studied medicine at the University of Vienna, graduating in 1783. He started to practice in Dublin, where he appears to have participated in the Revolution of 1798, along with Sir Edward Fitzgerald, Wolf and Robert Emmet, who were his intimate friends. Macneven was a state prisoner until 1802, when he was liberated along with other state prisoners. He went to France and served as a captain in the Irish Brigade. In 1805 he resigned his commission and came to America. In 1808 he was appointed Professor of Midwifery in the College of Physicians and Surgeons of New York. When the college was reorganized in 1811 he was made Professor of Chemistry, and in 1816 *Materia Medica* was added to his chair. In 1826 he seceded with the group of men who formed Rutgers Medical College, in which he became Professor of *Materia Medica*. Dr. Macneven died in 1841.

PRE-REVOLUTIONARY AMERICAN MEDICAL STUDENTS ABROAD

Although it is true that the majority of students who were educated abroad came from the Middle or Southern States, nevertheless there were two very early ones from New England. Thomas Bulfinch is the first American as far as I know to cross the seas for the purpose of studying medicine. He was born in Boston in 1694 and began his medical studies with Dr. Zabdiel Boylston. Thacher¹ says that letters written by him showed that he studied anatomy and surgery under Cheselden in London in 1718, and completed his medical studies at Paris in 1721. Bulfinch died in 1757. His son, Thomas, born in 1728, after graduating from Harvard and commencing the study of medicine with his father,

¹ American Medical Biography.

followed the latter's example and went abroad for post-graduate work. He passed four years in England and Scotland, receiving his M.D. from the University of Edinburgh in 1757. Returning to America he acquired a large practice in Boston. He died in 1802.

Sylvester Gardiner was another young New Englander who sought the advantages of European study. A native of Rhode Island he went abroad and studied for eight years in London and Paris. The exact dates of his foreign residence are not known, but he was working under Cheselden in London in 1727. He settled in practice in Boston about 1734, and a few years later he lectured on anatomy before a "Medical Society of Boston." On October 8, 1741, according to James A. Spalding¹ he performed a successful lithotomy before the same Society. He established a large business as an apothecary in Boston, with branch shops in Meriden and Hartford, Conn. He made a great deal of money with which he organized a huge land development company, "The Kennebec Company," in Maine. During the Revolution Gardiner was a Tory. When the Continental Army occupied Boston his drugs were confiscated for its use. Gardiner fled to Halifax, and thence to England, where he received a pension from the Crown. In 1785 he came back to America, settling in Newport, Rhode Island. He took legal steps to recover the huge tracts of lands in Maine which had belonged to the Kennebec Company. His heirs ultimately recovered much of them. He died in 1786.²

Lloyd Zachary, of Philadelphia, antedated Sylvester Gardiner by a few years in London. He was a native of Boston but studied medicine with Dr. Kearsley, Sr., in Philadelphia. He went abroad in 1723 and studied there for three years, though just when he did so is not known. In 1726 he began practice in Philadelphia.

¹ Kelly and Burrage, *American Medical Biographies*.

² Dr. Spalding's biographical sketch of Gardiner is a most interesting account of a very real personality.

He was one of the three physicians who constituted the first staff of the Pennsylvania Hospital in 1751, and its Library contains a number of his books. Dr. Zachary died in 1756, while making a professional call.

Thomas Cadwalader of Philadelphia was among the earliest native-born Americans to avail himself of the advantages offered by study abroad. After serving an apprenticeship with his uncle, Dr. Evan Jones, he went to England in 1726 or 1727, when he was about nineteen or twenty years old. There he worked under Cheselden for a year and then went to France, where he studied at the University of Rheims. It is said that he received the degree of M.D. from the latter institution and Wickes in his "History of Medicine in New Jersey" stated that he was made a fellow of the Royal College of Surgeons. C. W. Dulles¹ was informed by his descendant, Dr. Charles E. Cadwalader, that neither of these statements was correct. Another error was corrected by the latter. It is generally stated that Cadwalader gave anatomical demonstrations in Philadelphia for the benefit of the elder Shippen and others "on his return from Europe in 1750." In truth he returned from his foreign studies about 1730 or 1731, and it was at that time that according to Dr. Caspar Wistar "he made dissections and demonstrations for the instruction of the elder Doctor Shippen and some others who had not been abroad." In 1745 Cadwalader published "An Essay On the West-India Dry Gripes; To which is added An Extraordinary Case in Physick. Philadelphia. Printed and sold by B. Franklin, MDCCLV." In 1751 he was appointed one of the Consulting Physicians to the Pennsylvania Hospital.

Thomas Bond and his brother Phineas were natives of Maryland. Of Thomas, the elder brother, Thacher² says "he travelled in Europe, and spent a considerable

¹ *Penna. Mag. of Hist. & Biog.*, July 1903.

² *American Medical Biography.*

time in Paris, where he attended the practice of the Hôtel Dieu." He began practice in Philadelphia about 1734 and is distinguished as the originator of the Pennsylvania Hospital and the first man to give clinical lectures to classes in America. He died in 1784 at the age of eighty-two. Phineas Bond, several years the junior of Thomas, studied at Leyden, Paris, Edinburgh and London. He was one of the members of the first staff of the Pennsylvania Hospital.

John Redman, born in Philadelphia in 1722, was the preceptor of many young men who subsequently became eminent as physicians. He served his own apprenticeship under John Kearsley and practiced medicine for several years in Bermuda. He then went abroad and passed a year at Edinburgh, and afterwards a year at London. In the latter city he attended the courses at Guy's Hospital. Going from London to Paris he studied there for sometime, before entering the University of Leyden, from which he received his M.D. degree in 1748. Returning to Philadelphia he acquired a very large practice. He was one of the physicians to the Pennsylvania Hospital and the first president of the College of Physicians of Philadelphia. When four years old Redman had an abscess in his liver which ruptured through the diaphragm into his lung. Notwithstanding the fact that this is said to have impaired his health he lived until the ripe age of eighty-six, dying March 19, 1807.

G. W. Norris¹ quotes from "a late well-known antiquary who had often seen him" the following quaint description of Redman's appearance during his later years:

The doctor, who lived in Second Street near Arch, had retired from practice altogether, and was known to the public eye as an antiquated-looking old gentleman, usually habited in a broad-skirted dark coat, with long pocket flaps buttoned across his under

¹ The Early History of Medicine in Philadelphia, Privately printed, 1886.

dress, wearing, in strict conformity with the cut of his coat, a pair of Baron Steuben's military shaped boots, coming above the knees for riding; his hat flapped before, and cocked up smartly behind, covering a full-bottomed powdered wig, in the front of which might be seen an eagle-pointed nose, separating a pair of eagle black eyes, his lips exhibiting now and then a quick motion, as though at the moment he was endeavoring to extract the essence of a small quid. As thus described in habit and in person, he was to be seen almost daily, in fair weather, mounted on a short, fat, black switchtailed horse, and riding for his amusement and exercise, in a brisk racking canter about the streets and suburbs of the city.

Dr. Hall Jackson (1739-1797) was born at Portsmouth, N. H. where he began the study of medicine with his father, Dr. Clement Jackson. He went abroad for further study but no details are available as to where he worked. Jackson practiced in his native town but he had a widespread reputation as an obstetrician and for his skill in couching cataracts. In 1793 he received an honorary degree of M.D. from Harvard. He was one of the first to introduce the cultivation and use of foxglove (*digitalis*) into New England. He grew it from seeds sent to him by Dr. Withering, with instructions how to cultivate them.

During the fifteen or twenty years immediately preceding the Revolution the number of young Americans going abroad for study shows a steady increase. In general they were a fine type and if intellectual kinship and amity could have influenced politics they would have done much towards preserving the tie between England and her Colonies. Innumerable proofs can be brought forward showing the favorable impression made by these overseas students on the teachers of the older countries. In England and Scotland, in Italy and France, wherever they went we find traces of the kindness and friendship they excited in the breasts of the leading scientific men of the day. It must be remembered that going abroad for post-

graduate work in the eighteenth century involved much more expense and far greater sacrifice of comfort than it does at present, and that when working with the Hunters or their like, the student was required to do much more than is demanded of the young man of today seeking instruction in the classes organized for that purpose in the medical centers of Europe. Possibly the fact that they were regarded more or less as only half-civilized put them on their mettle. At any rate their record is one of which their American medical descendants should be proud. Many of the group we are now going to take up became teachers in the first medical schools established in this country and most of them lent valuable aid to the sick and wounded patriots during the long years of the Revolution.

Among the young New Englanders who availed themselves of the advantages of an European education none made better use of them than James Lloyd (1728-1810) most of whose life was passed in Boston, though he was born in 1728, on Long Island. One of his ancestors is said to have been "Doctor in Physic to Queen Elizabeth." Young Lloyd began the study of medicine with Dr. John Clark, of Boston. About 1750, when twenty-two years old Lloyd went to England and spent two years in London. According to Thacher¹

. . . he had an opportunity to avail himself of the best professional advantages that could then be commanded, and to witness the practice of Cheselden and Sharpe, as well as to attend the lectures of the other celebrated men, who then presided, and officiated in those institutions; of William Hunter, Professor of Anatomy, not only whose public lectures for two courses, but whose private instructions, dissections, and operations in surgery Dr. Lloyd sedulously attended; of William Smellie, the distinguished lecturer on midwifery; and Joseph Warner, the principal surgeon of Guy's Hospital; from all of whom, on leaving London, to return to America, he received full assurances of their estimation of his merits.

¹ American Medical Biography.

When Lloyd revisited London in 1789, Joseph Warner was the sole survivor of his old teachers, and Thacher says he was received by him "with unabated respect and regard." Lloyd had been Warner's dresser at Guy's for a year and had received a special certificate of commendation from him. In 1752 Lloyd returned to America. He soon became the most prominent surgeon of Boston. Lloyd introduced Cheselden's method of flap amputation and is said to have been the first surgeon to perform lithotomy in Boston. He also taught his fellow-townsmen to use ligatures to check hemorrhage instead of searing the vessels. For a time he was surgeon to the British garrison on Castle William in Boston Harbor. Lloyd attracted many pupils by his skill as a surgeon and ability as a teacher. Among them was John Clark, a son of Lloyd's old preceptor who went to Europe to pursue his studies, but because of ill-health retired from practice without having achieved anything notable. Other of Lloyd's pupils were Joseph Warren, Isaac Rand, Sr., John Jeffries and Theodore Parsons. With the Revolution Lloyd's circumstances became greatly changed. He believed that the time had not come for the Colonies to seek their independence. He remained in Boston during and subsequent to its occupation by the British. This neutral attitude led to much unhappiness although many of the leading men among the patriots seem to have continued to hold him in esteem. After the Revolution was over Lloyd seems to have led a more or less retired life until his death in 1810.

Among the most brilliant figures in American medicine during the eighteenth century was John Jones, whose grandfather practiced medicine in Wales and his father in America. John was born in 1729 at Jamaica, Long Island. He went to school in New York and when twenty years old began the study of medicine with Dr. Thomas Cadwalader in Philadelphia. When he

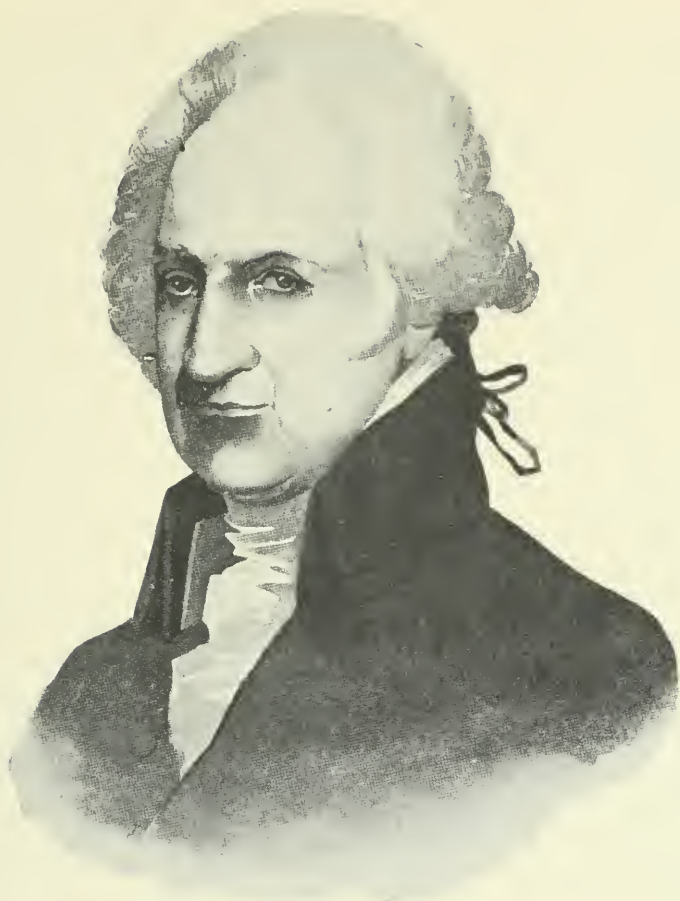


FIG. 90. James Lloyd (1726-1810)

had finished his apprenticeship he went to London where he studied under William Hunter, McKenzie and Percival Pott. In 1751 he went to France where after taking his M.D. at the University of Rheims he went to Paris, and studied anatomy with Petit while attending the practice at the Hôtel Dieu under the distinguished surgeons Le Cat and Le Dran. He then spent some time studying at Leyden, finishing up by a visit at Edinburgh. Upon his return from Europe Jones began practicing in New York paying especial attention to surgery. Thacher¹ says that he was the first who performed a lithotomy in that city, and that he was particularly successful as a lithotomist. In 1755 he served as surgeon with the troops who participated in the war against the French and Indians and attended the French General Dieskau after he was wounded and taken prisoner at the battle on Lake George. After the campaign Jones resumed his practice in New York but suffered so much from asthma that he determined to try whether he would not get relief by residence in London. He accordingly sailed and Thacher¹ says, "here, in a thick smoke, and an impure atmosphere where so many asthmatics have found such remarkable benefit, he also experienced a considerable alleviation of his complaint." In London he again renewed his intercourse with William Hunter and Percival Pott. According to Thacher, Pott asked him to see patients for him and seems to have greatly esteemed his former pupil. Returning to New York Jones resumed practice there. In 1768 he became the first Professor of Surgery in the medical school of King's College. In 1775 Jones published his "Plain, Concise and Practical Remarks on the Treatment of Wounds and Fractures," which was used as their textbook on military surgery by the surgeons in the Revolutionary Army. Jones was active in helping organize the medical service of the American

¹ American Medical Biography.

Army but his ill-health prevented his going on active service. In 1780 he removed from New York to Philadelphia where he became surgeon to the Pennsylvania Hospital. He was one of the founders of the College of Physicians of Philadelphia. He was called to New York in 1790 to see Washington in consultation and when the latter lived in Philadelphia, Dr. Jones was his physician. He also attended Benjamin Franklin in his last illness and Thacher reprints an account of the deathbed of that great man which Jones wrote at the time. Dr. Jones died on June 23, 1791.

We have now to consider a small group of young men from Philadelphia who were destined to give that city a claim for prominence in medical teaching for many years.

William Shippen, Jr., of Philadelphia, was the son of William Shippen, a very successful physician of that city. The elder Shippen had as Norris¹ says "there received his entire education, both literary and medical." He resolved to give his son the opportunities which he had missed, sending him first to the Academy of the Reverend John Finley at Nottingham, Pennsylvania, then to the College of New Jersey (Princeton) where he graduated A.B. in 1754. The next four years the young man passed studying with his father. In 1758 he went abroad to complete his medical education. Watson² quotes a letter from the elder Shippen to an English correspondent in which he writes:

My son has had his education in the best college in this part of the country, and has been studying physic with me, besides which he has had the opportunity of seeing the practice of every gentleman of note in our city. But for want of that variety of operations and those frequent dissections which are common in older countries, I must send him to Europe. His scheme is to gain all the knowledge, he can in anatomy, physic, and surgery.

¹ *The Early History of Medicine in Philadelphia*, by George W. Norris.

² *Ann. of Phila.*, 2: 378, 1844. Phila.

Shippen went first to London where he was received as a house pupil by John Hunter. This was before the separation of the brothers so that young Shippen enjoyed the opportunity of working under William as well as John Hunter, and also with William Hewson, then William Hunter's assistant. Shippen while working diligently at anatomy took an especial interest in obstetrics and not only availed himself of the opportunities afforded in this line by William Hunter, but also attended the courses of the celebrated accoucheur, Dr. McKenzie. The celebrated Quaker physician Dr. John Fothergill was so favorably impressed by the young man that after the latter had unfolded to him his designs for teaching anatomy on his return to America, he presented to the Pennsylvania Hospital a beautiful set of anatomical drawings and casts for teaching purposes. After deriving as much benefit as he could from his work in London Shippen studied at Edinburgh where he received the degree of M.D. in 1761. At this time England and France were at war. Shippen was most anxious to complete his studies in France but found access to that country very difficult for a British subject. Finally Sir John Pringle procured him the position of physician to a lady suffering from pulmonary tuberculosis who had secured by the personal intervention of King George II permission from the French government to travel in the south of France. Shippen availed himself of the opportunity and managed to get to Paris where he saw the work of Senac and other French physicians. Returning to America in 1762 he began his anatomical lectures in the same year and in 1765 was John Morgan's colleague in establishing the first medical school in the Colonies.

John Morgan was the son of a wealthy merchant of Philadelphia. His father sent him to the Reverend Mr. Finley's famous school, at Nottingham, Chester County, Penn. and then to the College of Philadelphia

(now the University of Pennsylvania), from which he graduated in the class of 1757, the first class to receive academic degrees from that institution. Morgan then served an apprenticeship of six years with Dr. John Redman. When that expired he spent four years as a surgeon with the Provincial troops in their campaigns against the French and Indians. In 1760 he went abroad. At London he received much kindness at the hands of Benjamin Franklin, then residing in that city as agent for Pennsylvania. In London Morgan worked chiefly under William Hunter. In 1761 he went to Edinburgh, and in 1764 received the degree of M.D. from Edinburgh University. Morgan then went to Paris where he passed a winter pursuing the study of anatomy. While thus engaged he exhibited to the Royal Academy of Surgery some anatomical preparations, made after the method of the Hunters by injection and corrosion. He presented to the Academy a memoir "On the Art of making Anatomical Preparations by Corrosion," which occasioned his being elected a Fellow of the Academy. He had already while in London been made a fellow of the Royal Society, and a licentiate of the Royal College of Physicians. Returning to Philadelphia in 1765 he began practicing and entered on his great work of establishing a medical school in connection with the College of Philadelphia (University of Pennsylvania). His services in this connection and in the Continental Army have been considered elsewhere in this book.¹

Adam Kuhn (1741-1817) was born in Germantown, a suburb of Philadelphia. His father practiced medicine and was held in much esteem in his community. With him Adam began his medical studies. In 1761, when twenty years old he sailed for Europe, going to Upsala, in Sweden, where he studied at the University espe-

¹ After finishing his studies Morgan travelled on the Continent. The Journal of his experiences was printed for private circulation by Colonel A. S. M. Morgan of Pittsburgh.

cially under Linnaeus, the famous botanist. Kuhn then went to Edinburgh University from which he received the degree of M.D. in 1767. During his stay abroad he travelled in France, Holland and Germany. On his return to Philadelphia in 1768 Kuhn was appointed Professor of Materia Medica and Botany in the medical department of the College of Philadelphia (University of Pennsylvania). He was physician to the Pennsylvania Hospital from 1775 to 1798. He was one of the founders of the College of Physicians of Philadelphia. Dr. Kuhn died in 1817.

Benjamin Rush completes the quartet of young Philadelphians whose efforts founded the first medical school in the Colonies. He also attended the Reverend Mr. Finley's Academy at Nottingham, Chester County, Penn., and then graduated from Princeton College in 1760. He served an apprenticeship of six years under Dr. John Redman and was one of the students who attended Shippen's first course of lectures in 1762. Rush went abroad in 1766 and graduated M.D. at Edinburgh in 1768. He then studied in London and later in France, returning to Philadelphia in 1769, and being elected Professor of Chemistry in the College of Philadelphia (University of Pennsylvania) in the same year. His subsequent career is fully detailed elsewhere in this book.

When Benjamin Rush sailed for Europe in 1766 he was accompanied by Jonathan Potts (1745-1781), a young relative whose family had been pioneers in the development of the iron industry in Pennsylvania.¹ They bore letters to Benjamin Franklin then living in London, who showed them much kindness. Potts began his studies at Edinburgh but returned to America in 1767 to marry a Miss Richardson, to whom he had been engaged and who had fallen ill during his absence.

¹ The records of the "Potts Family" have been compiled in a book which contains much valuable unpublished material about Dr. Potts.

Potts pursued his studies at the medical school of the College of Philadelphia, from which he graduated in 1768 at its first medical commencement with the degree of M.B. In 1771 he received the degree of M.D. Potts practiced at Reading, Penn., until the outbreak of the Revolution, when he entered the medical service of the Continental Army. In 1775 he was with the Northern Army, in which he succeeded Dr. Samuel Stringer as Deputy Director General of the Northern Department; later he was Director General of the Hospital of the Middle Department. Dr. Potts died at Reading in 1781.

Another young Pennsylvanian who studied in Edinburgh about this time was John Van Brugh Tennent (1737-1770). His father was the minister of a Presbyterian church at Neshaminy, Bucks Co., Penna. Young Tennent after graduating from Princeton College went to Edinburgh where he received his medical degree in 1764. Returning to America he was made Professor of Midwifery in King's College, New York. Tennent's health failed and he went to the West Indies in the hope of restoring it. Unfortunately he contracted yellow fever of which he died.

With Rush at Edinburgh was a Dr. Thomas Brown, of Charles County, Md. The only notice of Brown which I have been able to find is in Williams' "American Medical Biography." He says Brown graduated M.D. at Edinburgh in 1768. Williams says: "Dr. Rush, who was contemporary with Dr. Brown at Edinburgh, used to say of him, that he was not second to any student of the University of that period."

Samuel Bard (1742-1821) in 1761, when nineteen years old was sent abroad to study by his father, Dr. John Bard. On the way over the vessel was captured by the French and young Bard passed five months in a French prison before he was liberated by the good offices of Benjamin Franklin who was then in London.

Bard crossed the Channel. On arriving in London Bard chose Dr. Alexander Russell as his preceptor although he had letters to Fothergill, Hunter and others. In September, 1762, he entered the University of Edinburgh, attending the classes of Cullen, Monro and Ferguson. Thacher¹ quotes a curious statement made by Bard. After speaking very highly of Monro's lectures and comparing him with Hunter, he writes: "But for want of opportunities of dissection, I should have no occasion to regret the change from London; but to have a subject in my possession here, would impose, the risk of banishment, if not of life." It would seem that more material was obtainable in London for the purpose of dissection, than in Edinburgh where anatomy was supposed to be so wonderfully taught. Undoubtedly one reason why many students went to France was because of the ease with which bodies could be procured, the students being abundantly supplied with parts which they could dissect themselves, instead of merely watching the dissection performed by their teacher or studying dried or wax preparations. Peachey² quotes Lecky as attributing the backwardness of anatomical study in England as compared with that on the Continent to the difficulty the English anatomists experienced in procuring material.

The introduction of what was then known as "The Paris method," consisting apparently of the provision of a subject for dissection to each student, and the personal demonstration by the teacher, was effected by William Hunter in 1746, and forms the first real step forward in the progress of the London school.

Many of the earlier teachers of anatomy in London in the eighteenth century were Frenchmen or used French preparations. Bard contracted many friendships which were sustained by correspondence after his return to America. He received his M.D. from Edinburgh in 1765.

¹ American Medical Biography.

² Memoir of William and John Hunter.

Nathaniel Coffin (1744-1826), of Portland, Maine, after studying medicine with his father went to England in 1763, and spent three years studying in London hospitals. Although he had no medical degree until he received an honorary one from Bowdoin in 1821, he was a skilful surgeon, with a very large practice.

Hugh Williamson, who was born in Chester County, Penn., in 1735, was a classmate of John Morgan in the class of 1757 at the College of Philadelphia (University of Pennsylvania), where he received the degree of A.B. In 1760 he received his M.A. degree. He had intended to be a clergyman and procured a license to preach but veering off to medicine he went to Edinburgh, then to London, finally to Utrecht, where he graduated from the medical school in 1772. Williamson was instrumental in procuring the secret correspondence which Thomas Hutchinson, the Governor of Massachusetts, was maintaining with some of the leading British politicians. He turned the letters over to Franklin who used them with scathing effect in his attempts to avert the troubles between Great Britain and the Colonies. Williamson was surgeon to the North Carolina troops during the Revolution. He was delegate from that State to the Constitutional Convention in 1787, and wrote a large book on its history. He died May 22, 1819.

Another Southerner who studied abroad about this time was Harris Tucker, who was born at Charleston, S. C., in 1747. After beginning his medical studies with Dr. Lionel Chalmers, Tucker went to Edinburgh, where he received the degree of M.D. in 1771. Returning to America Harris served as a surgeon with the American Army during the Revolution. He practiced in Charleston until his death in 1821. He was one of the founders of the Medical Society of the State of South Carolina.

James McClurg, of Virginia, was the son of a physician Dr. Walter McClurg. After he graduated from

William and Mary College, his father sent him abroad to study medicine. He graduated from Edinburgh in 1770. During his residence there he is said by Thacher to have been held in the highest estimation by Drs. Cullen and Black. After graduating from Edinburgh, McClurg studied in Paris and London before returning to America in 1772 or 1773. He first practiced in Williamsburgh and later in Richmond. He confined his practice chiefly to medicine, because Thacher says: "The great delicacy of his nerves rendered him averse to the performance of any surgical operation." He was a member of the Council of the State of Virginia and a delegate to the Constitutional Convention. Dr. McClurg died in 1823.

William Baynham (1749-1814), a native of Virginia where his father, Dr. John Baynham, practiced in Caroline County, after serving an apprenticeship of five years under Dr. Walker, went to London in 1769 where he remained for sixteen years, working in anatomy and surgery. Baynham first entered as a student at St. Thomas's Hospital, where he attracted the favorable notice of Mr. Else, which soon ripened into a lifelong friendship. He left London for a while to serve as prosector to the professor of anatomy at Cambridge, and for a short time was in partnership with Mr. Slater, a very successful surgeon of Margate. It was not for long because Mr. Else asked him to return to St. Thomas's as his assistant demonstrator. Thacher¹ tells what befell Baynham as follows:

Mr. Baynham engaged with Mr. Else on the following terms; he was to superintend the anatomical theatre and dissecting room, prepare the bodies for his public demonstrations, make preparations for the museum, and to instruct the pupils in the arts of dissecting, injecting, making anatomical preparations, etc., with a salary of eight and ninety pounds the first two years, and one hundred pounds a year for five succeeding years; at the expiration

¹ American Medical Biography.

of which Mr. Else was to relinquish to him the professor's chair, or to take him as joint professor on equal terms, as he [Mr. Baynham] might choose.

Baynham worked hard at these various duties until, at the end of five years Mr. Else died suddenly of apoplexy. Cline was elected professor, beating Baynham by but one vote. Mr. Else had bequeathed the museum to Baynham, and the latter sold most of it to Cline for eight hundred pounds, selling the remainder to Mr. Blizard, of the London Hospital for one hundred guineas. In 1781 Baynham was made a member of the Company of Surgeons of London. He practiced for a while in London but in 1785 returned to America, settling in Essex County, Va., where he practiced until his death.

John Manning was born at Ipswich, Mass., in 1739, the son of Dr. Joseph Manning, with whom he began his medical studies. John began practicing at Newmarket, N. H. in 1769. In 1771 he decided to go abroad as he felt the need of further professional training. He therefore went to London where he worked at the Westminster Lying-in Hospital under Dr. John Leake. Manning also studied the method of inoculation employed by Dr. Sutton. Returning to America in 1772 he practiced at Ipswich where he had several inoculation hospitals. He helped dress the wounded at Bunker Hill and served as a surgeon for a time with the American Army. Dr. Manning died in 1824, leaving three sons who had become physicians.

John Crawford (1746-1813), one of the first to introduce vaccination into the United States, was a native of Ireland, who after studying medicine at Trinity College, Dublin, went to Leyden, where he received his M.D. He was a ship's surgeon in the employ of the East India Company for a time, then surgeon to the Naval Hospital on Barbados Island, later surgeon to the Dutch colony at Demerara. In 1796 he settled in

Baltimore, where he took a prominent part in public affairs, was one of the founders of the Baltimore Dispensary, and in 1800 practiced vaccination, at the same time that Benjamin Waterhouse did in Boston. Dr. Cordell states that he promulgated the theory that disease was caused by the entrances of animalculae into the body, minute animals too small to be seen, a theory which seems to have rendered him most unpopular with his contemporaries.

Two young Virginians were studying in Edinburgh just before the Revolution. One of them, Arthur Lee (1740-1792), a brother of the more distinguished Richard Henry Lee, according to Thacher¹ received his classical education at the University of Edinburgh before graduating from its medical school. After practicing medicine several years at Williamsburgh, Va., he returned to England, studied law at the Temple, and afterwards took a prominent part in the public affairs of his native colony. I have been unable to find the date of his graduation from Edinburgh but it must have been about the same time as that of Walter Jones, who graduated there in 1763, and was afterwards one of the best known physicians in Virginia. He was Physician General to the Hospital of the Middle Department of the Continental army in 1777. Later he served several terms in Congress. He died in 1815.

Thacher¹ regrets the scantiness of material for a biography of Dr. Richard Bayley, of New York, and we heartily agree with him, as practically no information beyond that given by Thacher is available, in spite of Bayley's great ability and prominence in the profession. Bayley was born at Fairfield, Conn., in 1745. He studied medicine with Dr. Charlton of New York, whose daughter he married before going abroad for further study in 1769 or 1770. Thacher quotes a letter from Bayley to his wife in which he says:

¹ American Medical Biography.

The Anatomist, Dr. Hunter, gives me great encouragement and thinks that by applying myself closely to anatomy and the operative part of surgery this winter (1770), which I shall have entirely at my power in his dissecting rooms, and after that to be punctual next summer in my attendance on the hospitals, I may with ease qualify myself for practitioner in surgery in any part of the world.

Returning to New York Bayley entered into practice with his father-in-law. Curiously enough one of Bayley's chief claims to distinction during his life was based on his publications on "croup," in which he put forth the idea later prevailing for many generations of a difference between "membranous croup" and "angina trachealis," or diphtheria. Bayley taught that death in the latter disease was due to spasm of the larynx and not to mechanical obstruction by membrane or swelling. These opinions of Bayley's were first given publication abroad having been written by him to Michaelis. In 1775 Bayley recrossed the ocean to work once more with William Hunter. Bayley told the latter of his post-mortem observations on cases of "croup" and "Angina Suffocativa or trachealis," and in 1781 Bayley following Hunter's suggestion published them in the form of a letter addressed to Hunter, which was published in the *American Medical Repository*. Bayley advocated very active "antiphlogistic" measures in "membranous croup," "venesection ad deliquium from the jugular vein, blisters to the throat, antimony to nauseate and occasionally pushed to emesis, and calomel and enemata as evacuants and alteratives of secretion." In "angina trachealis" he thought that death was due to a spasm of the muscles of the larynx. This erroneous distinction between "membranous croup" and what was subsequently known as "diphtheria" had terrible consequences until bacteriology finally cleared up the true pathology of the disease. Because of lack of funds Bayley, in order to get back

to America, got a commission as surgeon with the British troops under General Howe, and sailed with them for New York in 1776. He was stationed as hospital surgeon at Newport, Rhode Island. His wife was ill in New York so he resigned his commission and hastened to her, arriving just in time to witness her death. After the Revolution Bayley, assisted by Wright Post, who later married his daughter, gave courses on anatomy in New York. In 1788 he was chosen as Professor of Anatomy in the medical school of Columbia College. Wright Post was appointed Professor of Surgery. Post spent several years in study abroad and during his absence Bayley filled both chairs. When Post returned they exchanged chairs. Bayley performed the first amputation of the arm at the shoulder joint ever done in the United States. Like Cheselden he had especial skill in lithotomy and in operations for cataract. For a number of years he was Health Physician to the Port of New York and wrote considerably on yellow fever. In the performance of his duties he became ill after examining a shipload of immigrants suffering from "shipfever" and died in 1801.

Dr. John Jeffries¹ was born in Boston, in 1744, graduated from Harvard in 1759 and studied medicine under the celebrated James Lloyd. Jeffries entered upon practice in 1766 but realizing his deficiencies gave up his work and went abroad for further study. Thacher² says:

He placed himself under the tuition of Dr. William Saunders, whose lectures on chemistry and the theory and practice of physic have been justly celebrated. He also sedulously attended two courses of lectures on anatomy and surgery, by Mr. Joseph Else; twelve courses on the theory and practice of midwifery, by Dr. Colin McKenzie, and officiated as dresser for twelve months at Guy's Hospital, under Messers Way, Smith, Else and Martin.

¹ Thacher, *Am. Med. Biog.*, states that Jeffries was born Feb. 5, 1744 and died Sept. 16, 1810.

² *American Medical Biography*.

In 1769 he received the degree of M.D. from the University of Aberdeen and returned to America, commencing practice in Boston. Jeffries was a Tory and served as surgeon with the British forces throughout the Revolution. When the British evacuated Boston he went with them to Halifax. There he was appointed surgeon general of the troops in Nova Scotia and purveyor general to the hospitals. In 1779 Jeffries obtained permission to go with his family to England. There, after an examination conducted by John Hunter at Surgeon's Hall, Jeffries was commissioned surgeon major to the forces in America. Jeffries joined the army of Sir Henry Clinton in South Carolina, in 1780. He was soon transferred to New York and shortly afterwards went back to England. Jeffries began practicing in London. He became greatly interested in aeronautics and made several balloon voyages, one across the Channel. In France he came in contact with the King and Queen, as well as with the prominent scientific men of Paris. In 1789 he returned to Boston to secure an inheritance which had fallen to him. He began practice once more in his native city and in spite of his past Toryism he was eminently successful. He delivered a public lecture on anatomy, but as Thacher says: "It was, however, but a single one; for on the second evening a mob having collected, entered his anatomical room and carried off in triumph his subject, which was the body of a convict given him by the governor after execution."

Dr. Jeffries died on September 16, 1819.

Charles Jarvis, of Boston, was born in 1748, and graduated from Harvard College in 1766. He studied medicine with Dr. Perkins, and later with Dr. Gardiner, of Boston, and then went abroad. Nothing is known as to his studies while overseas. Upon his return he practiced in Boston. In 1773 he married a sister of Sir William Pepperell, a granddaughter of the hero

of Louisburg. In spite of his loyalist connections Jarvis remained faithful to the patriotic cause during the Revolution. Dr. Jarvis died on November, 15, 1807.

Thomas Kast, born at Boston in 1750, graduated B.A. from Harvard in 1769, and then studied medicine with his father, Dr. Philip Godfrid Kast. In 1770 he shipped as surgeon's mate on the British ship *Rose*, on which in 1772 he finally arrived in London, after passing the intervening time between Halifax, Newport and New York. Kast spent the next two years in London as dresser to Mr. Joseph Warner, at Guy's and attending lectures at that hospital and St. Thomas's, also studying midwifery with Dr. McKenzie. He returned to America in 1774, and practiced in Boston until 1804 when an attack of rheumatic fever shattered his health. He was a charter member of the Massachusetts Medical Society. Dr. Kast died June 20, 1820.

James Hutchinson was a native of Bucks County, Penna., where he was born in 1752. He graduated from the College of Philadelphia (University of Pennsylvania) and then began the study of medicine with Dr. Evans of Philadelphia. He was in London working under the particular supervision of Dr. John Fothergill when the outbreak of the Revolution hastened his return to America. Hutchinson was an ardent patriot and was given some important dispatches to carry for Benjamin Franklin. He sailed from France. A short distance from the American coast the ship was pursued by a British warship. Anxious to save his dispatches Hutchinson got into a small boat and was rowed ashore under fire from the British. The ship he had left was captured and Hutchinson lost the books and instruments he was bringing home with him. He served in the medical department of the American Army throughout the Revolution. He was Professor of Chemistry in the University of Pennsylvania, one of the physicians to the Pennsylvania

Hospital, and a charter fellow of the College of Physicians of Philadelphia. Hutchinson contracted yellow fever while performing his duties as health officer of the port of Philadelphia during the yellow fever epidemic. He died on September 6, 1793.

John Barnard Swett, was born at Marblehead, Mass., in 1752, and graduated from Harvard College in 1771. He went abroad and studied medicine for three years with Cullen at Edinburgh. At the expiration of that time he got a position as supercargo to a fleet of merchant vessels which sailed to the Falkland Islands. With the money thus acquired he was able to continue his medical studies at Paris and London. He returned to America in 1778 and was commissioned surgeon in the Continental Army. After the War he practiced at Newburyport, Mass., where he died in 1796 of yellow fever contracted during the performance of his duty in an epidemic of that disease.

Even during the struggle with the mother country there were some young colonists who remained on the other side of the Atlantic pursuing their medical studies.

The distinguished yet unhappy Benjamin Waterhouse (1754-1846), whose career as the first inoculator for smallpox in America is considered elsewhere in this book, was a native of Newport, Rhode Island. His mother, Hannah Proud, was a cousin of Dr. John Fothergill, the famous Quaker doctor of London, so that it was to be expected that when Benjamin had finished his apprenticeship with Dr. John Haliburton of Newport, he would be sent abroad to avail himself of such an invaluable connection. In 1775 Waterhouse sailed out of Boston Harbor on the last ship that the British allowed to depart before closing the port. After studying for sometime with Fothergill, Waterhouse went to Leyden, where he got his M.D. in 1781. He then went back to Fothergill and was very

near to remaining with him as his assistant, but finally in 1782 decided to go back to America. While abroad young Waterhouse made many valuable acquaintances. He saw much of Benjamin Franklin, John Adams and John Quincy Adams. He also met a great number of English literary and scientific lights at his uncle's with whom he afterwards corresponded. His later career as an inoculator and teacher is described elsewhere.

One young American, though said "to be a firm friend to the cause and liberties of his country," tranquilly pursued his studies abroad throughout the entire struggle for independence. This was the enigmatic Nicholas Romaine, the son of a New York silversmith. There is not much information to be obtained about him except in Thacher's "American Medical Biography," which was furnished chiefly by Dr. Hosack who knew him well. He was born in 1756, and at the outbreak of hostilities with Great Britain sailed abroad. He "completed his medical studies at Edinburgh." He then spent two years in Paris and is said to have visited Leyden and London. He returned to America in 1782 and spent several years in Philadelphia before entering practice in New York. In 1787 he organized a private medical school in New York which he sought to have incorporated. This was successfully opposed by the Board of Trustees of Columbia College which hoped to re-establish the medical school which had existed in connection with it, when it was King's College, in ante bellum days. Romaine, thereupon, got the necessary act of incorporation for the College of Physicians and Surgeons of New York, of which he was the first President of the Board of Trustees, and gave lectures on Anatomy. The next year Romaine became Professor of the Institutes of Medicine. Owing to dissensions in the faculty the State Board of Regents reorganized the school in 1811, Romaine was retired and Samuel

Bard installed as president. Romaine died in 1817.

George Logan (1752-1821), of Philadelphia, was a grandson of William Penn's secretary, James Logan. He was sent to England for his early education. He returned to Philadelphia at its completion but having made up his mind to study medicine he went to Edinburgh where he received his M.D. in 1779. He spent the next three years in foreign travel. On his return to the United States he devoted his energies to farming.

Yet another young man went over from New York during the Revolution. William Moore was born on Long Island in 1754. After studying medicine with Dr. Clossey and Dr. Samuel Bard he crossed the sea in 1778 and went to Edinburgh, where he received the degree of M.D. in 1780. Returning to America he practiced in New York until his death in 1824. Moore was particularly distinguished as an obstetrician. He is said to have delivered three thousand women.

FROM THE END OF THE REVOLUTION TO ABOUT 1830

Just after the close of the Revolution, in 1782, the young Republic presented a warship to France, to replace one which had been lost off our coasts. A Frenchman, Dr. Meaube, was sent out to America to serve as surgeon to the new vessel. At Portsmouth he met young Ammi Ruhamah Mitchell, who was studying medicine. Dr. Meaube was so favorably impressed with the young man that he took him back to France as his surgeon's mate. In Paris young Mitchell studied hard and then came back to America and settled in North Yarmouth where he practiced until his death in 1824.

Solomon Drowne (1753-1834), born in Providence, R. I., graduated from the medical department of the University of Pennsylvania in 1781. He served as a surgeon in the Revolution. When the French fleet sailed from Rhode Island, the sick who were left

behind were confided to his care. He went abroad and spent two years, 1784 and 1785, studying in England and on the Continent. On his return he spent some years in Ohio, Virginia and Pennsylvania. In 1801 he settled down at Foster, R. I., where he spent the rest of his life, practicing medicine and studying botany. In 1811 he was elected Professor of Botany and *Materia Medica* in Brown University. He was one of the delegates to the first convention to form a National Pharmacopeia.

Samuel Powel Griffitts (1759-1826) of Philadelphia, after graduating from the College of Philadelphia (University of Pennsylvania), took the medical course in that institution and received his M.D. in 1781. Going abroad he first studied at Montpellier, and later in London and Edinburgh. He returned to Philadelphia in 1784. He founded the Philadelphia Dispensary in 1786, and was one of the charter members of the College of Physicians of Philadelphia. In 1792 he was elected Professor of *Materia Medica* in the University of Pennsylvania.

Wright Post¹ (1763-1828) was born on Long Island. At the early age of fifteen he began the study of medicine with Dr. Richard Bayley, whose daughter he later married. After four years' work with Bayley, Post sailed for Europe and spent two years in London as house pupil with the anatomist, John Sheldon. In 1786 he returned to New York. The following year he and Bayley gave courses in anatomy, which were interrupted by "The Doctor's Mob," which broke into the building and destroyed their anatomical collection. In 1792 Post was appointed Professor of Surgery in the medical school of Columbia College. He revisited Europe and collected specimens and preparations with which he established one of the

¹ In an introductory lecture delivered by Valentine Mott to the students of Rutgers College, Mar. 4, 1828, he gives the date of Post's birth as Feb. 19, 1766, and that of his death as June 14, 1828.

best anatomical museums in the United States. When the College of Physicians and Surgeons was merged with Columbia, Post became Professor of Anatomy and Physiology. In 1796 Post successfully tied the femoral artery for popliteal aneurysm (the Hunterian operation), the first operation of this kind in the United States. Valentine Mott¹ assisted him in another great triumph for American surgery. Mott says of it:

It is certainly for the honor of our time, for the credit of America, and for the pride of our city, that the successful operation of tying the subclavian artery above the clavicle on the scapular side of the scaleni muscles, for brachial aneurysm situated so high in the axilla as to make it expedient to tie this artery was first successfully performed by him.

Dr. Post was the second American surgeon to ligate the external iliac artery for aneurysm. Dr. Dorsey, of Philadelphia, did the first operation of the kind in the United States.

A notable young Philadelphian, Caspar Wistar,² first acquired a desire to study medicine when he assisted in caring for the wounded after the battle of Germantown, some of them having been carried into his father's house in that suburb of Philadelphia. Besides taking the prescribed course in the College of Philadelphia (University of Pennsylvania) from which he received the degree of M.B. in 1782, he had also the privilege of having the distinguished John Redman and the brilliant John Jones as extramural preceptors. In 1783 he sailed for Europe. His great-nephew, General Isaac Wistar, is authority for the statement that there was a reason beside the ordinary for young Wistar's going abroad. He had been one of the principals in a duel and it was deemed wise that he should absent himself a while from a community which looked askance on this form of

¹ Mott's biographical account of Wright Post is given in William's "American Medical Biography."

² Dr. W. S. Middleton has recently published in the *Ann. M. Hist.*, 4: 64, 1922, a most complete account of Wistar.

outdoor sport. The General gives no details as to the affair beyond this mere statement. After spending a year in London Wistar went to Edinburgh where he received the degree of M.D. in 1786. He seems to have won the kindly attention of Cullen while there, and must have been popular with his fellow students as he was twice elected president of the Royal Medical Society. He dedicated his thesis jointly to Benjamin Franklin and William Cullen. Middleton quotes the statement, made by Hosack, that Wistar went to Leyden after leaving Edinburgh, but adds that he has found nothing to support it. Returning to Philadelphia in 1787 Wistar soon acquired a large practice. In the yellow fever epidemic of 1793 he was one of the physicians who remained in Philadelphia and did heroic work for its stricken people. In the same year probably as a result of his brave conduct he was elected physician to the Pennsylvania Hospital. In 1789 he succeeded Benjamin Rush as Professor of Chemistry in the College of Philadelphia, and when the union between that institution and the University of the State of Pennsylvania was accomplished in 1792, Wistar became Adjunct Professor of Anatomy, Surgery and Midwifery, in the thus formed medical department of the University of Pennsylvania. When Shippen, who held the Professorship in these subjects, died, Wistar succeeded him. In 1809 he surrendered the surgical part of his chair to Physick, and in 1813, obstetrics was turned over to Thomas Chalkley James. In 1811 Wistar published the first American textbook on anatomy. This "System of Anatomy" contains Wistar's original description of what he considered processes of the ethmoid bones, which are now known as the cornua sphenoidalialia. As Middleton says, "Whereas the usual statement that he first described a process of the ethmoid bone, is erroneous, credit should be granted him for the earliest account of the development of the

sphenoid bone." Wistar was deeply interested in the American Philosophical Society. He succeeded Thomas Jefferson as its President in 1815. From his association with it developed a social organization which maintains its existence to the present day. Dr. Wistar used to invite the members of the Society and other guests to gather at his house every Sunday evening, where they would enjoy an informal repast and meet the best kind of intellectual society. In 1811 the evenings for these reunions were changed to Saturdays, and certain of the regular callers were privileged to bring guests. After Wistar's death his friends in the Society resolved to continue these meetings, and under the name of "Wistar Parties" they are still given by a small group of the members. Dr. Wistar died on January 22, 1818.

Jonas Preston (1764-1836), of Pennsylvania, graduated from the medical school of the University of Pennsylvania in 1784. The next year he went abroad and studied in London, Edinburgh and Paris. Preston never practiced to any extent. He served several terms in the Pennsylvania State Legislature and was prominent in financial affairs in Philadelphia. He left a large bequest to found the "Preston Retreat," a lying-in hospital which still flourishes in Philadelphia.

Young Samuel Wilson (1763-1827), of Charleston, S. C., had been one of Marion's soldiers during the Revolution. When that was over he began the study of medicine with his father, Dr. Robert Wilson, going abroad in 1784. He studied at Edinburgh and Glasgow, receiving his M.D. from the latter University. Returning to Charleston he practiced there until his death. He had many pupils whom he educated for the profession, among them his two sons Isaac and Samuel W. Wilson.

George Moore (1760-1819), of New Castle, Delaware, also went abroad in 1784. He had studied medicine with Dr. John Archer, of Maryland, and had received

his degree of M.D. from the medical department of the University of Pennsylvania. During the Revolution Moore served as surgeon with the troops of the Virginia Line. After spending a year studying in London, Moore went to Edinburgh and got another degree as Doctor of Medicine from the University. After spending a few months in Paris he returned to America in 1786. In 1797 he removed to Wilmington where he practiced until his death.

Richard S. Kissam (1763-1822), of New York, studied medicine with Dr. McKnight, and then went to Edinburgh, where he studied for five years, receiving the degree of M.D. in 1789. He then spent some time on the Continent, before returning to America in 1791. Dr. Kissam practiced in New York until his death. He was particularly distinguished as a lithotomist. According to Thacher¹ he performed sixty-five lithotomies with but five deaths.

Dr. James Smith, of New York, when he died in 1812, is said by Thacher to have received the degree of M.D. at Leyden, but he gives no other details about him.

Andrew Wiesenthal (1762-1798), of Baltimore, the only son of Dr. Charles Frederick Wiesenthal, attended lectures at the medical school of the University of Pennsylvania. He studied in London from 1786 to 1789, and then returned to Baltimore where he lectured on anatomy until his death.

George Buchanan (1763-1808), a native of Maryland, grandson of the George Buchanan who laid out the town of Baltimore in 1730, began his medical studies under Dr. Charles Frederick Wiesenthal, of Baltimore, and continued them under Dr. William Shippen, Jr., of Philadelphia. He received the degree of Bachelor of Medicine from the University of Pennsylvania in 1785. He then spent three years in study abroad, chiefly at Edinburgh, where he was elected president

¹ America Medical Biography.

of the "Royal Physical Society." On his return to the United States he got his M.D. from the University of Pennsylvania in 1789, and began practicing in Baltimore. He and Wiesenthal tried to organize a medical school. During the winter of 1789-90 they had nine students. Some dissension occurred and the project failed. He retired from practice because of ill-health in 1800, and five years later he moved to Philadelphia, where he became resident physician at the Lazaretto. Two years later he contracted yellow fever and died in the institution.

The career of Nathan Smith (1762-1829) is noticed more fully elsewhere in this book, but his post-graduate studies undoubtedly had much to do with his subsequent success and that of the enterprises he engaged in. He began his medical studies as a private student of Dr. Josiah Goodhue, and after three years study with him began practice in 1787 without a diploma in Cornish, N. H. While practicing he attended some courses of lectures at Harvard Medical School, and in 1790, got from it the degree of M.B. In 1811 he was given the degree of M.D. which was then conferred on all those who had only been given the bachelor degree before. After he had begun his efforts to get a medical school established at Dartmouth College, Smith decided while waiting for the fulfillment of his plans to go abroad in order that he might be better equipped to teach. He went for a short time to Glasgow, then studied chemistry and anatomy for three months in Edinburgh under Black and Monro, and afterwards went to London. Returning to the United States he began his lectures in the new school at Dartmouth in the fall of 1797. It must have been a great satisfaction to him to realize that his sacrifice in time and money was at last bearing fruit.

Benjamin Smith Barton (1766-1815) was born in Lancaster, Penn. He began the study of medicine

under Dr. William Shippen, Jr. While doing so he went off on an expedition with his maternal uncle, David Rittenhouse, who was one of the commissioners to survey the western boundary of Pennsylvania. This journey awakened his great interest in the Indians. In 1786 he went abroad and studied, first in London and Edinburgh, later in Göttingen, where he got his M.D. in 1789. In a letter to his brother he states that he left Edinburgh because he was treated discourteously by two of the professors. This must have been exceptional because he had been elected to membership in the Royal Medical Society, a students' organization, and had been given by it a prize for a dissertation. In London he was on friendly terms with John Hunter and Lettsom. In 1789 he began practice in Philadelphia and was appointed Professor of Natural History and Botany in the College of Philadelphia, a position which he retained after its union with the University of Pennsylvania in 1791. He succeeded Griffitts as Professor of *Materia Medica* and on Benjamin Rush's death he was made Professor of the Practice of Medicine. Barton was the author of many works on natural history, and was a frequent contributor to the *Transactions of the American Philosophical Society*, and in 1805 started the *Medical and Physical Journal*.

Before the days of specialities John Tyler (1763-1841), a native of Maryland, was known far and wide for his skill in the treatment of diseases of the eye. He had received some private instruction in medicine before he went abroad to become a pupil at St. Bartholomew's Hospital, London. While in England he also studied under John Hunter and other prominent teachers in London. On his return to the United States he practiced in Frederick City, Md., where he acquired a great reputation as an oculist.

Philip Syng Physick (1768-1837) was a native of Philadelphia. After graduating from the University of

Pennsylvania he began the study of medicine under Dr. Kuhn. In 1789 Physick went to London, where he was taken in as a house pupil by John Hunter, who later secured him the position of house-surgeon at St. George's Hospital. In London he became very intimate with Hunter's brother-in-law, Everard Home, and saw the work of Cooper, Abernethy, and the other great surgeons of the day.¹ Returning to Philadelphia he had hardly got a start in practice when the yellow fever epidemic of 1793 began. Physick worked hard throughout that trying time, and again in the subsequent epidemics which occurred during the following years. For some time he was resident physician at the yellow fever hospital at Bush Hill. In 1794 he was elected a member of the staff of the Pennsylvania Hospital, a position which he retained until 1816. In 1805 he was chosen Professor of Surgery in the University of Pennsylvania, which in 1819 he exchanged for the chair of anatomy which he held until 1831. In that year he performed a lithotomy on John Marshall, the Chief-Justice, who was then seventy-four years old, and Dr. Physick sixty-three. Physick was one of the first in this country to employ gastric lavage with the stomach tube. He invented a guillotine for amputation of the uvula which he subsequently modified and used for the performance of tonsillectomy. This instrument was the antecedent of the modern tonsil guillotines.

Thomas Chalkley James (1766-1835), of Philadelphia, was the foremost obstetrician of his time. He studied medicine as pupil of Dr. Adam Kuhn at the University of Pennsylvania, receiving the degree of

¹ Physick's descendants have in their possession an invaluable lot of letters which have never been published, in which Physick gives most interesting details of his life in London. Although his London friends tried to persuade him to stay with them and he was elected a member of the Royal College of Surgery of London, Physick went to Edinburgh where he graduated M.D. in 1792. In his letters to his father he reiterates his determination to get a medical degree before returning, although he expects to confine his practice to surgery.

M.B. in 1787, and of M.D. in 1811. He went abroad and in 1790 was in London with Physick, then a house pupil of John Hunter. James devoted most of his time to obstetrics, becoming house pupil in the Story Street Lying-in Hospital, but also frequenting St. George's Hospital. He spent the winter of 1792-93 in Edinburgh, but did not try for a degree. He returned to Philadelphia in the spring of 1793 and stuck by his post during the yellow fever epidemic of that summer. In 1807 he was elected physician to the Pennsylvania Hospital, and in 1810 the managers complied with his request that his title be changed to obstetrician to the Hospital. In 1811 he was appointed Professor of Midwifery in the University of Pennsylvania. He was one of the first to write on the value of the anthracite coal deposits in Pennsylvania, having made a communication to the American Philosophical Society on this subject in 1804.

John Beale Davidge (1768-1829), born at Annapolis, Md., began the study of medicine with Drs. James and William Murray, of that town. He then went to Edinburgh where he studied for several years, but finally, from motives of economy, took his M.D. degree at Glasgow in 1793. He tried practicing for a short time in Birmingham, England, but soon returned to the United States and settled in Baltimore, where he became attending physician to the Baltimore General Dispensary, and in 1802, began giving private courses in medicine. In 1807 he, with Drs. James Cocke and John Shaw, got his school a charter as the College of Medicine of Maryland. When the University of Maryland was chartered in 1813, the college became its medical department. Davidge held the professorship of anatomy and surgery from 1807 until his death. He wrote much and was a courageous and skilful operator.

Samuel Brown (1769-1830) was born in Rockbridge County, Va. He began the study of medicine with his

brother-in-law, Dr. Humphreys, at Staunton, Va., but soon went to Philadelphia to study under Benjamin Rush. Later he went to Edinburgh, where he had as fellow-students Hosack, Davidge and Ephraim McDowell. Brown did not get a degree at Edinburgh. Nevertheless on his return to the United States he began practicing in Bladensburg. In 1806 he went to New Orleans to practice. Three years later he left New Orleans and settled on a plantation near Natchez. Then he moved to Huntsville, Ala. In 1819 he accepted the chair of practice in Transylvania University. He had been appointed to the chair of anatomy, chemistry and physiology in Transylvania in 1799, but the work of the school had never been seriously undertaken in the intervening years. In 1819 the trustees were earnestly engaged in trying to get things going. In 1825 Brown resigned from Transylvania in favor of his friend Daniel Drake. Brown was the chief founder of the notorious Kappa Lambda Association.¹

David Hosack (1769-1835), of New York, graduated from Princeton College in 1789. While an undergraduate he had begun the study of medicine with Dr. Richard Bayley, of New York, later going to Philadelphia, where he graduated from the medical department of the University of Pennsylvania in 1791. The following year he went abroad to study in London and Edinburgh. While in London he wrote a communication entitled "Observations on Vision," which was published in the *Transactions of the Royal Society* for 1794. While in Edinburgh he is said to have met Robert Burns. J. W. Francis² says.

The lectures of Andrew Marshall on Anatomy, the practical precepts of Pearson, of St. George's Hospital, the Anatomical and Surgical instruction of Earle and Abernethy, of St. Bartholomew's

¹ For an most interesting account of this mysterious organization consult Dr. Chauncey D. Leake's article "What was Kappa Lambda." *Ann. M. Hist.*, 4: 102, 1922.

² Memoir contained in Williams' "American Medical Biography."

Hospital, the Botany of Curtis, of the Brompton Gardens, and the zoological and botanical course of Sir James Edward Smith, President of the Linnaean Society, were sufficient to fill up every hour in profitable investigation.

In 1794 Hosack returned to New York, and in the following year was made Professor of Botany in Columbia College. Hosack went into partnership with Samuel Bard, which lasted until Bard's retirement in 1800. On the death of W. P. Smith the chair of Materia Medica was added to Hosack's botanical chair. Francis says Hosack "was the master spirit of success" in the union of Columbia with the College of Physicians and Surgeons, and in the reorganized institution he became Professor of Physic and Clinical Medicine. In 1826 Hosack was one of the dissident members of the faculty of the College of Physicians and Surgeons who found the Rutgers Medical School. When the latter was disbanded four years later Hosack retired from teaching. In 1816 Hosack and John W. Francis founded the *Medical and Philosophical Register* which was published for four years. Hosack was a prolific contributor to current medical literature.

Frederick Dalcho (1770-1836) was born in London, England. His father died when he was a young boy and he came out to live with an uncle in Baltimore. There he studied medicine. I can find no record of his having received a degree, but he received an appointment in the medical corps of the Army. While stationed at Fort Johnson in Charleston Harbor, some difficulty with other officers caused him to resign, and he began practice in Charleston in 1799. His chief concern was botany and he soon became interested in the establishment of a botanical garden. In 1807 he abandoned medicine and became editor of the *Charleston Courier*, a daily newspaper. Later he studied divinity and in 1818 was ordained as a clergyman in the Protestant Episcopal Church.

Ephraim McDowell (1771-1830), whose career is fully dealt with elsewhere in this book, was born in Virginia. After beginning the study of medicine with Dr. Humphreys of Staunton, Va., McDowell crossed the ocean in 1793 and matriculated at the University of Edinburgh. While taking the courses in that institution he studied also with John Bell, then an extramural teacher, for whom McDowell always expressed the greatest admiration. McDowell did not try to obtain a degree at Edinburgh. In 1795 he returned to the United States to practice thenceforth in Danville, Ky., where in 1809 he performed his famous ovariectomy.

Isaac Cathrall, of Philadelphia, died in 1819 in the fifty-sixth year of his age. He studied medicine under Dr. John Redman and then went abroad, studying in London, Edinburgh and Paris, until his return to America in 1793, in time to distinguish himself by his courage and devotion to duty during the yellow fever epidemic of that year, a course of conduct which he repeated in the subsequent epidemics of 1797, 1798 and 1799. He published in the fifth volume of the *Transactions of the American Philosophical Society* a paper presenting the results of his observations on the morbid anatomy of yellow fever. He and Dr. Physick had dissected a number of bodies of victims of the disease in an effort to explain its pathology. He was one of the surgeons to the Philadelphia Almshouse.

John Redman Coxe (1773-1864) was a grandson of the famous Colonial physician John Redman. For his preliminary and classical education young Coxe was sent to English schools and later to Edinburgh by his grandfather. Returning to the United States he pursued his medical studies under Benjamin Rush and received his degree of M.D. from the University of Pennsylvania in 1794. He went to Europe for two years to study in the hospitals of London, Edinburgh and Paris, and

then returned to practice in Philadelphia. Coxe was Professor of Chemistry in the University of Pennsylvania from 1809 to 1819 and Professor of Materia Medica and Pharmacy from 1818 to 1835.

The father of Archibald Bruce (1777-1818) was stationed in New York as "head of the medical department of the British army," at the time of Archibald's birth and after his death his widow brought up the boy in that city. He graduated from Columbia College in 1791, and then began the study of medicine as a private pupil of Dr. David Hosack, and in the medical school of Columbia College. In 1793 he went abroad, and studied at Edinburgh receiving the degree of M.D. in 1800. Bruce then spent two years on the Continent devoting most of his attention to the study of mineralogy. When the College of Physicians and Surgeons of New York was organized in 1807, Bruce was appointed Professor of Materia Medica and Mineralogy. When the college was reorganized in 1811, Bruce was one of those who got out of the faculty and organized a separate medical school in connection with Rutgers College. In 1810 Bruce began editing the *Journal of American Mineralogy*, the first periodical devoted solely to that science in the United States.

Thomas Tickell Hewson (1773-1848) was born in London. His father, William Hewson, was assistant to William Hunter in his anatomical school, and was one of the most brilliant anatomists of his time, chiefly famous for his original researches on the lymphatic system. William Hewson died when but twenty-nine years old, from a wound received while dissecting. Benjamin Franklin boarded while in London with his widow and her mother, and it was at his suggestion that the former emigrated to Philadelphia with her family of young children, in 1786. Thomas graduated as a bachelor of arts at the University of Pennsylvania. He then went to London where he served as a house

surgeon at Saint Bartholomew's Hospital, afterwards studying at Edinburgh, and later returning to London where he spent four years before going back to Philadelphia to begin practice. From 1806 to 1818 he was physician to the Walnut Street Prison. In 1822 he established a private medical school, in which he taught anatomy. He was also Professor of Comparative Anatomy in the department of natural science of the University of Pennsylvania. He was also surgeon to the Philadelphia Almshouse (Blockley).

Francis Kinloch Huger (1773-1855) was born at Charleston, S. C. He was sent to school in England, and studied medicine under John Hunter, as one of his house pupils. In 1794 he served as a staff surgeon in the English army under the Duke of York in Flanders. Leaving the army he went to Vienna to study and there fell in with a Dr. Eric Bollman, a German, who took him into his confidence in a scheme to liberate General Lafayette, then a prisoner at Olmutz. Huger joined the conspiracy with delight. Bollman through the doctor of the fortress in which Lafayette was lodged managed to send the captive French books, in which by means of writing in invisible ink he arranged a plan of escape. Bollman and Huger concealed themselves near where Lafayette was allowed to ride. On November 8, 1794, as Lafayette under the escort of two guards drew near where they were waiting, he made an excuse to dismount. He then seized the sword of the officer who had accompanied him a short distance off the roadway, and the two doctors rode up to his aid. The three managed to escape, leaving the officer slightly wounded behind them. They separated, having told Lafayette to go to Hoff, where they had a horse and man waiting for him. Lafayette blundered and went to Zagerdorf, where he was arrested and taken back to his prison. Bollman was caught when he had nearly got over the frontier. Huger was caught almost immediately. Bollman and Huger

were kept in prison eight months for their escapade. On being released Huger went to the United States and got his medical degree from the University of Pennsylvania in 1797. When it looked as though the United States was going to war with France in 1798, Huger entered the Army. He served as a colonel in the United States Army during the War of 1812. Lafayette always remembered the bold and generous young American, and his portrait hung at La Grange.

The first course of lectures on medical jurisprudence given in the United States, was by Dr. James S. Stringham (1775-1817), of New York, who, after graduating from Columbia College, went to Edinburgh to study medicine, receiving his degree of M.D. there in 1799. Returning to New York in 1804 he was appointed Professor of Chemistry in Columbia and in connection with his course gave a series of lectures on medical jurisprudence. When the medical school of Columbia College was merged into the College of Physicians and Surgeons of New York, Stringham was given a chair of legal medicine. His lectures were published in the *American Medical and Philosophical Register* in 1814.

James Jackson (1777-1867), of Boston, was one of the most distinguished physicians of his day. I have considered his career elsewhere in this book in connection with Harvard College. His medical education was begun under Dr. E. A. Holyoke of Salem. In 1799 Jackson went abroad. In London he was a dresser at St. Thomas's Hospital, working with Cline, and he also attended Sir Astley Cooper's work at Guy's Hospital. Jackson writes:

Vaccination had been introduced about the time I commenced my studies, but the practice had not been extensively adopted at that day, even in England. Dr. Woodville, of London, was physician of the St. Pancras Smallpox and Inoculation Hospital, where he had attended to the subject of vaccination more extensively than any other, not excepting Dr. Jenner. I placed myself under

his care (for ten guineas, I believe), and learned all then known about that business.

When Jackson returned to Boston in 1800 he put his knowledge of smallpox to good account, cooperating with Waterhouse who had already started the practice of vaccination in Boston. Jackson's activities in connection with the Massachusetts Medical Society, Harvard Medical School and the Massachusetts General Hospital are dealt with elsewhere in this book.

There are few sadder instances of blighted promise than the career of James Jackson, Jr. (1810-1834), the son of Professor James Jackson, of Harvard. After graduating from Harvard College in 1828, he began the study of medicine with his father while attending lectures at the Harvard Medical School. In 1831 he went to Paris, where he studied under Louis, with whom he became a great favorite. During his stay in Paris, Jackson and some other young men organized the Société Médicale d'Observation de Paris. To it he contributed in 1833 a paper in which he first announced his discovery of the prolonged expiratory sound in phthisis. In July, 1833, he returned to Boston. The following year he received his degree of M.D. from Harvard, but died one month later. His heartbroken father in 1835 published a memoir of his son, which is a classic in American medical literature.

Thomas Semmes (1779-1833), of Maryland, studied medicine with the distinguished Dr. Elisha C. Dick, of Alexandria, Va., and then at the University of Pennsylvania, where he got his M.D. in 1801. After a year spent in study abroad, chiefly in Paris, he returned to the United States, and settled in Alexandria, where he practiced until his death.

John Syng Dorsey (1783-1818), of Philadelphia, was cut off by fate just at the outset of what promised to be a most brilliant career. When but fifteen years old he entered on the study of medicine with his uncle, Dr.

Philip Syng Physick. He received his M.D. from the University of Pennsylvania in 1802. During the yellow fever epidemic of 1803 Dorsey showed great courage in his devotion to the sick, and made many clinical notes and post-mortem observations showing his professional zeal and scientific spirit. Dr. Physick had been a house pupil of John Hunter and during that time had contracted a warm friendship for his brother-in-law, Everard Home. When young Dorsey went abroad in the winter of 1803 he carried letters from his uncle which assured him a warm welcome by Home, who was then living in the glow of the fame of his dead brother-in-law, his perfidy to John Hunter not having as yet been exposed. After a winter in London Dorsey went to Paris where he passed his time in the study of anatomy until his return to Philadelphia in 1804.¹ In 1807 he was appointed Adjunct Professor of Surgery in the University of Pennsylvania, Dr. Physick holding the professorship, and in 1813 he was appointed Professor of *Materia Medica*. In this year he published his "Elements of Surgery," a most successful textbook. When Dr. Caspar Wistar died in 1818, Dorsey was chosen to fill his place as Professor of Anatomy. On November 12, 1818, Dorsey delivered his introductory address. That very night he was stricken with typhus fever from which he died within a week.

Dorsey seems to have possessed a charming personality. He was an excellent musician and wrote poetry. Chapman in his Eulogy said, "Excepting one illustrious character (Physick) who has no rival, he was indisputably the most accomplished surgeon of our country, and this praise is conceded to him on account of the number, the variety, the difficulty of his operations, and the skill, dexterity, and boldness, with which they

¹ The author has had the opportunity of reading a number of letters written by Dorsey which are in the possession of some of Physick's descendants. They should be published as they contain many interesting sidelights on the medical affairs in London and Paris of that day.

were performed." From 1810 until his death Dorsey was surgeon to the Pennsylvania Hospital.

James Low (1781-1822) was born in Albany, New York. After commencing the study of medicine with Dr. William Mc Clelland in that city, Low went to Edinburgh, where he graduated M.D. in 1807. During his stay there, according to Thacher he was elected president of the Royal Physical Society of Edinburgh.¹ Returning to Albany in 1808 he entered practice there in partnership with Dr. Mc Clelland. Low lectured on chemistry besides editing several medical works, and contributing to current medical literature.

William C. Bowen (1785-1815) was the son of Dr. William Bowen, of Providence, Rhode Island. He began the study of medicine with his uncle, the distinguished Dr. Pardon Bowen. In 1806 he went to Europe and studied at Edinburgh University from which he received the degree of M.D. in 1809. Bowen then passed some months in Paris and Holland before going to London, where he became the private pupil of Sir Astley Cooper with whom he worked until his return to America in 1811. Bowen was elected Professor of Chemistry in Brown University. He experimented extensively with various acids in endeavoring to discover a satisfactory method of bleaching, and his early death in his thirtieth year, was attributed to the action of these acids in laying the foundations for the disease of the lungs from which he died.

John Collins Warren (1778-1856), of Boston, was the son of Dr. John Warren, one of the founders of the medical school of Harvard. In 1799 he went abroad. In London Warren studied with William Cooper, and his more famous nephew, Sir Astley Cooper, and was a dresser at Guy's Hospital. He then went to Edinburgh where he received his degree of M.D. Going over to

¹ This was probably the same as the Royal Medical Society of which many American students were members.

Paris he worked for another year under the brilliant leaders of the French school of that day. In 1802 he settled in practice at Boston. Four years later he was appointed Adjunct Professor to the chair of Anatomy and Surgery, then held by his father, at Harvard. Warren was active in founding the Boston Society for Medical Improvement, and the *New England Journal of Medicine and Surgery* (1811) which, in 1828, became the *Boston Medical and Surgical Journal*. To Warren's and James Jackson's efforts were chiefly due the founding of the Massachusetts General Hospital, a circular letter which they wrote in 1810 stimulating the granting of a charter and procuring subscriptions in the subsequent year, 1811. His anatomical collections formed the basis of the Warren Anatomical Museum. The most spectacular event marked Warren's career on October 16, 1846, when he performed the first public operation under ether anesthesia, at the Massachusetts General Hospital.

Nathaniel Chapman (1780-1853) was a native of Virginia but passed most of his life in Philadelphia. After graduating from the medical department of the University of Pennsylvania, Chapman went abroad, where he spent three years chiefly in Edinburgh. Chapman began practicing in Philadelphia in 1804. In 1820 Matthew Carey, the publisher of Philadelphia, began the publication of the *Philadelphia Journal of the Medical and Physical Sciences*, with Chapman as editor. In 1824 William P. Dewees and John L. Godman became associated with him in the work. In 1828 the name of the periodical was changed to *The American Journal of the Medical Sciences*, and as such it has maintained a proud position in medical journalism to the present day.¹ In 1813 Chapman was made Professor of *Materia Medica* in the University of Pennsylvania and in 1816

¹ Dr. Isaac Hays joined the editorial staff in 1827. From 1841 until his death in 1879 he was the sole editor. As a result of this long connection the journal was frequently spoken of as *Hays' Journal*. Osler said of it in 1902,

he became Professor of the Theory and Practice of Medicine, from which he retired in 1850. Chapman was the first president of the American Medical Association, and in 1817 was one of the founders of the Philadelphia Medical Institute. He was a great wit and many of his repartees and bon mots were long cherished in the memories of his fellow-townsmen.

Valentine Mott (1785-1865) was born on Long Island. He graduated from the medical school of Columbia College in 1806 and went abroad for further study. He studied under Sir Astley Cooper in London and then worked in Edinburgh before returning to settle in practice in New York in 1809. Mott started out giving private courses on operative surgery. In 1811 he was elected Professor of Surgery in Columbia and when the merger with the New York College of Physicians and Surgeons was brought about he was continued in that position in the new school. He resigned in 1826 to join with some of his former colleagues in forming the Rutgers Medical School. When the latter was abolished in 1831, Mott returned to the New York College of Physicians and Surgeons as Professor of Operative Surgery. He travelled in Europe from 1834 to 1841, and on his return became Professor of Surgery in the New York University Medical College. Mott was the great "ligator" of a day when the ligature of blood vessels constituted one of the most active branches of surgical work. Samuel D. Gross wrote in his memoir of Mott:

No surgeon, living or dead, ever tied so many vessels, or so successfully, for the cure of aneurism, the relief of injury, or the arrest of morbid growths. The catalogue, inclusive of the celebrated case of the innominate artery, comprizes eight examples of the subclavian artery, fifty-one of the primitive carotid, two of the external carotid, one of the common iliac, two of the internal iliac, six of the external iliac, fifty-seven of the femoral, and ten of the popliteal; in all one hundred and thirty-eight.

"one of the few great journals of the world, and the one from which one can almost write the progress of American medicine during the past century."

When we consider that the vast majority of Mott's cases were done before the demonstration of ether anesthesia in 1846, and all of them in pre-antiseptic days, this is a wonderful record. He ligated the innominate artery, two inches from the heart for aneurysm of the right subclavian artery in 1818. The patient died from a secondary hemorrhage twenty-eight days after the operation. In 1821 he removed the lower jaw for a malignant growth, and he also removed a lower jaw for necrosis. In 1828 he excised the right clavicle entirely for malignant disease. Two of Mott's sons, Valentine and Alexander, became physicians.

Ezekiel Dodge Cushing, of Massachusetts, was graduated from Harvard College in 1808. He began his medical studies with Dr. Nathan Smith, later attending lectures at the University of Pennsylvania, before going to London, where he was a dresser in St. Thomas's Hospital under Mr. Birch, at the same time attending the lectures of Abernethy and Sir Astley Cooper. Cushing walked the hospitals in Paris during the allied occupation of that city. He began practicing in Boston but soon moved to Hanover, N. H., where he died in 1828 at the early age of thirty-eight.

William Gibson (1788-1868), a native of Baltimore, began the study of medicine with Dr. John Owen of that city. He attended some courses at the University of Pennsylvania but did not try for a degree, going abroad instead and graduating M.D. from the University of Edinburgh in 1809. Gibson then went to London where he worked as a private pupil of Sir Charles Bell, and also attended the lectures of Abernethy and Sir Astley Cooper. Returning to Baltimore he began practice. In 1812 he was appointed Professor of Surgery in the University of Maryland. In 1819 he was elected Professor of Surgery in the University of Pennsylvania, succeeding Philip Syng Physick. Gibson wrote a very popular "Surgery" which went through many editions.

His "Rambles in Europe in 1839," published in 1841, contains most delightful though somewhat garrulous descriptions of his experiences in a journey which brought him in contact with the leading surgeons and physicians of England and Paris.¹

James Cooke (1780-1813), of Virginia, graduated from the University of Pennsylvania Medical School in 1804. He was a pupil of Sir Astley Cooper's at Guy's Hospital. Settling in Baltimore he became associated with Dr. John B. Davidge and was one of the founders of the College of Medicine of Maryland, in which he was Professor of Anatomy from 1807 to 1813. He was an able anatomist and surgeon and his early death was a great loss.

Walter Channing (1786-1876) was born at Newport, Rhode Island, but his professional career was passed in Boston. He received the degree of M.D. from the University of Pennsylvania in 1809, and then went abroad to continue his studies in London and Edinburgh. He was the first Professor of Obstetrics in the Harvard Medical School, the chair having joined to it that of Medical Jurisprudence. He was also on the staff of the Massachusetts General Hospital. He was a most distinguished obstetrician and one of the first and most enthusiastic advocates of the use of ether to alleviate the pains of childbirth.

Benjamin Winslow Dudley (1785-1870) of Kentucky graduated M.D. from the University of Pennsylvania in 1806, but most of his training in surgery was acquired during four years which he passed abroad studying under the best men in London and Paris. "Abernethy he regarded as the leading surgeon of Europe, and Sir Astley Cooper was his ideal operator." In 1815 he became Professor of Surgery and Anatomy in Transylvania University, and he retained the former chair

¹ The most interesting passages of the "Rambles" are reprinted in the *Ann. M. Hist.*, 7: June, 1925.

until 1850. He is said to have performed lithotomy on over 200 cases. He successfully ligated the common carotid artery for intracranial aneurysm, and the subclavian artery for axillary aneurysm. In 1818 he fought a duel with Dr. William H. Richardson. He wounded his opponent in the groin but saved his life by exerting his surgical skill. They became lifelong friends. The quarrel had arisen in a dispute between Daniel Drake and Dudley concerning an autopsy. Dudley challenged Drake, who declined to meet him. The challenge was taken up by Richardson, an intimate friend of Drake's.

John Kearny Rodgers (1793-1851), of New York, after graduating from Princeton College, got his medical education in 1816 from the College of Physicians and Surgeons of New York. After a term as house surgeon in the New York Hospital, Rodgers went to London where he became deeply interested in ophthalmology. Returning to New York he and Dr. Edward Delafield, with a few associates, opened the New York Eye Infirmary. Although devoting special attention to diseases of the eye, Rodgers was a bold and skilful general surgeon. In 1845 he ligated the left subclavian artery within the scalenus muscle for aneurysm. Unfortunately the patient died.

John Revere (1787-1847), of Boston, the youngest son of the famous Paul Revere, after graduating from Harvard College, began his medical studies under the distinguished James Jackson. To finish them he went to Edinburgh where he received his M.D. in 1811. Owing to the severity of the New England climate which he thought affected his health, Revere went to live in Richmond, Va., for a short time, and later to Baltimore. In 1831 he moved to Philadelphia, where he had been elected Professor of the Theory and Practice of Medicine in Jefferson Medical College. In 1841 he went to New York having accepted the same chair in the Uni-

versity of the City of New York. His writings were few and of ephemeral importance.

One of the most prominent New York surgeons of his day was Alexander Hodgdon Stevens (1789-1869). After graduating from Yale College, he got his medical degree at the University of Pennsylvania in 1811. He served as house surgeon in the New York Hospital for seven months and then sailed as a despatch bearer to Europe. The ship he was on was captured by a British cruiser and Stevens was put in prison at Plymouth, England. After his release he went to London and studied under Astley Cooper and Abernethy. Then he went to Paris where he served as hospital interne. When attempting to return to the United States he was again taken prisoner but not detained very long. When he did get back he served as a surgeon in the Army during the rest of the war. He became Professor of Surgery in the College of Physicians and Surgeons of New York and was one of the founders of the New York Academy of Medicine. Stevens translated Boyer's "Surgery," and edited an American edition of Astley Cooper's "Surgery." He wrote much for the medical journals.

Samuel Emlen (1789-1828), a native of Chester County, Penna., received his medical degree from the University of Pennsylvania in 1812. The same year he went to London where, in spite of the war between Great Britain and the United States, he pursued post-graduate work for over a year. He then studied in Paris and Holland before going back to the United States, and starting practice in Philadelphia. Emlen wrote some observations on the epidemic of yellow fever which occurred in that city in 1820. He was one of the physicians to the Pennsylvania Hospital, and physician to the Philadelphia Dispensary. From 1821 to 1823 he was one of the editors of the *Journal of Foreign Medical Science and Literature*.



FIG. 91. John K. Rodgers (1793-1851).



One of the best equipped of the early medical teachers in the South was John Wagner (1791-1841), a native of Charleston, S. C., who began the study of medicine under Wright Post in New York, after having graduated from Yale College in 1812. Shortly after Wagner began his medical studies, Post's health failed and he went abroad. Wagner decided to go to Europe for his further medical training. He encountered Post quite unexpectedly in Liverpool, and received from his former preceptor a letter of introduction to Sir Astley Cooper. The latter received young Wagner kindly and took him as a pupil. For three years he served as Cooper's dresser at Guy's Hospital. After receiving his diploma from the Royal College of Surgeons, Wagner went to Paris, where he studied under Dupuytren. Returning to the United States, Wagner finally settled in Charleston, S. C., where he acquired great fame and a large practice, as a bold and skilful surgeon. In 1829 he was elected to the chair of Pathological and Surgical Anatomy in the Medical College of the State of South Carolina, and three years later he was given the chair of Surgery.

George Hayward (1791-1863) became one of the best known surgeons of Boston. His father, Lemuel Hayward, had been a surgeon in the Revolutionary Army. He got his M.D. from the University of Pennsylvania in 1812, and then went to London, where he studied under Astley Cooper and Abernethy. He practiced in Boston all the rest of his life. In 1830 Hayward, John Collins Warren and Enoch Hale, organized a private medical school, which ran successfully for eight years. He published a translation of Bichat and Béc-lard's "Anatomie Générale," and contributed much to periodical medical literature. In 1835 he became Professor of the Principles of Surgery and Clinical Surgery at Harvard. He was visiting surgeon to the Massachusetts General Hospital, and in this capacity performed,

on October 17, 1846, the second operation under ether anesthesia at the Hospital, the day after John Collins Warren had performed the first. His operation was the removal of a lipoma from the shoulder. On November 7, 1846, he amputated a thigh at the Massachusetts General Hospital, the first major operation under ether.

One of the best known lithotomists of his time in the United States was Pitman Clemens Spencer (1793-1860), of Virginia. He began the study of medicine under his brother, Dr. Mace C. Spencer in 1810. During the War of 1812 he served as a surgeon's mate in the Army. In 1818 he received his degree of M.D. from the University of Pennsylvania. After practicing for some years in Nottoway Court House, Dr. Spencer went abroad in 1827 and studied in London and Paris. In the latter city he was especially interested in Dupuytren and his work, and he brought home with him the concealed lithotome which Dupuytren used when operating for vesical calculus. Dr. Spencer's skill and success brought him patients from distant parts. He is said to have always exercised scrupulous cleanliness, and to have used a solution of creosote in alcohol in his operations. The latter has, of course, distinct antiseptic properties, and was probably a large factor in his success.

Joseph Guérard Nancrede (1793-1857) was born in Boston. His father was a French officer in Rochambeau's army. Young Nancrede was sent to France for his education and began the study of medicine in Paris. Returning to the United States he graduated from the medical department of the University of Pennsylvania in 1813. After practicing for a time in Louisville, Ky., he settled in Philadelphia. Besides translating several French works on medicine, Nancrede contributed many articles to periodical medical literature.

Edward Reynolds (1793-1881), of Boston, graduated from Harvard College in 1811, and then studied medicine under John Collins Warren. He received an hon-

orary degree from both Brown University and Bowdoin College, in 1825. He had continued his medical education which was begun under Warren by going to London, where he had studied under Abernethy, Astley Cooper and William Lawrence, and then to Paris, where he worked under Dupuytren and Bichat. His work with Lawrence had interested him deeply in ophthalmology. In 1824 he associated with John Jeffries in establishing a dispensary in Boston, which later became the Massachusetts Charitable Eye and Ear Infirmary. He was one of the founders of the Tremont Street Medical School, and held the chair of surgery in it for some years.

George Frick (1793-1870), of Baltimore, graduated from the medical department of the University of Pennsylvania, in 1815. He spent several years in England and Europe studying especially ophthalmology, and in 1819 settled in Baltimore with the avowed object of practicing that speciality, the first to do so in the United States. He made many contributions to medical periodicals on that subject, and in 1823, published "A Treatise on Diseases of the Eye," the first book on ophthalmology written by an American. This book was so good that three years later it was republished in London, with no change in the text but with numerous footnotes, under the editorship of Richard Welbank, an English surgeon.

John Edwards Holbrook (1794-1871), a native of South Carolina, got his M.D. at the University of Pennsylvania in 1818. He spent two years at Edinburgh, where he was elected a member of the Royal Medical Society, and then two years in England and on the Continent. In Paris he spent some months in study under Cuvier at the Jardin des Plantes. In 1822 he settled in practice in Charleston, S. C. In 1824 he was one of the founders of the Medical College of South Carolina, and was its first Professor of Anatomy. Hol-

brook was a really great naturalist. He published a magnificent "American Herpetology," (1842), and the latter part of his life was devoted to a work of a similar character on "American Ichthyology," which was never completed though much of the material to be used in it was published.

Abel Lawrence Pierson (1794-1853), born in Maine, graduated from Harvard College in 1812, and then studied medicine with Dr. James Jackson, getting his degree from Harvard Medical School in 1816. He practiced in Salem, Mass., until 1832 when he went abroad and studied in Paris, working especially hard at the new practice of auscultation with Laennec's stethoscope. On his return to the United States, however, he devoted much of his time to surgery, being elected consulting surgeon to the Massachusetts General Hospital in 1839. He was present at the first public demonstration of the use of ether as a general anesthetic, at that hospital, October 16, 1846, and on November 14 of the same year he used ether to anesthetize a patient for an operation of his own. In the same month he did two other operations on patients under its influence. These cases, published in the *Boston Medical and Surgical Journal*, December 2, 1846, were the first reports of the use of the new anesthetic outside of the Massachusetts General Hospital.

Thomas W. Blatchford (1794-1866), a native of Devonshire, England, was brought to the United States when an infant. His father was a clergyman and became principal of Lansingburgh Academy, N. Y., in which town Thomas Blatchford began his medical studies under Dr. John Taylor. In 1813 he matriculated at the College of Physicians and Surgeons of New York. His studies were interrupted by a trip abroad as attendant on a lunatic. The man tried to kill him and Blatchford gave up his charge on reaching Liverpool. He went to London and attended the courses of Astley Cooper and

Cline. Coming back to New York he resumed his regular medical course and received his M.D. in 1817. A large part of his professional life was passed in Troy, N. Y. He was the chief factor in providing the insane asylum in connection with the Marshall Infirmiry in that city.

Jacob Randolph (1796-1848), of Philadelphia, graduated from the medical department of the University of Pennsylvania in 1817. He married Philip Syng Physick's daughter, and was elected one of the surgeons to the Pennsylvania Hospital in 1835. He went abroad for several years in 1840 and seized the opportunity to study the work done in the hospitals and clinics in Paris. In 1847 he was elected to the chair of Surgery in the University of Pennsylvania. He was particularly distinguished for his skill in the surgery of the bladder. He was the first man in Philadelphia to practice lithotomy after the method employed by Heurteloup. He published a number of reports of cases upon which he had operated.

William Darrach (1796-1865), of Philadelphia, began the study of medicine under Dr. Philip Syng Physick. He graduated from the medical department of the University of Pennsylvania in 1819, and then spent three years in post-graduate work in England and on the Continent under the leading teachers of the time. On his return he practiced in Philadelphia, where he was Professor of the Theory and Practice of Medicine in the Pennsylvania Medical College.

John Dix Fisher (1797-1850) received his medical degree from Harvard in 1825, and went abroad immediately to Paris, where he spent two years studying under Laennec, Andral and Velpeau. In 1829 he published an especially well illustrated work on smallpox, dedicated to James Jackson. He was a pioneer in the education of the blind in the United States, founding the Perkins Institute for the Blind in Boston, and serving as its physician. He was elected Acting Physician

to the Massachusetts General Hospital, and was present at the first public demonstration of the use of ether in that institution, on October 16, 1824.

George Macartney Bushe (1797-1836) a native of Ireland, came to the United States in 1828 on the invitation of the faculty of Rutgers Medical College to fill the chair of Anatomy in that institution. He was a brilliant teacher and writer. His most important book was a treatise on "Diseases of the Rectum and Anus." He founded and edited the *New York Medico-Chirurgical Bulletin*, in 1831. It only lived through two volumes although it was a high-class journal.

Samuel Annan (1797-1868) of Philadelphia, went abroad for his medical studies, getting his degree of M.D. at Edinburgh in 1820. When a student he was elected president of the Royal Medical (Physical) Society, an undergraduate organization. He was one of the founders of Washington Medical College in Baltimore, in 1827, and Professor of Anatomy and Surgery in it until 1834. He was Professor of Obstetrics and Diseases of Women and Children in Transylvania University in 1846-47, and was transferred to the chair of Practice of Medicine in 1848. In 1854 he became superintendent of the Western Lunatic Asylum at Hopkinsville, Ky. He served as a surgeon in the Confederate Army.

Robley Dunglison (1798-1869) was born at Keswick in the English Lake Country. He graduated from the Royal College of Surgeons of London in 1819, and obtained a medical degree at Erlangen in 1823. In 1824 Thomas Jefferson invited him to come out to the United States and occupy the chair of Anatomy, Physiology, Materia Medica and Pharmacy in the University of Virginia. Dunglison accepted and remained there for nine years, then going to the University of Maryland as Professor of Materia Medica and Medical Jurisprudence, which position he held for a few years, until he went to Philadelphia as Professor of the Institutes of



FIG. 92. Robley Dunglison (1798-1869).

Medicine in Jefferson Medical College. He was the author of several important books. His "Human Physiology" (1832) and "Medical Dictionary" (1833), went through many editions. He wrote an excellent little "History of Medicine." Besides these works he published a number of others which are less well-known, and edited a number of works.

In his short life, John Doane Wells (1799-1830), of Boston, acquired a well-deserved reputation as a teacher of anatomy. After graduating from Harvard College he received his medical degree from Harvard Medical College in 1820, and the following year became prosector for Nathan Smith, and in 1821 was given the chair of Anatomy and Surgery in Bowdoin College. He went abroad and studied in London, Edinburgh and Paris, to prepare himself for his work. In 1826 he was elected to the same chair in the Berkshire Medical Institution, Pittsfield, Mass. He was able to hold the two chairs simultaneously, the courses being given at different seasons in the year. He also taught in the University of Maryland. The confinement and labor necessary to the task of teaching anatomy in the three schools proved too much for Wells. He developed tuberculosis and died when but thirty-one years old.

Caspar Wistar Pennock (1799-1867), of Philadelphia, after graduating from the University of Pennsylvania, studied medicine in the Medical Department of the same institution, receiving his degree in 1828. He was a resident physician in the Philadelphia Hospital (Blockley). In 1830 he went to Paris and joined the group of young Americans studying there under Louis. Returning to Philadelphia he became one of the physicians to the Philadelphia Hospital, and in association with Gerhard made a careful study of the fever cases in the hospital, which resulted in Gerhard's epochal work. They had before written in collaboration a series of "Observations on Cholera," as they had seen it in

Paris. Pennock translated Bouillaud's work on the diseases of the heart.

Winslow Lewis (1799-1875), born at Granville, Mass., after graduating from Harvard College, received his medical degree from Harvard Medical School in 1822. He then went abroad and studied under Dupuytren in Paris, and Abernethy in London. He was at one time consulting surgeon to the Massachusetts General Hospital, and is said to have trained in the course of his professional career some four hundred private pupils. He translated Gall's work on the brain. Lewis was an important expert witness in the trial of J. W. Webster for the murder of Dr. Parkman in 1849.

James Martin Staughton (1800-1833) was born in New Jersey. He got his degree of M.D. from the University of Pennsylvania in 1821, and for a time held the chair of Chemistry in Columbia College, Washington, D. C. When preparations were being made to establish a medical school at the college, young Staughton sought the position of professor of surgery and went to Europe for two years study to qualify himself. On his return he received the chair for which he had worked so hard. In 1831 he was appointed Professor of Surgery in the Medical College of Ohio. He only occupied it two years as he died of cholera during the course of the epidemic which scourged Cincinnati in 1833.

Though of the same stock as George Washington, James Augustus Washington (1803-1847) never claimed any relationship with the Father of his Country. He was born in North Carolina. After getting his medical degree from the University of Pennsylvania in 1826, he went to Paris where he passed several years in study. On his return to the United States Dr. Washington practiced in New York. To him has been ascribed the credit of introducing hypodermic medication into the United States. In 1839 he injected morphine under the skin with an Anel syringe. Wood, of Edinburgh,

invented the hypodermic syringe about four years later.

Henry Daggett Bulkley (1804-1892), was born at New Haven, Conn. He graduated from the Yale Medical School in 1830, and spent the next year in European study, chiefly in Paris. In 1833 he began practicing in New York where he received the appointment of surgeon to the department for diseases of the skin in the New York Dispensary. In 1837 he founded the Broome Street Dispensary for Diseases of the Skin, where he began giving the first systematic course of lectures on dermatology, given in this country. He may be regarded as the pioneer United States dermatologist.

Gilman Kimball (1804-1892), born in New Hampshire, got his M.D. at Dartmouth in 1827. After practicing for two years in Chicopee, Mass., he determined to go abroad and study. He spent a year working at Paris, especially under Dupuytren and Bérard. Returning to the United States he practiced the rest of his life in Lowell, Mass. He was Professor of Surgery at Woodstock, Vt., Medical School, and at another time in the Berkshire Medical Institution. During the Civil War he was first a brigade surgeon, and later a medical director, in the Federal Army. Kimball was an early ovariologist, performing the operation in 1855.

Elisha Bartlett (1804-1855), of Rhode Island, graduated from the medical department of Brown University in 1826, and went to France to continue his studies. In 1831 he published "Sketches of the Character and Writings of Eminent Living Surgeons and Physicians of Paris," translated from the French of J. L. H. Peisse. Osler said of this little book, "there is no work in English from which one can get a better insight into the history of medicine in Paris in the early part of this century." Bartlett practiced most of his life in Lowell, Mass., but he held professional chairs at various times in the Berkshire Medical Institute, Dartmouth College,

Transylvania University, University of Maryland, Vermont Medical College, the College of Physicians and Surgeons of New York. Besides these numerous teaching activities Bartlett was a prolific writer. Osler¹ singles out for special distinction his work on "Fevers," first published in 1846, which went through four editions, which he considers "one of the most notable of contributions of American physicians to the subject": and his "Essay on the Philosophy of Medicine," which he terms "a classic in American medical literature." Osler also mentions his "Discourse on the Times, Character and Writings of Hippocrates" as worthy of the pen of Walter Savage Landor.

Josiah Clark Nott (1804-1873) was a native of South Carolina. He graduated from the medical department of the University of Pennsylvania in 1827. After serving as resident physician in the Philadelphia Hospital (Blockley), Nott worked as a demonstrator of anatomy under Physick and Horner for a short time, and then practiced in Columbia, S. C. In 1835 he went abroad and studied in European hospitals. In the latter part of 1836 he settled in practice in Mobile, Ala. In 1857 he served for one session as Professor of Anatomy in the University of Louisiana. In the following year he started a medical school in Mobile which was abandoned because of the Civil War. During the latter he moved to New York where he attained an eminent position as a gynecologist. Skene attributes to Nott the credit of first describing the condition of coccyxodynia in an article in the *North American Medical Journal* for May, 1844. His communication aroused practically no interest, and the condition was not generally known until described and named by Sir James Y. Simpson in 1861. In 1844 Nott published an article entitled "Extirpation of Os Coccyx for Neuralgia," in the *New Orleans Medi-*

¹ Elisha Bartlett, a Rhode Island Philosopher, in *An Alabama Student and Other Biographical Essays*.

cal and Surgical Journal. In March, 1848, in a paper in the *New Orleans Medical and Surgical Journal*, Nott stated the hypothesis that yellow fever was due to insects or animalculae, stating that, "It is probable that yellow fever is caused by an insect, or animacule bred on the ground." Unfortunately this may be regarded as one of those "guesses at the truth," which have so often preceded great discoveries. Nott seems never to have taken any steps to actually try out his theory.

Alexander Eddy Hosack (1805-1871), of New York, son of Dr. David Hosack, received his M.D. from the University of Pennsylvania in 1824. He then spent three years in Paris, working especially under Dupuytren. He was a bold and dexterous surgeon, and was the first surgeon in New York to use ether as a general anesthetic.

Ashbel Smith (1805-1886) was born in Hartford, Conn. He graduated from the Yale Medical School, and then went abroad for study in Paris. On his return he practiced in North Carolina for a while, but in 1836 moved to Texas, just declared a republic. Smith settled in Galveston. When Sam Houston was president of the republic in 1841, he appointed Smith minister to both England and France. In 1845 he was appointed Secretary of State of Texas. When Texas was taken into the United States, Smith retired into private life. He never resumed practice but became a farmer, and a member of the legislature. He served in the Confederate Army throughout the Civil War. He wrote some interesting "Reminiscences of the Texas Republic."

Charles Thomas Jackson (1805-1880), one of the saddest figures in the ether controversy, was a native of Massachusetts. After getting his medical degree at Harvard in 1829, he went abroad, where he spent three years, partly on walking tours, and partly studying medicine in Vienna. As a result of the latter he published an article on "Cholera in Vienna," in the *Medical Magazine*, Boston, October, 1832. On the ship on which

he returned to the United States in 1832, Jackson had as a fellow passenger Samuel F. B. Morse, and when Morse patented his telegraph in 1840, Jackson put out the claim that he had suggested to Morse its essential features. As in his later claim in regard to ether his assertions never got him very far. Jackson only practiced a few years in Boston, and then devoted all his energies to geology and chemistry. Some years previous to Morton's demonstration of the anesthetic property of ether, Jackson had deliberately rendered himself unconscious by inhaling ether, and after Morton's demonstration was made Jackson asserted that Morton knew about his experiments and had stolen his thunder. In 1861 Jackson published a book, "A Manual of Etherization with a History of the Discovery," which embodies his claims. Jackson was supported by many persons and received a number of decorations from foreign potentates for his supposed benefaction to mankind. In 1873 he went insane and remained so until his death. If he had confined his attention to the field of geology, in which he excelled, he would have been a happier man. To that science he made many notable contributions and his claims to distinction were undisputed.

Gunning S. Bedford (1806-1870), born in Baltimore, Md., graduated from Rutgers Medical College in 1829, and then studied in European hospitals for two years. Returning to the United States in 1833 he was appointed to a chair in Charleston Medical College, but shortly after accepted one in the Albany Medical College, N. Y. From 1841 to 1864 he was Professor of Obstetrics and Diseases of Women in the University Medical College in New York, of which he was one of the founders.

John Y. Bassett (1805-1851), of Huntsville, Ala., was a graduate of Washington Medical College. Osler¹ has written a most delightful account of Bassett to which

¹ An Alabama Student.

we owe our information concerning him. In 1836 he went abroad, to England and Scotland, and then to France. He studied under Velpeau and was appointed by him externe at La Charité. On his return to America he practiced at Huntsville until he developed tuberculosis and went to Florida in an effort to regain his health. Osler admired two papers of Bassett's which he contributed to Fenner's "Southern Medical Reports," which he says "are charmingly written and display in every page the wise physician."

One of the most outstanding figures in the medical history of the Pacific Coast was Hugh Hughes Toland (1806-1880), a native of South Carolina. He got his medical degree from Transylvania University in 1827. After practicing for some years in the small town of Pageville, S. C., Toland determined to go to Europe to study surgery. He went to Paris in 1833 and remained in Paris two years and a half working hard in his chosen line. He returned to the United States and practiced until 1852 in South Carolina. In that year he got the gold fever and went to San Francisco expecting to make his fortune as a miner. In this he failed, but he acquired a very large practice, especially in surgery, and made an enormous income. He founded the *Pacific Medical Journal*, which later became the *Western Lancet*. In 1866 he organized the Toland Medical College, the second medical college in California, the first, Cooper Medical College, having been founded by Elias Samuel Cooper in 1858.

John Barnard Swett Jackson (1806-1879), of Boston, was a nephew of the famous James Jackson, and a first cousin of James Jackson, Jr. the brilliant young man who "perished in his prime." After graduating from Harvard College in 1825, Jackson began his medical studies. In 1829, he went abroad, first studying in Paris, especially under the surgeons Dupuytren, Roux and Lisfranc. He then went to Edinburgh, where he worked

under Syme, and thence to London, where he turned himself to internal medicine and pathology, which he pursued with Bright, Addison and Hodgkin. Returning to Boston in 1831 he began his life work in pathology. From 1847 to 1854 he was Professor of Pathologic Anatomy, and from 1854 to 1878 Shattuck Professor of Morbid Anatomy, at Harvard. He was a good naturalist and one of the first men in this country to study the pathology of the lower animals.

Paul Fitzsimmons Eve (1806-1877) was born near Augusta, Ga. He received his M.D. from the University of Pennsylvania in 1828, and, after a short interval, went abroad to study in Europe. In 1831 he served as surgeon with the Polish army in Warsaw, returning to the United States in November of that year. In 1832 he became Professor of Surgery in the Medical College of Georgia. Later he served successively in that chair in the University of Louisville, the University of Nashville, and the Missouri Medical College at St. Louis. In 1870 he returned to Nashville as Professor of Operative and Clinical Surgery in the University of Nashville. In spite of the fact that from an early age he was shortsighted and color blind Eve was a remarkably bold and skilful operator. He was a frequent contributor to current medical literature. In 1857 he published his "Remarkable Cases in Surgery," a book which is still consulted.

Louis Alexander Dugas (1806-1884), a native of Georgia, received his medical degree from the University of Maryland in 1827. He studied four years in Europe before settling in practice at Augusta, Georgia. In 1832 he became Professor of Surgery in the University of Georgia, of which he was one of the founders. For many years he edited the *Southern Medical and Surgical Journal*. He was a frequent contributor to current medical literature and a skilful and original surgeon.

Alonzo Clark (1807-1887), a native of Vermont, got his M.D. from the College of Physicians and Surgeons of New York in 1835. He went abroad and studied in London and Paris, devoting himself especially to microscopy. In his long life he held various teaching positions in different institutions. He was Professor of *Materia Medica* in the Berkshire Medical Institution (1843-1854); Professor of the Theory and Practice of Medicine at Woodstock, Vt., for thirteen years; Professor of Physiology and Pathology in the College of Physicians and Surgeons of New York (1848-1855), until he was transferred to the chair of practice of medicine which he held until 1885. He was also physician to Bellevue Hospital. He was a popular teacher and an able physician who exerted a great influence in his time.

Henry Augustus Dubois (1808-1884), of New York, got his medical degree at the New York College of Physicians and Surgeons in 1830, and after serving as house surgeon at the New York Hospital went to Paris for post-graduate work in 1831. There he became much interested in the movement for Polish independence. He was a member of a committee for this purpose which used to meet at the home of General Lafayette. When the latter died he attended his funeral. In 1834 Dubois returned to New York and started to practice. He was physician to the New York Dispensary but soon withdrew from practice to enter the realm of finance.

William Selden (1808-1887), of Norfolk, Va., graduated from the medical department of the University of Pennsylvania in 1830, and then pursued post-graduate work for two years in London and Paris. He then returned to Norfolk where he practiced until his death. Norfolk was visited by a terrible outbreak of yellow fever in 1855, and Selden won great esteem for the courage with which he remained in the city and worked among the stricken. He was chairman of the committee

which drew up the official report of the epidemic. He served as a surgeon in the Confederate Army throughout the Civil War.

Thomas Hun (1808-1896), of Albany, N. Y., graduated from the medical department of the University of Pennsylvania in 1830. During the cholera epidemic of 1832 he was physician to the cholera hospital in Albany. From 1833 to 1839 he studied in Europe, most of the time in Paris. Returning to the United States in 1839 he was appointed Professor of the Institutes of Medicine in Albany Medical College. He was one of the founders of the Albany Hospital. Dr. Hun was a frequent contributor to periodical medical literature.

George Cogswell (1808-1901), a native of New Hampshire, received his M.D. from Dartmouth in 1830. He settled in practice in Bradford, Mass., but in 1841 he did the then unusual thing for a man already settled in practice, of going abroad to study the new methods of procedure in medicine. After a period of study in Paris he returned and resumed his practice. He had a well-equipped anatomical laboratory in his house. He soon acquired a large practice. In 1851 because of ill-health he gave up his general practice, confining himself to surgical work and consultations. In these lines he was eminently successful.

Gurdon Buck (1807-1877), of New York, after graduating in 1830 from the College of Physicians and Surgeons of New York, spent between two and three years in study at Paris, Berlin and Vienna. Returning to New York he became one of that city's leading surgeons, working at St. Luke's, the Presbyterian and the New York Hospitals. His name is commemorated in the apparatus he devised for the treatment of fractures of the femur, known as Buck's extension, which dispensed with the long splints heretofore in vogue, replacing them by making extension by a weight and pulley, and counterextension by a perineal strap lengthened out

so that it could be attached to the head of the bed. Henry Ingersoll Bowditch (1808-1892), was born in Salem but passed most of his life in Boston. His career is described elsewhere in this book. After receiving his M.D. from Harvard in 1832 he went to Paris where he became a favored student of Louis, working under him for two years, especially in the study of diseases of the chest. He went to London for a short time but returned to Boston in 1834. Soon afterwards he published a valuable little book entitled "The Young Stethoscopist" which did much to popularize Laennec's work in the United States. He was one of the founders of the Boston Society of Medical Observation, which later became the Boston Society for Medical Improvement, and which was also the origin of the Boston Medical Library Association, the latter being started at a meeting in Dr. Bowditch's office in 1874. His work in thoracentesis is referred to elsewhere, and he was one of the foremost students of phthisis pulmonalis. He was Jackson Professor of Clinical Medicine at Harvard from 1859 to 1867. At the International Medical Congress held in Philadelphia in 1876, Bowditch read a paper on "State Medicine and Public Hygiene in America" which was a scathing arraignment of the lack of attention to the public health by the governmental agencies in this country. It did much to provoke interest not only in the profession but among the laity and undoubtedly helped forward very greatly the cause of public hygiene in the United States.

George Washington Norris (1808-1875), of Philadelphia, graduated from the medical department of the University of Pennsylvania in 1830. After serving as a resident physician in the Pennsylvania Hospital, he went abroad and studied under Dupuytren, Velpeau, Roux and Magendie. Returning to Philadelphia he settled in practice. He was Professor of Clinical Surgery in the University of Pennsylvania from 1848 to 1857,

and was also surgeon to the Pennsylvania Hospital. He wrote a number of valuable papers on surgical subjects, and a most delightful little work, "Medicine and Early Medical Men of Philadelphia," which was privately printed by his son, Dr. William Fisher Norris, after his father's death.

Minturn Post (1808-1869), of New York, graduated from the medical department of the University of Pennsylvania in 1832. He had begun the study of medicine under Valentine Mott. After his graduation he went to Paris and worked under Louis and Broussais for two years. On his return to America he became deeply interested in life insurance, and in sanitation and the problems of public health.

Augustus Sidney Doane (1808-1852) was born in Boston. He graduated from the Harvard Medical School in 1828. After pursuing post-graduate work for two years in Paris, he practiced in New York. In 1839 he was appointed Professor of Physiology in the Medical School of the University of New York, but resigned the position very shortly. He translated a number of French medical works.

Oliver Wendell Holmes (1809-1894), whose career is considered at length elsewhere, spent three years in study chiefly in Edinburgh and Paris.

Pliny Earle (1809-1892), born in Leicester, Mass., was one of the best known alienists of his time. He graduated from the medical department of the University of Pennsylvania in 1837, and then spent some years studying in Europe. He began his career as an alienist by serving as resident physician in the Friends' Asylum, Frankford, Penna. In 1844 he was elected superintendent of Bloomingdale Hospital, N. Y. After serving five years in that capacity he resigned and went to Europe for another period of study of the methods employed there in the treatment of the insane. In 1864 he became superintendent of the Northampton

Lunatic Hospital, which position he held for twenty-two years. He wrote much on his speciality and also dabbled in poetry and general literature.

In the days when the microscope was but little used as an aid to diagnosis William Wood (1810-1899), of Maine, is said by his biographer, James A. Spalding, to have employed it continuously. Wood graduated from the Medical School of Maine in 1833, and went abroad to study for three years, most of the time in Paris. Spalding says that he acquired a great reputation and a large practice, and made frequent communications to the Maine Medical Society. Unfortunately as the Society did not print any proceedings, there is no trace left of Wood's work.

James Bryan (1810-1881) was a native of Wales who came to this country in 1818. He commenced life as a hatter's apprentice but saved enough money to begin the study of medicine with Joseph Parrish, of Philadelphia. He got his M.D. from the University of Pennsylvania in 1834. In 1838 the managers of the Preston Retreat, a lying-in hospital in Philadelphia, sent him abroad for fourteen months to study similar institutions in other countries. In 1840 he was elected Professor of Surgery and Medical Jurisprudence in the Medical College of Vermont, at Castleton. For some time he lectured on surgery at Geneva Medical College, N. Y. From 1846 to 1856 he was Professor of Surgery in the Philadelphia College of Medicine. In 1859 and 1860 he held the chair of Anatomy in New York Medical College. He served as a surgeon in the Federal Army during the Civil War.

William Pepper (1810-1864), of Philadelphia, after graduating from Princeton, graduated from the medical department of the University of Pennsylvania in 1832. He then went abroad and studied in Paris for two years. On his return he settled in practice in Philadelphia and was eminently successful. He was physician

to the Pennsylvania Hospital and to the Wills Eye Hospital. In 1860 he succeeded George B. Wood as Professor of the Theory and Practice of Medicine in the University of Pennsylvania. He contributed many valuable papers to current medical literature. Two of his sons became eminent in medicine, George, as an obstetrician, and William, who held the chair of the Theory and Practice of Medicine in the University of Pennsylvania, and was also provost of that institution.

The third generation of the Warrens of Boston to distinguish itself in medicine was represented by Jonathan Mason Warren (1811-1867), who after getting his medical degree from Harvard in 1832, went to London, Edinburgh and Paris to complete his studies. In London he saw the work of Astley Cooper and Charles Bell; In Edinburgh, of Syme and Liston, but most of his time was passed in Paris working under Louis, with Jackson, Bowditch, and Holmes from Boston, and Gerhard and Pepper, from Philadelphia. He also studied under Dupuytren, Lisfranc and Roux. The latter's work in cleft palate particularly interested him, and on his return to the United States he became especially known for his skill in operating on that condition. He was one of the visiting surgeons to the Massachusetts General Hospital and as such assisted his father at the first operation publicly performed under ether as an anesthetic, October 16, 1846. Warren devised the ether cone which became so generally used for its administration.

Thomas Dent Mütter (1811-1859) was born in Richmond, Va. He graduated from the medical department of the University of Pennsylvania in 1831. Going over to Europe as a ships surgeon he did some post-graduate study before his return to Philadelphia, where he settled in practice. In 1841 he became Professor of Surgery in Jefferson Medical College. He was a brilliant lecturer and successful operator, especially for

cleft palate and clubfoot. Upon the latter subject he published a monograph. He also edited Liston's "Operative Surgery."

William Patrick Johnston (1811-1876), born in Savannah, Ga., graduated from the medical department of the University of Pennsylvania in 1836. After serving as a resident physician at the Philadelphia Hospital (Blockley) Johnston went to Paris for post-graduate work in 1840. On his return to the United States he settled in Washington, D.C. His most conspicuous professional position was the chair of Obstetrics in National Medical College.

The pioneer in establishing the clinical teaching of gynecology in the United States was Isaac Ebenezer Taylor (1812-1889), who was born in Philadelphia but passed his professional life in New York. He graduated from the medical department of the University of Pennsylvania in 1834, and started practicing in New York. In 1840 he went to Paris and Dublin to study gynecology and obstetrics. When he came back he organized classes in gynecology in several New York dispensaries with which he was connected. He was physician to Bellevue Hospital and was the most prominent instigator in getting a charter in 1861 for Bellevue Medical College. He was a copious contributor to current medical literature.

Frederick John May (1812-1891), of Washington, D. C., received his M.D. from Columbia College, Washington. He went abroad and studied for a year in London and Paris. In 1839 he became Professor of Anatomy and Physiology in his alma mater. In 1841 he resigned this position to take the chair of Surgery, which he held until 1858. For two years he was also Professor of Surgery in the University of Maryland. In 1858 he went to Nashville, Tenn., as Professor of Surgery in Shelby College. After the Civil War he went to New York but spent most of the latter years of his life in Washington.

One of the last survivors of the zealous group of young Americans who studied in Paris in the heyday of the French school was Alfred Stillé (1813-1900), of Philadelphia. After graduating in arts from Yale, Stillé got his M.D. from the University of Pennsylvania in 1836. He then became resident physician in the Philadelphia Hospital (Blockley) under W. W. Gerhard and Pennock. During his term the hospital was crowded with cases of typhus due to the epidemic then prevailing in the city. It was these cases which gave Gerhard the material for his classic papers, published in *The American Journal of the Medical Sciences*, in which he clearly described the differentiation between typhus and typhoid fever. Influenced by Gerhard and Pennock young Stillé went to Europe where he studied several years, chiefly in Paris. Returning he practiced in Philadelphia until his retirement a few years before his death. He was Professor of Medicine in the University of Pennsylvania, and served in 1885 as president of the College of Physicians of Philadelphia. He wrote what Osler terms two important monographs, one on "Cerebrospinal Meningitis," the other on "Cholera." He wrote a large "Materia Medica and Therapeutics," and was an editor of the "National Dispensatory."

George Cheyne Shattuck (1813-1893), of Boston, graduated from Harvard College in 1831, and from Harvard Medical School in 1835. He then went to Paris where he was one of the group of young Americans then studying under Louis and the other great French teachers, who were later to throw so much credit on their preceptors. From 1853 to 1859 he was Professor of Clinical Medicine, and from 1859 to 1873 Professor of the Theory and Practice of Medicine in Harvard. He served as visiting physician to the Massachusetts General Hospital for thirty-six years. Two of his sons became distinguished physicians.

William Power (1813-1852), of Baltimore, after graduating from Yale, studied medicine and received his degree of M.D. from the University of Maryland in 1835. Going abroad he spent three years in Paris, studying under Louis, Chomel, and the other great men who so greatly influenced their American students at that time. Returning to Baltimore he delivered lectures on the new methods for studying diseases of the chest. Unfortunately Power developed tuberculosis and had to retire from his work after but two courses of lectures. He went away in an effort to recover his health. In 1845 he returned to Baltimore and resumed his lectures. The following year he was elected Professor of the Theory and Practice of Medicine in the University of Maryland. He was obliged to give up work again, and resign his position in January, 1852. He died the following August. Cordell accords him high praise as the first in Baltimore to teach "clearly and impressively the glorious discoveries of Laennec."

Samuel Lewis (1813-1890) was born of English parents living in the Barbados. In early youth he came to Philadelphia. He went to Edinburgh for his medical education, receiving his M.D. there in 1840. While in Edinburgh he was one of Syme's dressers. Returning to Philadelphia he began practice, but his chief interest was in rare books, a taste which his ample means allowed him to gratify. He was the first medical bibliographer of real note in the United States. The College of Physicians of Philadelphia, of which he was president in 1884, received from him more than 10,000 books, the most important portion of it being an unusually valuable section on the *Regimen Sanitatis Salernitanum*.

Edmund Randolph Peaslee (1814-1878), a native of New Hampshire, after graduating from Dartmouth, began the study of medicine in Dartmouth Medical College, but took his medical degree at Yale in 1840. He then went to Europe for post-graduate study. In

1841 he was appointed to the chair of Anatomy and Physiology at Dartmouth, which he held until his death. In 1843 he was appointed Lecturer on Anatomy at Bowdoin, and later Professor. These positions were so arranged that they could be held simultaneously. Peaslee taught at Bowdoin for fifteen years. In 1851 he was also given the appointment of Professor of Anatomy and Physiology in the New York Medical College, being transferred two years later to the chair of Physiology and General Pathology, and later to the chair of Obstetrics and Diseases of Women, which he held until the college went out of existence in 1860. Dr. Peaslee had moved to New York in 1858 where he acquired a very large practice in Surgery and Gynecology. In 1874 he was elected Professor of Gynecology in Bellevue Hospital Medical College. Besides numerous contributions to periodical medical literature Dr. Peaslee wrote two notable books, a treatise on histology based on the work of Robin and Verneil, and a book on ovarian tumors, with special reference to ovariectomy. He was a bold and successful ovariectomist and a pioneer in abdominal surgery.

There is a glamor of romance with a tinge of the mercenary attached to the name of Ferdinand Campbell Stewart (1815-1899), who was born in Virginia, where his father Ferdinand Stewart Campbell was professor of mathematics in William and Mary College. The father changed his surname from Campbell to Stewart in 1830 when he inherited a Scotch estate belonging to the Stewarts of Ascoy. He also became a British subject. Ferdinand studied at William and Mary College but went to Scotland with his parents in 1829. Returning to the United States he graduated from the medical department of the University of Pennsylvania in 1837. He then went abroad again and continued his medical studies in Edinburgh and Paris until 1843, when he came back to practice in New York. He was physician

to Bellevue Hospital and one of the founders of the New York Academy of Medicine. He retired from practice because of ill-health in 1849.

A well-known teacher and physician was David Hunter Tucker (1815-1871) of Virginia. After getting his degree from the medical department of the University of Pennsylvania in 1837, he spent two years in post-graduate study in Paris. Returning to the United States he practiced in Philadelphia for some years. While there he was one of the founders of the short-lived Franklin Medical College. He then moved to Richmond, Va., where he was elected to the chair of medicine in the Medical College of Richmond. Tucker's wife was a daughter of Vice-President George M. Dallas.

Joseph Sargent (1815-1888), a native of Massachusetts, graduated from Harvard College in 1834. In 1837 he got his M.D. from Harvard Medical School. After serving a term as house physician in the Massachusetts General Hospital, Sargent studied for two years in Paris. He then settled in practice in Worcester, where he took an active part in medical and public affairs, especially the City Hospital, and the Memorial Hospital.

John Barclay Biddle (1815-1879), of Philadelphia, graduated from the medical department of the University of Pennsylvania in 1836. He had been a private pupil of Nathaniel Chapman. He went abroad to study in Paris. In 1838 he and Meredith Clymer began the publication of *The Medical Examiner*, which merged with the *North American Medico-Chirurgical Review* in 1844. In 1846 Biddle, Joseph Leidy, and a few other young men tried to found a medical school, the Franklin Medical College. The attempt proved abortive. He was Professor of Materia Medica in the Pennsylvania Medical College for some years. In 1865 he was elected Professor of Materia Medica and Therapeutics in

Jefferson Medical College, a position which he held until his death.

One of the best known obstetricians of his time in the West was Dr. John Humphreys Tate (1815-1892), a native of West Virginia, but who passed most of his life in Cincinnati. He received his medical degree from the Medical College of Ohio in 1840, and after practicing several years went abroad for further study. He passed most of two years in Paris. After occupying the chair of Physiology, Hygiene and Medical Jurisprudence from 1856 to 1858 in the Ohio Medical College, Tate resigned to become Professor of Obstetrics and Diseases of Women in the Cincinnati Medical College. He did a very good deed for the medical profession of Cincinnati when he succeeded in having all students' fees for courses in the Cincinnati Hospital turned over to form a fund for the establishment and maintenance of a medical library. This was the origin of the Cincinnati Medical Library.

Cornelius George Comegys (1816-1896), of Delaware, graduated from the medical department of the University of Pennsylvania in 1848. In 1851 he went abroad and passed a year in the clinics of London and Paris, especially under Charcot. He was a professor in Miami Medical College and in the Medical College of Ohio, and a copious contributor to periodic medical literature.

John Murray Carnochan (1817-1887), a native of Savannah, Georgia, passed most of his professional career in New York. He received the degree of M.D. from the College of Physicians and Surgeons of New York in 1836. He then studied for several years in Paris. He was Professor of Surgery in the New York Medical College, from 1851 to 1863. Dr. Carnochan was a wonderful operator. In 1851 he removed the entire lower jaw for necrosis following typhoid fever. In the same year he ligated the femoral artery for the cure of elephantiasis Arabum. In 1856 he excised the superior

maxillary nerve and Meckel's ganglion for facial neuralgia.

Meredith Clymer (1817-1902), whose parents were Philadelphians, graduated from the medical department of the University of Pennsylvania in 1837. From 1839 to 1841 he studied in London, Paris and Dublin. He began practice in Philadelphia, was Professor of the Practice of Medicine in the short-lived Franklin Medical College (1847-1852), then at the Hampton-Sidney College, Va. In 1851 he was elected Professor of the Practice of Medicine in the University of the City of New York. From 1871 to 1874 he was Professor of Nervous and Mental Diseases in Albany Medical College. He wrote much, especially on neurological subjects.

Henry Jacob Bigelow (1818-1890) was the son of Dr. Jacob Bigelow, of Boston, the first professor of *Materia Medica* at Harvard. After graduating from Harvard College in 1837, he began the study of medicine, but as he was supposed to be developing phthisis he was sent to Cuba and then to France. At Paris he continued his medical studies, returning to Boston and receiving his M.D. degree from Harvard in 1841. Bigelow brought back from Paris a vivid interest in pathology and microscopy. He was a pioneer American microscopist, but his greatest work was in surgical pathology. He was Professor of Surgery at Harvard from 1849 to 1882, and for many years was surgeon to the Massachusetts General Hospital. He was present at Morton's ether demonstration on October 16, 1846, and adopted its use most enthusiastically. In 1852 he performed the first excision of the hip-joint performed in the United States. In 1861 he demonstrated the accessory Y-ligament of the hip-joint and in 1869 published his classic work on the "Mechanism of Dislocations and Fractures of the Hip." He was an advocate of litholopaxy, which he practiced with great success. Bigelow was an aggres-

sive man of strong views. He was bitterly opposed to co-education and vivisection.

In 1844 when the speciality of orthopedics was in its infancy, Buckminster Brown (1819-1891), of Boston, after graduating from the Harvard Medical School, went abroad to study orthopedics under Little in London, Guérin and Bouvier in France, and Stromeyer in Germany. His father, John Ball Brown (1784-1862) is justly regarded as the pioneer American orthopedist, having been the first surgeon in the United States to devote himself almost entirely to the speciality. Among other achievements he introduced subcutaneous tenotomy in America. Buckminster Brown carried on his father's work. At his death he endowed the first chair of orthopedic surgery in the United States at the Harvard Medical School.

Henry Massie Bullitt (1817-1880) received his degree of M.D. at the University of Pennsylvania in 1838. He studied abroad in 1845 but just where is not stated. He held a chair in the St. Louis Medical College from 1846 to 1848, and in the following year was elected Professor of Materia Medica in Transylvania University. In 1850 he organized the Kentucky School of Medicine and in 1868 the Louisville Medical College.

Edward Hartshorne (1818-1885), of Philadelphia, was the son of Dr. Joseph Hartshorne. He graduated from the medical department of the University of Pennsylvania in 1840, having been a private student of W. W. Gerhard. After serving as resident physician at the Pennsylvania Hospital Hartshorne went abroad and pursued post-graduate work in England and on the Continent. Returning to Philadelphia he became surgeon to the Pennsylvania and the Wills Eye Hospitals. He contributed much to the medical journals, and edited the American edition of Taylor's "Medical Jurisprudence."

Jean Charles Faget (1818-1884), of New Orleans, studied medicine in Paris, receiving his M.D. in 1844.

He returned to New Orleans and practiced there until his death. A violent controversy raged in New Orleans as to whether yellow fever, at that time endemic in the city, was infectious or contagious. Faget was a strong upholder of the former view. He contended that many of the cases diagnosed as yellow fever were really a pernicious form of malaria and would yield to massive doses of quinine. In 1859 he announced that yellow fever could be positively diagnosed by the fact that after the first twenty-four hours while the temperature rose the pulse became slow. For his work on yellow fever he was made a chevalier of the Legion of Honor by the French government.

John Forsyth Meigs (1818-1882), of Philadelphia, was the son of John Delucena Meigs, and father of Arthur V. Meigs, both of whom also achieved distinction as physicians. He graduated from the medical department of the University of Pennsylvania in 1838, and after serving as resident physician in the Pennsylvania Hospital, went to Paris, where he studied under Velpeau and Louis. He was especially eminent as a pediatricist. In 1848 he published "A Practical Treatise on Diseases of Children" which went through many editions. Meigs was physician to the Pennsylvania Hospital for many years.

Fitch Edward Oliver (1819-1892), of Boston, graduated from Dartmouth College, and got his medical degree from Harvard in 1843. He spent a year abroad pursuing post-graduate work, and then settled in practice in Boston. He was physician to the Boston City Hospital and for some years Instructor in Medicine in the Harvard Medical School. Dr. Oliver was deeply interested in the history of Massachusetts, and was the author and editor of many publications concerning it.

One of the most prominent surgeons of his day, especially in the surgery of the genitourinary tract, was William Holme Van Buren (1819-1883), of New York.

He got his degree from the medical department of the University of Pennsylvania in 1840, but before doing so had gone abroad and studied in Paris. After graduating Van Buren served as a surgeon in the Army for five years, before settling in practice in New York, where he became prosector to Valentine Mott, whose daughter he married. Later he held the chair of Anatomy in the University of New York, and then that of Surgery in Bellevue Hospital Medical College. In 1866 a chair of Genito-urinary Surgery was created especially for him in Bellevue. Van Buren was the author of several standard works besides numerous contributions to current medical journals.

The distinguished Samuel Bayard Woodward (1787-1850), who did so much to alleviate the condition of the insane in this country had a son, Rufus Woodward (1819-1885), who, after graduating from the Harvard Medical School in 1848, spent three years as assistant physician in the State Lunatic Asylum at Worcester, Mass., and then went to Europe to study the treatment of the insane in other countries so that he would be qualified to help his father in his great work. Unfortunately the latter died suddenly in 1850 and young Woodward returned to the United States and passed the rest of his life as a general practitioner in Worcester.

George Curtis Blackman (1819-1871), a native of Connecticut, graduated from the College of Physicians and Surgeons of New York in 1840. He made many ocean trips as ship's surgeon, and in 1845 spent a number of months studying in London, where he knew Astley Cooper, Liston, Brodie and other eminent medical men. In 1854 he was appointed Professor of Surgery in the Medical College of Ohio, at Cincinnati, a position which he held until his death. During the Civil War he was a brigade surgeon in the Federal Army. He was editor for a time of the *Western Lancet*, and later one of the editors of the *Cincinnati Journal of Medicine*. He

translated and edited Vidal's work on "Venereal Diseases" and Velpeau's "Operative Surgery." He was on the staff of the Commercial and Good Samaritan Hospitals.

Alfred Mercer (1820-1914) was born in Kent, England, but brought by his parents to the United States when he was twelve years old. He graduated from Geneva Medical College, New York, in 1845. In 1846 and 1847 he went abroad and studied in the hospitals of London and Paris. Returning to America he tried to practice in various towns in New York before finally settling in Syracuse in 1853. In 1872 when Geneva Medical College became the medical school of Syracuse University, Mercer was elected to the chair of Minor and Clinical Surgery. In 1884 he became Professor of State Medicine in that institution.

Edward Hammond Clarke (1820-1877), born in Norton, Mass., received his medical degree from the University of Pennsylvania in 1846. He went abroad and devoted himself especially to the then new study of otology. Returning he settled in practice in Boston. In 1855 he succeeded Jacob Bigelow as Professor of Materia Medica in the Harvard Medical School.

Francis Minot (1821-1899), of Boston, graduated from the Harvard Medical School, and then studied abroad before settling in practice in Boston. After occupying various positions in the medical faculty of Harvard he was elected Hersey Professor of Medicine in 1874. This position he held until 1891. He was physician, later, consulting physician, to the Massachusetts General Hospital for many years.

One of the most distinguished among the early ophthalmologists in the United States was Henry Willard Williams (1821-1895), of Boston. He began his medical studies at Harvard in 1844, but interrupted them to spend three years in study abroad. During this time he studied especially diseases of the eye, under

Sichel and Desmarres in Paris, Friedrich and Rosas in Vienna, and Dalrymple, Lawrence and Dixon in London. Returning to the United States he graduated from the Harvard Medical School in 1849. In 1850 he organized a class in ophthalmology at Harvard, where he was an Instructor in Medicine. Williams limited himself to practice in diseases of the eye. In 1871 he was appointed Professor of Ophthalmology in the Harvard Medical School and he was one of the founders of the American Ophthalmological Society in 1864. Besides his treatise on the "Diagnosis and Treatment of Diseases of the Eye" (1881), Williams wrote many important contributions to ophthalmic literature.

Samuel Kneeland (1821-1888), of Boston, after graduating from Harvard College, studied medicine and got his M.D. from Harvard Medical School in 1843. He then studied for two years in Paris before settling down to practice in Boston. In 1846 he received the Boylston Prize for an essay entitled "The Contagiousness of Puerperal Fever," a most forceful presentation of a subject then in fierce controversy.

Kneeland served as a surgeon in the Federal Army during the Civil War. His chief interest lay in zoology, and after the war was over he became professor of that subject in, and also secretary of the Massachusetts Institute of Technology.

Among the pioneer ophthalmologists and otologists of the United States, Robert King Stone (1822-1872), of Washington, D. C., deserves mention. After graduating from Princeton College he got his M.D. at the University of Pennsylvania in 1845. The following year he studied in London, Edinburgh, Paris and Vienna, devoting himself especially to the diseases of the eye and ear. On his return to Washington he became Professor of Anatomy, and Physiology in the National Medical College, and later occupied the chair of Diseases of the Eye and Ear.

Moreton Stillé (1822-1855), of Philadelphia, a younger brother of Alfred Stillé, received his M.D. from the University of Pennsylvania in 1844. He went abroad and studied for several years in Dublin, London, Paris and Vienna. Returning to the United States he served a term as resident physician in the Pennsylvania Hospital. He was particularly interested in the legal aspects of medicine.

Stillé and Francis Wharton, a lawyer, collaborated in writing "A Treatise on Medical Jurisprudence," which was long a standard work on the subject. Poor Stillé died before the work was in print.

William Middleton Michel (1822-1894), of Charleston, S. C., was the son of William Michel, a physician, who had received his education in France; and thither Middleton Michel went in 1842 to study under Cruveilhier, Coste, Longet, and Richet. In 1845 he got his M.D. at Paris. Returning to the United States he attended courses in the Medical College of the State of South Carolina, from which he also graduated in 1846. In 1848 he established the Summer Medical Institute at Charleston, in which he taught Anatomy, Physiology and Midwifery. He was a consulting surgeon in the Confederate Army, and also edited the *Confederate States Medical and Surgical Journal* during 1863 and 1864. From 1875 to 1880 he edited the *Charleston Medical Journal*. From 1868 until his death he held the chair of Physiology and Medical Jurisprudence in the Medical College of the State of South Carolina.

Francis Donaldson (1823-1891), of Baltimore, received his M.D. from the University of Maryland in 1864, and went abroad for two years, studying chiefly in Paris. In 1866 he became Professor of Physiology in the University of Maryland, with Hygiene and General Pathology tacked on, and also Clinical Instruction in Diseases of the Throat and Chest.

Daniel Denison Slade (1823-1896), of Boston, graduated from Harvard College in 1844, and Harvard Medical School in 1848. He served as house surgeon in the Massachusetts General Hospital, and then spent three years abroad, mostly in Dublin and Paris, and part of the time at the great French *École Veterinaire* at Alfort. On his return he practiced in Boston. He was deeply interested in veterinary medicine and gave frequent courses of lectures on it. He also lectured on zoology in the Bussey Institution and on osteology at Harvard. He contributed many scientific articles to periodical literature, and translated Ricord's "Letters on Syphilis."

A prominent teacher in northern New York was Samuel Oakley Vander Poel (1824-1886), who graduated from Jefferson Medical College in 1845, and passed the next two years studying in Paris. Returning to the United States he settled in practice in Albany. He held the chair of Medicine in Albany Medical College for some years. During the Civil War he was surgeon general of the State of New York.

Cornelius Kollock (1824-1897), of South Carolina, after graduating from Brown University, got his degree of M.D. from the University of Pennsylvania in 1848. He went to Paris where he passed two years in post-graduate work, and then returned to the small town of Cheraw, S. C., where he passed the remainder of his life. He was an especially able gynecological surgeon and patients came to Cheraw from distant parts to put themselves in his care. He was very active in the work of the American Gynecological Association, and was president at one time of the Southern Gynecological and Surgical Association.

Francis Peyre Porcher (1825-1895), of South Carolina, graduated from the Medical College of the State of South Carolina in 1847. He then went to Paris, where he spent two years in post-graduate work. Returning to the United States he practiced in Charleston.

He was one of the founders of the Charleston Preparatory Medical School. Later he occupied the chair of Practice, Therapeutics and Materia Medica in the Medical College of the State of South Carolina. He was a surgeon in the Confederate Army throughout the Civil War. He contributed much to periodical medical literature, but his most important writings were on botany, in which science he was very distinguished.

John Call Dalton (1825-1889), a native of Massachusetts, received his M.D. from Harvard in 1847. He went abroad and studied especially under Claude Bernard, in Paris. Returning to the United States, he was appointed Professor of Physiology and Morbid Anatomy in the University of Buffalo, where it is said he was the first in this country to teach physiology by vivisection. In 1854 he resigned to accept the same chair in Vermont Medical College. Three years later he was appointed Professor of Physiology and Microscopical Anatomy in Long Island College Hospital, which he gave up to occupy a similar position in the College of Physicians and Surgeons of New York. He wrote several textbooks which were long popular. His most famous book was an atlas "The Topographical Anatomy of the Brain," a magnificently illustrated work of which only two-hundred and fifty copies were printed.

One of the best known teachers in the Middle West, was David Wendel Yandell (1826-1898), a native of Tennessee. After getting his medical degree from the University of Louisville in 1846, Yandell spent two years studying in Europe. From 1850 he held various teaching positions in the medical school of the University of Louisville, until in 1869 he was given the chair of Clinical Surgery. He was a brilliant teacher and an able and successful surgeon. With Theophilus Parvin he started *The American Practitioner* in 1870, which he conducted until 1886 when it was merged with the *Medical News*, as *The American Practitioner and News*,

which Yandell continued to edit until his death. During the Civil War Yandell was Medical Director of the Department of the West, in the Confederate Army. He was elected to the presidency of the American Medical Association, and to the same position in the American Surgical Association.

Robert Alexander Kinloch (1826-1891), of Charleston, S. C., was one of the most distinguished surgeons of his day. He received his M.D. from the University of Pennsylvania in 1848, and then spent two years in study in Paris, London and Edinburgh. During the Civil War he served as a surgeon in the Confederate Army. In 1866 he was appointed to the chair of *Materia Medica* in the Medical College of the State of South Carolina. Three years later he took the chair of the Principles and Practice of Surgery, and later that of Clinical Surgery. He was an excellent teacher and a bold and skilful surgeon. It is claimed that he resected the knee joint for chronic disease three years before Gross performed what is usually known as the first operation of the kind in this country.

George Thompson Elliot (1827-1871), of New York, graduated in medicine from the University of the City of New York in 1849. He studied abroad for three years at the Dublin Lying-in Hospital, in London, Paris and Edinburgh. Although he died of apoplexy at the early age of forty-four, he was one of the best known obstetricians and teachers of obstetrics in this country. In 1868 he published his "Obstetric Clinic." During the last ten years of his life he was Professor of Obstetrics in Bellevue Hospital Medical College.

Calvin Ellis (1826-1883), of Boston, got his medical degree from Harvard in 1849. After serving as house-pupil at the Massachusetts General Hospital he studied for two years in France and Germany. After returning to the United States he occupied various positions in the faculty at Harvard until 1867, when he became

Professor of Clinical Medicine. He was also physician to the Massachusetts General Hospital and was dean of the Medical School of Harvard at the time when Charles W. Elliot put through his reforms in that institution. At his death Ellis left \$150,000 to the Harvard Medical School.



CHAPTER XIV
SOME NOTABLE EVENTS IN AMERICAN
MEDICINE AND SURGERY

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VALENTINE MOTT AND HIS LIGATION OF THE INNOMINATE ARTERY¹

GROSS in his "Memoir of Valentine Mott" makes the following statement:

In the ligation of arteries he was *facile princeps*; absolutely without a rival. No surgeon, living or dead, ever tied so many vessels or so successfully for the cure of aneurism, the relief of injury, or the arrest of morbid growths. The catalogue, inclusive of the celebrated case of the innominate artery, comprises eight examples of the subclavian artery, fifty-one of the primitive carotid, two of the external carotid, one of the common iliac, six of the external iliac, two of the internal iliac, fifty-seven of the femoral, and ten of the popliteal; in all one hundred and thirty-eight.

Mott's case was published in the *Medical and Surgical Register consisting chiefly of Cases in the New York Hospital*, which was published in New York in 1818, and is notable as the first volume of case reports published by any hospital in this country. The patient was a sailor, aged fifty-seven years, with an aneurysm of the right subclavian artery. The operation was performed May 11, 1818, in the New York Hospital. The subclavian artery was found to be extensively diseased. Mott says: "With the appearance of disease in the subclavian artery, it only remained for me either to pass the ligature around the arteria innominata, or

¹ In Dr. Irving S. Cutter's charming series of papers entitled "Landmarks in Surgical Progress," there is one published in *Internat. Abst. Surgery*, October, 1928, entitled Valentine Mott and ligation of the Arteria Innominate, in which he reproduces much of Mott's original report. There is much about Mott's surgical work in "Surgery at the New York Hospital One Hundred Years Ago," by E. H. Pool and T. J. McGowan, Hoeber, New York, 1929.

abandon my patient. Although I very well knew, that this artery had never been taken up for any condition of aneurism." He went ahead and put a silk ligature around the innominate. The operation lasted one hour, and the patient lost from two to four ounces of blood. However, the wound ulcerated and sloughed, and the man died on the twenty-sixth day after the operation.

Mott's career is noticed elsewhere in this book. He was thirty-three years old at the time when he performed this operation.

HORATIO GATES JAMESON

RESECTION OF THE SUPERIOR MAXILLA

Although portions of the upper jaw were frequently removed by the older surgeons, the first recorded case of removal of practically all the superior maxilla, is that reported by Horatio G. Jameson in the *American Medical Recorder*, 1821.

Dr. Irving S. Cutter, of Chicago, in the delightful series of articles which he has published under the title of "Landmarks in Surgical Progress," in the *International Abstract of Surgery*, has one which appeared in March, 1929, on Dr. Jameson and his operation in which he quotes a large part of Jameson's original report, and reproduces his picture of the patient before operation. The operation was performed on November 11, 1820. The patient was a man, twenty-six years old. There is no way of ascertaining the true nature of the growth because at the time the microscopic classification of neoplasms was unknown, and Dr. Jameson makes no statement on the subject. From the appearance in the picture, from its rapid growth, and situation one is inclined to judge that it was an osteosarcoma. Dr. Jameson describes the operative procedure. He first ligated the left carotid, using a buckskin ligature,

then exposed the tumor as widely as possible dissected deeply around it, and after removing it closed the wound with linen sutures. Three months after the operation there was no sign of any recurrence, the parts had healed, and the patient's general health had greatly improved.

Jameson was born in York, Penna., in 1778. He had begun his medical studies with his father, Dr. David Jameson, a Scotchman, who after graduating from Edinburgh, came to America in 1740 with Hugh Mercer, another Scotch doctor, who lost his life fighting with the rank of brigadier general at the battle of Princeton. Young Horatio began practicing at the age of seventeen, before he had a degree. In 1810 he remedied this defect by becoming a student in the Medical College of the University of Maryland at Baltimore. He received his M.D. from this institution in 1811. He was an energetic and able man. In 1827 he was one of a group of medical men who founded a medical school, Washington Medical College, in Baltimore, and from 1829 to 1832 he ran a quarterly medical journal, *The Maryland Recorder*. In 1835 he went out to Cincinnati to join the faculty of Ohio Medical College, which Drake was organizing. He only remained in Cincinnati a short time because the climate seemed to be injurious to his wife's health. Going back to Baltimore he remained there until a year before his death when he went back to York, Penna. He died on August 4, 1855. Jameson earned the reputation of a bold and skilful operator. Cutter mentions a number of operations which he performed besides the one for which we recall him here. He wrote much for the current medical journals.

In 1824 David L. Rogers reported in the *New York Medical and Physical Journal*, a case in which he had removed both superior maxillae and the patient had recovered.

WILLIAM BEAUMONT
AND THE STUDY OF THE PROCESSES OF DIGESTION¹

In his most interesting address at the unveiling of the memorial tablet to Beaumont at Plattsburg, Dr. Walter Steiner quoted the following statement by William Hunter: "Some physiologists will have it that the stomach is a mill, others that it is a fermenting vat, others again that it is a stew pan, but in my view of the matter, it is neither a mill, a fermenting vat, nor a stew pan but a stomach, gentlemen, a stomach." This non-committal statement by a foremost anatomist of his time can be taken as representing quite accurately the confused state of mind of the majority of his contemporaries regarding one of the functions of one of the most important organs of digestion. The iatromechanical or iatromathematical school which was made up of the followers of Borelli and Baglivi held the view that gastric digestion was a mechanical process, the stomach acting as a mill to crush and mix the food, while those who composed the iatrochemical school, followed the opinion of Francis de la Boë, who thought that the processes of gastric digestion were purely chemical in character. Steiner proceeds to direct attention to a piece of original research on the gastric digestion which was done by a young man named Benjamin Richardson Young, of Hagerstown, Md. In

¹The chief authority for Beaumont besides his own writings, is the "Life and Letters of Dr. William Beaumont including hitherto unpublished data concerning the case of Alexis St. Martin," by Jesse S. Myer, A.B., M.D., St. Louis, 1912. "Experiments and Observations on the Gastric Juice and the Physiology of Digestion," by William Beaumont, M.D., Surgeon in the U. S. Army, Plattsburgh, published by F. D. Allen, 1833, is one of the great classics of medical literature. Osler's fascinating essay "A Backwood Physiologist," published in the collection of his essays entitled "An Alabama Student and Other Biographical Essays," contains much valuable information about both Beaumont and St. Martin. Dr. Walter R. Steiner's address at the unveiling of the tablet to Beaumont at Plattsburgh, August 24, 1929, published in *Science*, Nov. 1, 1929, is an interesting summary of Beaumont's achievements. Dr. W. S. Miller has recently published in the *Ann. M. Hist.*, N. S., 1: March, 1929, a most valuable review of Beaumont's career entitled "William Beaumont and His Book, Elisha North and His Copy of Beaumont's Book." Dr. Miller owns North's copy.



FIG. 93. William Beaumont (1785-1853).

1803 Young presented as his graduation thesis at the University of Pennsylvania a record of a number of experiments which he had performed to ascertain the processes of gastric digestion. He proved that fermentation and putrefaction were not essentially concerned in the process and that the acid gastric juice checked putrefaction. He thought wrongly that the acid in the gastric juice was phosphoric, not hydrochloric acid. Unfortunately Richardson died within a year after his graduation and his work was not continued.

J. S. Myer¹ prints a letter which Professor Benjamin Silliman of Yale, the most distinguished American chemist of his time, sent to Beaumont on August 2, 1833, in which he summarizes the knowledge of the gastric digestion to date. In it he wrote:

The following citations are from the seventh volume of a system of chemistry by Professor Berzelius which I have received within a few days. It is the French translation, published the present year, and is the latest authority upon the subject of The Gastric Juice. This was a long time regarded by chemists as a kind of universal solvent for different alimentary substances—afterwards they denied it any dissolving power.

Prout, Tiedeman and Gmelin give the best notions on this subject, and explain the contradictory statements of the other authors. At one time it was said to be very fluid, clear, entirely neutral; then alkaline, then acid, and that in a high degree.

Spallanzani, 1783, after many experiments declared the gastric juice in a state of health, to be entirely neutral; a solvent for alimentary matter within and without the body; that it did not putrefy at the ordinary temperature of the air, but preserved animal matters from putrefaction and dissolved them with the aid of heat.

Carminati, 1785, found it not acid in carnivorous animals when fasting, but quite acid in those which had eaten. This, says Berzelius, is the first ray of light which illuminated the subject.

Werner, 1800, says the mass contained in the stomach of carnivorous and herbivorous animals is acid during digestion.

Montegre, 1812, who could vomit at will, and thereby obtained the gastric juice unmixed, says it is not acid or alkaline, not a

¹ Life of William Beaumont, p. 180.

solvent, not slow to putrefy; so much like saliva that he regards it as saliva swallowed, and the traces of free acid as owing to incipient decompositions.

Prout, 1824, says it is really acid; does not contain an organic acid, but free hydrochloric or muriatic acid.

This shows the extent of knowledge of the chemical properties of the secretion of the stomach before Beaumont was able to elucidate the matter by the unusual opportunity which he was keen enough to appreciate and properly use.

William Beaumont was born at Lebanon, Conn., Nov. 21, 1785. He taught in the village school at Champlain in northern New York and then studied medicine with Dr. Benjamin Chandler at St. Albans, Vt. as pupil and apprentice. Myers gives interesting extracts from a notebook kept by young Beaumont recording a number of post mortems and case histories, mixed with exercises in prescription writing and a number of reflections on medical subjects which show that he possessed excellent powers of observation and a distinctly scientific mind. After two years of apprenticeship he received his license to practice from "The Third Medical Society of the State of Vermont." Armed with this and some certificates as to his character and attainments from various physicians with whom he had come in contact, he left Champlain and went to Plattsburg where in September, 1812, he joined the United States Army as a surgeon's mate. After seeing active service throughout the War of 1812 he resigned his commission late in 1815 and commenced private practice at Plattsburg, N. Y., in partnership with a Dr. G. Senter. A few months later Senter had to go South and Beaumont entered into a new partnership with Dr. Wheelock. They also ran a general store selling groceries, tobacco, liquor, etc., as well as drugs. About a year later the store was sold and Beaumont confined himself to the practice of medicine. In 1819 he gave up his practice and reentered the army as

a post-surgeon, his first assignment to duty being at Fort Mackinac, then a frontier post at the center of a series of trading posts which covered the Great Lakes and the country along the Mississippi River. The population of the town consisted of voyageurs, traders, half-breeds and Indians. Myers gives transcripts of notes on cases and post mortems by Beaumont which show that the young surgeon had plenty to do and also used his opportunities for observation and study to the best advantage. On June 6, 1822, occurred the event which was to make him famous.

On that date a French Canadian voyageur named Alexis St. Martin, aged nineteen was shot with a shotgun, the muzzle not being more than two or three feet from him, when the discharge entered the left side of his abdomen. Beaumont was called to the aid of the wounded man. He says that the external wound was the size of the palm of a man's hand. The fifth and sixth ribs were fractured, part of the lungs and a portion of the stomach in which there was a puncture large enough to receive Beaumont's forefinger, were protruded through the wound. Through the tear in the wall of the stomach food had passed out and lodged on the clothing. Beaumont thought the wound must prove fatal but he removed the shot, wadding, fragments of clothing, etc., from it and cut away with his penknife a portion of rib that interfered with his replacing the extruded lung. After putting back the protruding lung and stomach, removing the spicules of the shattered bone he applied "a carbonated fermenting poultice, composed of flour, hot water, charcoal, and yeast" over the wound. Extensive sloughing occurred of both the injured lung and the wall of the stomach. The latter in the process of healing adhered to the intercostal muscles instead of falling back into its normal position. After some months the patient became perfectly well except for a fistulous opening into the stomach which

Beaumont in vain attempted to close. As the country and town authorities of Mackinac refused to continue assistance to St. Martin who had become an infirm pauper by virtue of his misfortune Beaumont in April 1823 took him into his own home, where he remained for a year or two, while Beaumont, according to his own statement, "nursed him, fed him, clothed him, lodged him and furnished him with every comfort and dressed his wounds daily and for the most part twice a day."

Although it has been stated that Beaumont purposely kept the wound open from the time when he realized that the patient would live, Beaumont expressly states that he endeavored to the best of his ability to close the fistula, and the idea of conducting experiments on the gastric digestion did not occur to him until early in 1825. In 1824 he sent a report of the case to Surgeon-General Lovell suggesting that he would with his approval like to have it published. Lovell accordingly sent it to the *Medical Recorder* and it appeared in Volume 8, No. 1, 1825, of that journal but unfortunately it was published as "A Case of Wounded Stomach, by Joseph Lovell, Surgeon-General, U. S. A." This error as to authorship was corrected by a paragraph in No. 4, 1825, of the *Medical Recorder*. In January 1826, No. 33, of the *Medical Recorder*, Beaumont reported four experiments which he had carried out on St. Martin. In the meantime St. Martin who disliked being subjected to the experiments and whose limited intelligence rendered him totally unable to appreciate the important service he could be to humanity, had run away from Beaumont and though the latter used every effort, he was unable to locate him until two years later, and yet another two years elapsed before he got him back in 1829. Beaumont was then stationed at Fort Crawford, Prairie du Chien, and St. Martin was restored to him through the persistent efforts of some of the employees of the fur company who were friends of Beaumont's

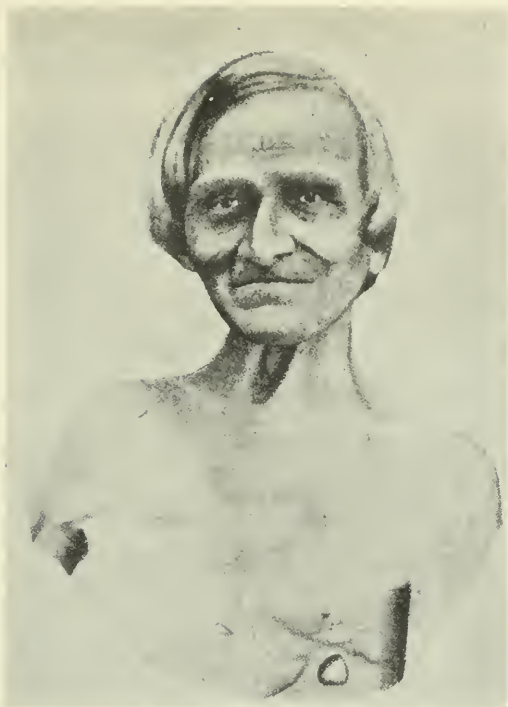


FIG. 94. Alexis St. Martin at Sixty-seven.



FIG. 95. House where Alexis was wounded.



FIG. 96. Old Hospital at Fort Howard.

and by whom St. Martin was employed as a voyageur. From 1829 to 1831 St. Martin remained in his service and Beaumont carried out a splendid series of experiments. In 1831 he let St. Martin return to Canada. Beaumont was very desirous to get leave with permission to go abroad, hoping to take Alexis with him to exhibit him to some of the European scientists. This proving impracticable he got a furlough and passed four months in Washington with Alexis accompanying him. Through Surgeon-General Lovell he had St. Martin made a sergeant in the Army in 1832. Beaumont had previously drawn up a formal agreement whereby St. Martin subjected himself to him for stipulated wages but the wily patient knowing how invaluable he was to Beaumont was continually increasing his financial demands. As St. Martin's enlistment was for a period of five years not only were Beaumont's financial burdens lessened but the chances of losing him were lessened by the fact that if he ran away he would be guilty of desertion. Beaumont while continuing his experiments got into communication with Benjamin Silliman and Robley Dunglison and from them received much valuable aid. Later, in 1834, Beaumont sent specimens of St. Martin's gastric juice to Dr. Charles F. Jackson, of Boston, the distinguished chemist who later came into such unenviable prominence in the ether controversy. Jackson became most enthusiastic over the study of St. Martin's gastric secretion and when Beaumont was ordered to St. Louis in 1834, Jackson, without consulting Beaumont got up a petition to which he secured the signatures of two hundred members of Congress, requesting Secretary Cass to revoke the order sending Beaumont to St. Louis, and to station him in Boston instead. The petition was forwarded by Secretary Cass to Surgeon-General Lovell, who endorsed it as follows: "Doctor Beaumont already understands that he cannot con-

veniently be stationed at Boston, so he has stated that this application was made without his knowledge or desire. He has gone to his station without any desire to leave it at present." In 1833 Beaumont published his book, "Experiments and Observations on the Gastric Juice and the Physiology of Digestion" one of the classics of medical literature. It was printed at Plattsburg and before its appearance Beaumont circulated a sort of prospectus to which was appointed a subscription blank. The work met with a very favorable reception both in America and abroad. In it Beaumont simply related his various experiments and limited himself to reporting the results of his observations indulging in no theories nor unsupported statements. Alexis had gone back to Canada but Beaumont kept in touch with him through his friends in the fur trade and was eager to continue his experiments as he felt there was yet much work to be done. In 1840 while stationed in St. Louis he received orders to go to Florida as a member of a board to examine candidates for commissions. The order emanated from Surgeon-General Lawson who had succeeded Beaumont's friend Lovell in that position. Lovell realized the importance of Beaumont's work and had given him every facility to pursue it. Lawson appears to have felt that Beaumont had been too much favored. In spite of the vehement protestations of Beaumont and his friends he insisted that his order should be obeyed, whereupon Beaumont resigned and entered private practice in St. Louis where he died on April 15, 1853.¹

Beaumont was concerned in another unfortunate case of fistula while engaged in private practice in St. Louis.² In 1840 Dr. Adreon, of St. Louis, attended a

¹ J. S. Myer, "Life and Letters of William Beaumont," gives from Beaumont's manuscript record the original notes of his observations and experiments on St. Martin.

² The essential outlines of the story can be found in a paper read by Dr. T. J. Lutz at a joint meeting of the Michigan State Medical Society and the Upper

woman named Mary Dugan who was suffering from fluctuating swelling in the right inguinal region, with distension of the abdomen. Dr. Adreon punctured the inguinal swelling, and pus and fetid gas came forth. In the evening fecal matter was escaping from the opening. A few days later there was an ulcer where the opening had been and the surrounding soft parts were sloughing. Dr. Beaumont then saw the patient in consultation and with scissors removed the dead skin and tissue about the wound. The patient got much better and went to the country where she remained for four years, during which time the fistulous opening in the groin would occasionally cease discharging and close over. At the end of four years she returned to St. Louis and brought suit for ten thousand dollars against Drs. Adreon and Beaumont for alleged malpractice. Her claim was that the defendants had cut into a hernia from which she had suffered and had cut the intestine in doing so. The defendants claimed that Mary Dugan did not have a hernia but that she was suffering from "typhloenteritis." Drs. Adreon and Beaumont were acquitted but the trial gave rise to an acrimonious warfare carried on in newspapers and pamphlets by those who had been interested in it.

As to St. Martin he lived to the age of eighty-three. Sir William Osler made every effort to procure an autopsy but the family were equally obstinate in preventing it and they succeeded.

Beaumont cleared away many misconceptions which had previously prevailed as to gastric digestion. He proved that it was truly a chemical process; that the gastric juice was not a mucous secretion macerating the food; that it contained hydrochloric acid; that its action was affected by mental or emotional disturbances; that it had a definite relation to the amount and

nature of the ingested food; that the walls of the stomach were endowed with peristaltic motion, and that water disappeared from the stomach through the pylorus with remarkable rapidity.

These definite findings disposed of the various conjectures of previous students of digestion that the process was one of maceration, trituration, or fermentation. Spallanzani whose theory was most generally held at the time Beaumont began his studies, considered that gastric digestion was a process of chemical solution and dissolution. An army surgeon at a frontier post without laboratory facilities or previous training in research had the wit to grasp his opportunity and the industry and perseverance to develop the foundation of the modern physiology of the digestion. Myer¹ quotes Vaughan's statement that, "he made such an exact study of the physical and chemical natures of the gastric juice that, with the exception of the discovery of pepsin, the closest research of modern times has added but little to the work done by him."

WILLIAM WOOD GERHARD AND THE DIFFERENTIATION OF TYPHUS AND TYPHOID FEVERS

In his essay on "The Influence of Louis on American Medicine," Osler says,² "W. W. Gerhard was the most distinguished of the American pupils in Paris between 1830 and 1840." Those who have studied Gerhard's work will certainly agree with this "strong statement" as its eminent author himself styles it. Elsewhere³ Osler writes: "In 1829 Louis' great work appeared, in which the name "typhoid" was given to the fever. At this period typhoid fever alone prevailed in Paris, and it was universally believed to be identical with the continued fever of Great Britain, where in reality typhoid and typhus

¹ Life and Letters of William Beaumont, p. 203.

² An Alabama Student and other biographic essays by William Osler, 1906.

³ Textbook of the Practice of Medicine, by William Osler, M.D., 1901.

coexisted; and the intestinal lesion was regarded as an accidental occurrence in the course of ordinary typhus. Louis' students returning to their homes in different countries had opportunities for studying the prevalent fevers in the thorough and systematic manner of their master. Among these were certain young American physicians, to one of whom, Gerhard, of Philadelphia, is due the great honor of having first clearly laid down the differences between the two diseases. His papers in *The American Journal of the Medical Sciences*, 1837, are the first which give a full and satisfactory account of their clinical and anatomical distinctions." William Wood Gerhard was born in Philadelphia, July 23, 1809, and graduated from the University of Pennsylvania in 1830. He went to Paris to pursue his studies in the following year. Although Gerhard attended the courses given by Chomel, Andral, Piorry and the other great teachers then active in Paris, it was to Louis that he especially attached himself. With James Jackson, Jr., of Boston, whom Osler terms "the young Marcellus among the physicians of this country," and Caspar W. Pennock, of Philadelphia, he succeeded in getting Louis to give them private instruction in his wards. Gerhard made the best of his opportunities. To quote Osler again:

He appears to have been an indefatigable worker, and the papers which he published based upon material collected in Paris are among the most important we have from his pen. Thus with Pennock he described Asiatic cholera in 1832. Devoting himself particularly to the diseases of children, he issued a very interesting paper on smallpox, and two papers of very special value, the first on tuberculous meningitis, and the other upon pneumonia in children.

Returning to Philadelphia in 1833, he was elected a resident physician to the Pennsylvania Hospital, serving in that capacity for two years. In 1836 he began his work as one of the physicians to the Philadelphia Hospital

(Blockley) and in its wards he had a splendid chance to study the cases of typhus fever which occurred in the epidemic of that disease which ravaged Philadelphia in that year. During his two years at the Pennsylvania Hospital he had carefully studied the form of "continued fever," typhoid, of which its wards contained many cases. Comparing his cases carefully he assured himself that typhoid fever was characterized by the lesions in Peyer's patches, and that it was a distinct disease entity from the typhus fever which he studied during the epidemic. The results of his studies were published in the *American Journal of the Medical Sciences* for February and August, 1837.

Dr. Gerhard was elected Assistant Professor of the Institutes of Medicine in the University of Pennsylvania in 1838. In 1841 the University organized dispensary clinics and Dr. Gerhard and Dr. W. P. Johnston were the first physicians placed in charge of them. He was elected one of the physicians to the Pennsylvania Hospital in 1845 and held this position until his resignation in 1868. In 1837 he had suffered a severe attack of typhoid fever which seriously impaired his health, but he never allowed his physical condition to interfere with his work. In addition to many contributions to current medical literature he published in 1842 a book on "The Diagnosis, Pathology and Treatment of Diseases of the Chest." Dr. Gerhard died April 28, 1872.

Gerhard was ably cooperated with in his work by Dr. Caspar Wistar Pennock, born in Philadelphia, July 2, 1799. After graduating from the medical department of the University of Pennsylvania in 1828, he served as a resident physician at the Philadelphia Hospital. In 1830 he went to Paris, where he worked under Louis with Gerhard and Jackson. Returning to Philadelphia in 1833 he began practice. In 1836 he was Gerhard's colleague on the staff of the Philadelphia Hospital, and studied with him the typhus cases during the epidemic

of that year. For twenty years Pennock suffered from a progressive paralysis and tuberculosis. He died April 16, 1867.

George Cheyne Shattuck, born at Boston, July 22, 1813, graduated from the Harvard Medical School in 1835, and then went to Paris, where he studied under Louis and like the other young American post-graduate students became an ardent devotee to his teachings. While in Paris in 1838 he and Alfred Stillé, of Philadelphia, read papers before the Paris Society for Medical Observation, in which they emphasized the difference between typhus and typhoid fever. On his return to practice in Boston in 1840 he did much to spread the result of others' investigations as well as his own on the subject. Shattuck's work though very important is not to be compared with the work of Gerhard, as presented in his papers of 1837. Shattuck was Professor of Clinical Medicine at Harvard from 1855 to 1859, and of the Theory and Practice of Medicine from 1859 to 1873. He was for thirty-six years visiting physician to the Massachusetts General Hospital. Dr. Shattuck died March 22, 1893.

In the *London Medical Times and Gazette* of December, 1861, an Englishman named A. F. Stewart published an article implying that the differentiation between typhus and typhoid fever had been first called to the attention of the profession by a paper which he had written in 1840. This excited the ire of Dr. Alfred Stillé (1813-1900), of Philadelphia, who had been Gerhard's resident physician at Blockley in 1835-36, at the time when he made his famous studies of the two diseases. Stillé wrote a refutation of Stewart's claims to priority, which was never published until after his death, when it was found among his papers by his widow, who gave it to Osler, by whom it was published in 1904¹. In it he showed that not only had Gerhard

¹ *Univ. Penn. M. Bull.*, April, 1904.

and Pennock published their work in the *American Journal of the Medical Sciences* in 1837, but that it had been: "translated in a Parisian medical journal, *L'Experience*, in 1838, analysed in the *London Medico-Chirurgical Review* for October, 1837, p. 553, republished in the *Dublin Journal of Medical Sciences*, September, 1837, p. 148." Stillé goes on to quote a statement by Valleix¹ in which that distinguished French physician said:

In an unpublished memoir of Dr. Stillé, an interne of Dr. Gerhard during the prevalence of the epidemic in Philadelphia, which was read before the Medical Society of Observation, September 14 and 28, 1838, and which we have before us, the two diseases are compared, symptom by symptom and lesion by lesion; and apart from the phenomena of fever common to all febrile affections, the opposite of which is observed in the one is sure to be presented in the other.

A few months later Valleix² published an analysis of thirteen cases of typhus fever observed by Dr. George C. Shattuck, of Boston, confirming the conclusions formed by Gerhard, Pennock and Stillé. As Stillé shows all these papers antedated the paper of A. F. Stewart. Among Dr. Stillé's papers Osler also found the heretofore unpublished manuscript of the paper which Valleix referred to as having been read before the Société Médicale d'Observation of Paris on September 14 and 28, 1838. It was in French and had never been translated. Many years before his death Stillé had shown this paper to Osler and expressed his regret that he had never published it. Osler got Dr. William Pepper to translate the manuscript and published it in the *University of Pennsylvania Medical Bulletin*, April, 1904, along with the other Stillé manuscripts referred to previously. These two articles form a most valuable contribution to the subject.

¹ *Arch. gén.*, Feb. 1839, p. 213.

² *Arch. gén.*, October, 1839, pp. 129 and 265.

THE DISCOVERY OF ANESTHESIA¹

CRAWFORD W. LONG, W. T. G. MORTON

From the earliest times attempts were made to alleviate the pain incidental to surgical operations. Homer mentions nepenthe as employed for this purpose. Indian hemp (*cannabis indica*) and mandragora were used throughout the Middle Ages and the soporific sponge of Theodoric was in quite general use. Guy de Chauliac says that this was a sponge soaked in a mixture of opium, henbane, hemlock, lettuce and mandragora. After such impregnation it was dried in the sun. When it was desired to use it the sponge was saturated with boiling water and the patient inhaled the exhalations from it. In 1799 Sir Humphry Davy inhaled nitrous oxide gas and wrote to Danes Gilbert that when pure it was perfectly respirable and had "absolutely intoxicated me."² The following year after continuing his experiments he wrote: "As nitrous oxide, in its extensive operation, seems capable of destroying physical pain, it may probably be used with advantage in surgical operations, in which no great effusion of blood takes place." He is said to have had a tooth pulled

¹ The controversy over the discovery of ether resulted in an enormous output of newspaper articles, pamphlets and books. Only a few of these are of primary importance. Osler's article, "The first printed documents relating to surgical anaesthesia," *Ann. M. Hist.*, 1: 1917, is a valuable review of the early literature on the subject. James Moores Ball, *Ann. M. Hist.*, 7: 1925, has recently published an article entitled "Ether Tragedies" reviewing some of the early publications on the controversy. The most important book supporting Morton's claims is "Trials of a Public Benefactor, as Illustrated in the Discovery of Anaesthetization," by Nathan P. Rice., New York, 1859. Long's claims were first brought to general attention by the article of J. Marion Sims in the *Virginia M. Montb.*, May, 1877. For several years afterwards they were allowed to lapse into comparative obscurity until Dr. Hugh H. Young published a paper on "Long, The Discoverer of Anaesthesia," which he read before the Johns Hopkins Historical Society, November 8, 1896, based on a mass of letters and documents which one of Long's daughters had placed at his disposal. Recently the same daughter has published a delightful volume, "Crawford W. Long and the Discovery of Ether Anaesthesia, by Frances Long Taylor," Paul B. Hoeber, Inc., New York, 1928, in which the whole career of her father is well told, with all the documents necessary to the establishment of his claim accompanying it. Every year, on October 16, a celebration is held at the Massachusetts General Hospital to commemorate "Ether Day." Very naturally most of the addresses refer to Morton's part in the matter.

² *Dict. Nat. Biog.*, Art. Sir Humphry Davy.

while under its influence. Ether had been employed by inhalation to relieve asthma and other lung affections, and Faraday in 1818 demonstrated that it produced loss of consciousness and loss of reaction to painful stimuli.

In 1824 a young Englishman named Henry Hill Hickman published a pamphlet entitled, "A Letter on Suspended Animation showing that it may be Safely Employed during Operations on Animals with the View to Ascertaining its Probably Utility in Surgical Operations on the Human Subject." He produced unconsciousness in animals by the exclusion of air, and subsequently by inhalation of carbon dioxide and later of nitrous oxide. Finding the medical profession of England unreceptive to his ideas, Hickman went to Paris in 1828 and presented a memorial to Charles X requesting him to have his theories investigated by the Académie de Médecine. His efforts were equally unavailing in Paris. He returned to England and died, a disappointed man, in 1829.

The discovery of anesthesia was attended by the bitterest and most acrimonious discussion as to who was the real discoverer. In the following account I have set aside very briefly the claims of Dr. Charles T. Jackson, Dr. Horace Wells, and Dr. Marcy. In my opinion the credit of first using ether as an anesthetic is due to Crawford W. Long, and the credit of demonstrating its value and use to the medical profession and the world must be ascribed to W. T. G. Morton. Dr. Jackson was consulted by Morton on the subject of procuring some substance to annul pain during surgical operations and he advised him to try sulphuric ether, saying that it would produce unconsciousness when inhaled. Jackson went no further, however. He never tried the experiment of using ether, and the fact he stated had been known to the scientific world for years.

Horace Wells (1815-1848) was a dentist of Hartford, Conn. In 1844 he heard a chemist lecture on the sub-

ject of nitrous oxide, and saw a young man who had inhaled some of it run against furniture and bruise himself without experiencing any pain. The next day he gave himself the gas and allowed a Dr. Riggs to pull one of his teeth. He felt no pain, and on becoming conscious made his famous remark, "A new era in tooth-pulling!" He at once began the manufacture and use of nitrous oxide. Dr. Marcy suggested that ether would make an available substitute, producing the same effect without requiring as much apparatus as the gas, but Wells thought after a superficial investigation that ether would not suffice.

In the same year, 1844, two years after Dr. Long had operated on patients under the influence of ether, Dr. Marcy claimed he performed an operation on a patient while unconscious from the drug. Even if he had done so, Long antedated him.

Jackson, Wells, and Marcy, however, all pushed their claims for the discovery of anesthesia. Jackson became insane in 1873, and died in an asylum in 1880. Wells committed suicide in 1848 while the controversy was at its height. Marcy's claims were very generally disregarded.

Let us now proceed to the consideration of the man to whom is really due the honor of so great a step towards the annihilation of suffering.

Dr. Crawford W. Long was the first man to use ether as an agent to relieve the pain of surgical operations. As the subsequent narrative shows, he was a modest country practitioner, far from the centers of medical learning and destitute of means to properly exploit his discovery. He does not seem to have actually realized what a vast benefit the discovery of anesthesia would prove. Probably he did so little surgery that the question of the relief of pain was not presented so forcibly to his mind as to that of others; yet he must have had a large obstetrical practice. In 1847 he ad-

ministered ether to his own wife at the birth of one of their children, and continued to use it in his obstetrical work until his death.

Crawford W. Long was born in Danielsville, Ga., November 1, 1815. He came from a family of Scotch-Irish Presbyterians who had originally lived in Carlisle, Penna., but had migrated to Georgia about 1790. His father, James Long, was a man of prominence in the community and could give his son a good education. Crawford was sent to Franklin College, now the academic department of the University of Georgia, from which he received the degree of A.M. in 1835. While at college he roomed with Alexander H. Stephens, subsequently the vice-president of the Confederacy, and they continued their friendship in later years. After graduating from Franklin, Long began to study medicine with Dr. Grant, of Jefferson, Ga. He then spent a year attending the lectures in the medical department of Transylvania University. In 1837 he went to Philadelphia and entered the medical department of the University of Pennsylvania, from which he received his M.D. in 1839.¹

After graduating Long went to New York where he spent eighteen months "walking the hospitals," in other words doing post-graduate work. He then returned to Georgia and began practicing in 1841 in the small town of Jefferson, Jackson Co., where he purchased the practice of his old preceptor, Dr. Grant, who moved to Memphis. Jefferson was a town of only a few hundred white inhabitants, surrounded by plantations cultivated by slave labor, the planters' families making up the white population of the town. It was 140 miles from the nearest railroad.

¹ His daughter directs attention to the distinguished men who then constituted the medical faculty at Pennsylvania. Philip Syng Physick, who died during Long's first course, was Emeritus Professor of Surgery, the active professor being William Gibson. Nathaniel Chapman, was Professor of Medicine; George B. Wood, of *Materia Medica*; William E. Horner, of Anatomy; Hugh L. Hodge of Midwifery; Robert Hare, of Chemistry.



FIG. 97. Dr. Crawford W. Long, aged twenty six years. (From a crayon portrait made a few months after his first use of ether as an anesthetic.)

It appears that some itinerant lecturers on chemistry passed through the town at times, and an almost invariable part of their entertainment consisted in making some of the audience drunk with nitrous oxide. Some young men who had heard what pleasure could be derived from this inhalation asked Long to try it on them. He said he had no nitrous oxide, but that ether would produce the same effect. They inhaled it, and found it such fun that ether inhalations became a popular source of amusement all through that section of the country. During January, 1842, many such frolics were held in Long's office, and sometimes when staggering about those who were drunk had injured themselves without experiencing the least pain. Long remarked this, and determined to use it as soon as practicable in a surgical operation. On March 30, 1842, such an opportunity presented itself, and he operated on a man named James Venables, removing a small cystic tumor of the neck. The following is Venables' description of the occurrence, which he made under oath:

I James M. Venables, of the county of Cobb and State of Georgia, on oath depose and say, that in the year 1842 I resided at my mother's in Jackson County about two miles from the village of Jefferson, and attended the village academy that year. In the early part of the year the young men of Jefferson and the country adjoining were in the habit of inhaling ether for its exhilarating powers, and I inhaled it frequently for that purpose, and was very fond of its use.

While attending the academy I was frequently in the office of Dr. C. W. Long, and having two tumors on the back of my neck, I several times spoke to him about the propriety of cutting them out, but postponed the operation from time to time. On one occasion we had some conversation about the probability that the tumors might be cut while I was under the influence of ether, without my experiencing pain, and he proposed operating on me while under its influence. I agreed to have one tumor cut out, and had the operation performed that evening after school was dismissed. This was in the early part of the spring of 1842.

I commenced inhaling the ether before the operation was commenced and continued it until the operation was over. I did not feel the slightest pain from the operation and could not believe the tumor was removed until it was shown to me.

A month or two after this time Dr. C. W. Long cut out the other tumor situated on the same side of my neck. In this operation I did not feel the least pain until the last cut was made, when I felt a little pain. In this operation I stopped inhaling the ether before the operation was finished.

I inhaled the ether, in both cases, from a towel, which was the common method of taking it.

(Signed) James M. Venables.

Georgia,	}	Sworn to before me
Cobb Co.,		
July 23rd, 1849		

Long read the following paper before the Georgia State Medical Society in 1848, and it gives such a succinct statement of the whole matter that I prefer giving it in his own words:

In the month of December, 1841, or Jan. 1842, the subject of the inhalation of nitrous oxide gas was introduced in a company of young men assembled at night in the village of Jefferson, Ga., and the party requested me to prepare them some. I informed them I had not the requisite apparatus for preparing or preserving the gas, but that I had an article (sul. ether) which would produce equally exhilarating effects and was as safe. The company were anxious to witness its effects, the ether was introduced and all present in turn inhaled. They were so much pleased with its effects that they afterwards frequently used it and induced others to do the same, and the practice soon became quite fashionable in the county and some of the contiguous counties. On numerous occasions I inhaled ether for its exhilarating properties, and would frequently, at some short time subsequent to its inhalation, discover bruised or painful spots on my person which I had no recollection of causing and which I felt satisfied were received while under the influence of ether. I noticed my friends while etherized received falls and blows which I believed were sufficient to produce pain in a person not in a state of anaesthesia, and on questioning them they uniformly assured me that they did not feel the least pain from these accidents. Observing these facts I

¹ See Appendix.

was led to believe that anaesthesia was produced by the inhalation of ether, and that its use would be applicable in surgical operations.

The first patient to whom I administered ether in a surgical operation was Mr. James M. Venables, who then resided within two miles of Jefferson, and at present lives in Cobb Co., Ga. Mr. Venables consulted me on several occasions in regard to the propriety of removing two small tumors situated on the back part of his neck, but would postpone from time to time having the operation performed from dread of pain. At length I mentioned to him the fact of my receiving bruises while under the influence of the vapor of ether without suffering, and as I knew him to be fond of and accustomed to inhale ether, I suggested to him the probability that the operation might be performed without pain, and proposed operating on him while under its influence. He consented to have one tumor removed, and the operation was performed the same evening. The ether was given to Mr. Venables on a towel, and when fully under its influence I extirpated the tumor. It was encysted and about half an inch in diameter. The patient continued to inhale ether during the time of the operation, and when informed it was over, seemed incredulous until the tumor was shown him.

He gave no evidence of suffering during the operation, and assured me, after it was over, that he did not experience the least degree of pain during its performance. This operation was performed on the 30th March, 1842. The second I performed on a patient etherized was on the 6th June, 1842, and was on the same person, for the removal of the other small tumor. This operation required more time than the first, from the cyst of the tumor having formed adhesions to the adjoining parts.

The patient was insensible to pain during the operation until the last attachment of the cyst was separated, when he exhibited signs of slight suffering, but asserted after the operation was over that the sensation of pain was so slight as scarcely to be perceived. In this operation the inhalation of ether ceased before the first incision was made. Since that time I have invariably desired patients, when practicable, to continue the inhalation during the time of the operation. Having permitted such a length of time to elapse without making public my experiments in etherization, in order to show the correctness of my statements I procured this certificate of the patient on whom the first operation was performed, the certificate of two who were present at the time of the operation, and also those of his mother, brothers and sisters and a number of his immediate friends who heard him speak of the operations soon after they were performed. *The Southern Medical and Surgical*

Journal (December, 1849) contained but two of the certificates. I have a number of others which can be seen or read if desired by the Society. My third case was a negro boy who had a disease of a toe which rendered amputation necessary, and the operation was performed July 3rd, 1842, without the boy evincing the slightest sign of pain.

These were all the surgical operations performed by me during the winter of 1842 upon patients etherized, no other case occurring in which I believed the inhalation of ether applicable. Since '42 I have performed one or more surgical operations annually, on patients in a state of etherization.

I procured some certificates in regard to these operations, but not with the same particularity as in regard to the first operations, from the first my sole object in the publication being to establish my claim to priority of the discovery of the power of ether to produce anaesthesia. However, these certificates can be examined.

The reasons which influenced me in not publishing earlier are as follows:

I was anxious, before making my publication, to try etherization in a sufficient number of cases to fully satisfy my mind that anaesthesia was produced by the ether, and was not the effect of the imagination or owing to any peculiar insusceptibility to pain in the persons experimented on.

At the time I was experimenting with ether there were physicians high in authority and of justly distinguished character who were the advocates of mesmerism, and recommended the induction of the *mesmeric state* as adequate to prevent pain in surgical operations. Notwithstanding thus sanctioned I was an unbeliever in the science, and of the opinion that if the mesmeric state could be produced at all it was only on those of strong imaginations and weak minds, and was to be ascribed solely to the workings of the patient's imagination. Entertaining this opinion, I was the more particular in my experiments in etherization. Surgical operations are not of frequent occurrence in a country practice, and especially in the practice of a young physician, yet I was fortunate enough to meet with two cases in which I could satisfactorily test the anaesthetic power of ether. From one of these patients I removed three tumors the same day; the inhalation of ether was used only in the second operation, and it was effectual in preventing pain, while the patient suffered severely from the extirpation of the other tumors. In the other case I amputated two fingers of a negro boy; the boy was etherized during one operation and not during the other. He suffered from one operation and was insensible during the other. After fully satisfying myself of the power of ether to

produce anaesthesia, I was desirous of administering it in a severer surgical operation than any I had performed. In my practice, prior to the published account of the use of ether as an anaesthetic, I had no opportunity of experimenting with it in a capital operation, my cases being confined, with one exception, to the extirpation of small tumors and the amputation of fingers and toes. While cautiously experimenting with ether, as cases occurred, with the view of fully testing its anaesthetic powers and its applicability to severe as well as minor surgical operations, others more favorably situated engaged in similar experiments and consequently the publication of etherization did not "bide my time." I know that I delayed the publication too long to receive any honor from the priority of discovery, but having by the persuasion of my friends presented my claim before the profession, I prefer that its correctness be fully investigated before the Med. Society. Should the Society say that the claim, though well founded, is forfeited by not being presented earlier, I will cheerfully respond, so mote it be.

Not wishing to intrude upon the time of the Society, I have made this short compendium of all the material points stated in my article in the Journal, and if the Society wishes any fuller information on the subject I will cheerfully comply with their wishes.

Long did not push himself into the arena as a claimant for the honor of the discovery of anesthesia until 1854, when, at the solicitation of his friends, he wrote to Senator Dawson, giving him an account of what he had done. Morton was then diligently pushing his claim for compensation before Congress, and it was evident if that body were to yield him its official recognition it would have definitely settled all claims in his favor. Long does not appear to have at any time considered the fact of pecuniary reward. Senator Dawson told Dr. C. T. Jackson of this new claimant for the honor, and Jackson called upon Long to discuss the matter personally with him. Long convinced Jackson of the justness of his claim, and the latter wrote to Senator Dawson and told him that he withdrew his claim, as he believed Long was the discoverer. In the *Boston Medical and Surgical Journal* for April 11, 1861, Dr. Jackson

publicly announced, in a letter to the editors, that he considered Dr. Long to be justly entitled to the honor of being the discoverer of ether anesthesia.¹

Long was very modest and retiring, and his claim was allowed to be almost forgotten until Dr. J. Marion Sims stated it once more, in an article in the *Virginia Medical Monthly* for May, 1877.

Long, in 1842, married Miss Caroline Swain, niece of Governor Swain, of North Carolina. In 1851 he moved to Atlanta, Ga., but after one year he moved to Athens. His life seems to have been a peaceful, happy, and honored one. He died of apoplexy, June 16, 1878, aged sixty-two. His death occurred at the bedside of a patient whom he had just delivered of a child.

It is sometimes said that Dr. Long died in poverty, but this is a mistake. He left an estate valued at forty thousand dollars.

The credit of demonstrating to the world the practicability of the use of ether as an anesthetic, and of realizing the immense boon the substance was to mankind, must be ascribed to William Thomas Green Morton, who was born at Charlton, Worcester County, Mass., on August 19, 1819. His father kept a store and had also a farm of considerable size, on which the son spent most of the days of his youth. He received an ordinary

¹ Charles T. Jackson (1805-1880), born at Plymouth, Mass., graduated from the Harvard Medical School in 1829. After graduating he passed three years in Europe, travelling and studying. In 1832 he was in Vienna during the cholera epidemic and assisted at many autopsies on the bodies of the victims. In the *Boston Medical Magazine* for October, 1832, he published the result of his observations. Samuel F. B. Morse was a fellow passenger with Jackson on the ship on which he returned to the United States. When Morse announced his discovery of the electric telegraph in 1840, Jackson claimed that during the voyage he had shown Morse a lot of physical and electrical apparatus which he had purchased while in Europe, and in the course of their conversations had revealed to Morse the principles underlying the electric telegraph. Jackson claimed that he himself had constructed a working telegraph but did not publish anything about it because he thought it was not adapted to general use. Thus Jackson claimed to have had a hand in two of the greatest scientific events of his time. He never practiced medicine directing all his energies to chemistry and geology. He was state geologist to Maine, Rhode Island and New Hampshire at different times. Sometime in the middle forties he explored the shores of Lake Michigan and his report of the riches in copper to be found there first attracted general attention to that region.

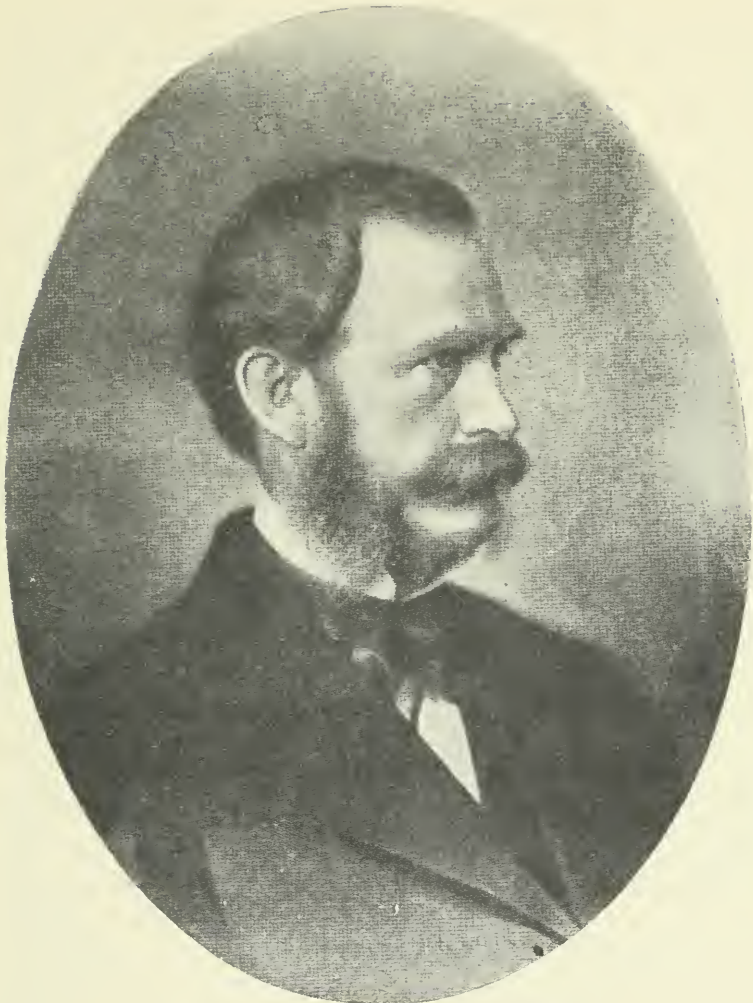


FIG. 98. W. T. G. Morton (1819-1868).
(From the "Semi-Centennial of Anaesthesia," Boston, 1896.)

school education, and then began life as a clerk in a store. As a boy Morton is said to have had a strong desire to study medicine, but his father had not the means to gratify his aspirations. The young man had a decided bent for mechanics, and in 1840 he began the study of dentistry in the Baltimore College of Dental Surgery, which had recently started on its career, the first regularly established college of dentistry in the United States. Morton joined its first class, and after receiving his diploma entered into partnership with Dr. Horace Wells to practice dentistry in Boston. Little could either of them foresee of the bitter feud which was subsequently to spring up between them. In 1843, their business having proved unprofitable, they dissolved partnership, and Morton opened dental parlors by himself. In 1844 he married Miss Elizabeth Whitman, of Farmington, Conn., who remained his loyal helpmeet in all his subsequent troubles. He proved very successful in his practice, so much so that in 1844 he entered as a student in the Harvard Medical School, continuing during his work there the practice of his profession. He did not graduate from Harvard, as is sometimes erroneously stated, because his successful demonstration of anesthesia occurred before the completion of his course, and resulted in overwhelming him with demands on his time to such an extent that he was obliged to give up his medical studies.

Morton's mind was first directed to the study of the production of anesthesia by his discovery of a new method of inserting artificial teeth. The old way had been to solder the artificial tooth upon a gold plate, the latter being placed directly over the fangs of the old teeth. To fasten the artificial teeth upon the plate it was necessary to use a gold solder of softer consistency than the metal plate, as a heat sufficient to heat the solder would have melted the plate below. This method caused a reaction to occur between the metals in the

solder and the gold plate, as a result of which the solder would change color, and each tooth would have a black line at its base. Likewise, the retention of discharge between the roots of the old tooth and the plate resulted in a decomposition of the organic material, which rendered the breath intolerably offensive. Dr. Morton found a way to use a solder of the same material as the plate, but his plan involved the removal of the old fangs. This was always a very painful process, and thus his mind was set to work on some plan by which this troublesome feature might be obviated. Morton tried to lessen the pain in many instances by producing alcoholic intoxication or by the administration of large amounts of opium. Dr. Rice¹ gives the following extract from a case-book of Morton's:

Mrs. S— to have the whole of teeth in both jaws extracted. Commenced giving opiates about noon. Gave first 150 drops of laudanum. Twenty minutes later, gave 150 additional. Waited ten minutes and gave 100 drops more. Gave 200 drops more with intervals of five minutes. Whole amount given 500 drops in forty-five minutes. At the expiration of this, she was sleepy, but able to walk to the chair. Immediately on extraction of first tooth she vomited. She continued in this way for one hour, during which time the rest of the teeth were extracted. She was conscious, but insensible to a considerable degree. On returning home, she continued to vomit at intervals during the afternoon. Entirely recovered in a week.

In one of his cases he applied ether locally and found it benumbed the part.

There seems to be no doubt that Morton experimented extensively with sulphuric ether in pursuit of his object, and that from an early date that substance seemed to him to possess properties which might be utilized to produce anesthesia. In the course of his experiments he succeeded in rendering himself unconscious by its inhalation, and on that same day, the 30th

¹Trials of a Public Benefactor.

of September, 1846, he extracted a tooth whilst the patient was unconscious from ether. It was also on this date that he spoke to Dr. C. T. Jackson on the subject, and that conversation was destined to play a most important part in the subsequent wrangling. It would appear from the evidence before the Senate Committee that Dr. Morton called on Dr. Jackson with a view of obtaining information bearing upon his researches. As a man who deemed himself on the verge of a great discovery and trembling with fear lest some one should anticipate him, he took the greatest pains to conceal the real progress he had made and the nature of the substance he was experimenting with. The power of ether to produce unconsciousness when inhaled led Jackson to mention it to Morton. The latter pretended to have never heard of this property possessed by ether, and dissembled so skilfully that Jackson afterwards maintained that Morton had no knowledge of ether at this time, and that he was the first to suggest its use to him. There were four persons present at this interview, and in their relation of what occurred they all differed. All agreed in one point, namely, that Dr. Morton assumed total ignorance of sulphuric ether, its nature and qualities, and left the impression on the minds of those present that he knew nothing of it.

Morton, wishing to get endorsements and support from the medical profession, decided to try to induce the surgeons of the Massachusetts General Hospital to allow him to demonstrate his discovery in their presence. He therefore called on Dr. J. C. Warren and requested an opportunity to use what he called his "preparation" on a case at the Hospital. Dr. Warren promised to aid him, and soon after Morton received the following letter:

Dear Sir: I write at the request of Dr. J. C. Warren, to invite you to be present on Friday morning at 10 o'clock, at the hospital, to administer to a patient who is then to be operated upon the

preparation which you have invented to diminish the sensibility to pain.

Yours respectfully

C. F. Heywood.

House Surgeon to the General Hospital, October 14, 1846.

Dr. Morton, Tremont Row.

The day thus fixed was October 16.

At the suggestion of Dr. A. A. Gould, the distinguished naturalist, of Boston, Dr. Morton had a new form of apparatus constructed for use in the administration of the anesthetic. This caused some delay in his arrival at the Hospital, and it was at first supposed by those gathered in the operating-room that he was afraid to appear and had backed out. The best account of the scene by an eye-witness is that written by Dr. Washington Ayer, of San Francisco, published in the "Account of the Semi-Centennial of Anaesthesia" at Harvard. He writes:

The day arrived; the time appointed was noted on the dial, when the patient was led into the operating-room, and Dr. Warren and a board of the most eminent surgeons in the State were gathered around the sufferer. "All is ready—the stillness oppressive." It had been announced "that a test of some preparation was to be made for which the *astonishing* claim had been made that it would render the person operated upon free from pain." These are the words of Dr. Warren that broke the stillness.

Those present were incredulous, and, as Dr. Morton had not arrived at the time appointed and fifteen minutes had passed, Dr. Warren said, with significant meaning, "I presume he is otherwise engaged." This was followed with a "derisive laugh," and Dr. Warren grasped his knife and was about to proceed with the operation. At that moment Dr. Morton entered a side door, when Dr. Warren turned to him and in a strong voice said, "Well, sir, your patient is ready." In a few minutes he was ready for the surgeon's knife, when Dr. Morton said, "*Your* patient is ready, sir."

Here the most sublime scene ever witnessed in the operating-room was presented, when the patient placed himself voluntarily upon the table, which was to become the altar of future fame. Not that he did so for the purpose of advancing the science of



FIG. 99. Dr. Morton demonstrating the administration of ether at the Massachusetts General Hospital, October, 16, 1846. (From the "Semi-Centennial of Anesthesia," Boston, 1896.)

medicine, nor for the good of his fellow-men, for the act itself was purely a personal and selfish one. He was about to assist in solving a new and important problem of therapeutics, whose benefits were to be given to the whole civilized world, yet wholly unconscious of the sublimity of the occasion or the part he was taking.

That was a supreme moment for a most wonderful discovery, and had the patient died under the operation, science would have waited long to discover the hypnotic effects of some other remedy of equal potency and safety, and it may be properly questioned whether chloroform would have come into use as it has at the present time.

The heroic bravery of the man who voluntarily placed himself upon the table, a subject for the surgeon's knife, should be recorded and his name enrolled upon parchment, which should be hung upon the walls of the surgical amphitheatre in which the operation was performed. His name was Gilbert Abbott.

The operation was for a congenital tumor on the left side of the neck, extending along the jaw to the maxillary gland and into the mouth, embracing the margin of the tongue. The operation was successful; and when the patient recovered he declared he had suffered no pain. Dr. Warren turned to those present and said, "Gentlemen, this is no humbug."

The following is the Hospital record of the case:

Gilbert Abbott, age twenty, painter, single; tumor on face. This man had from birth a tumor under the jaw, on the left side. It occupies all space anterior to neck, bounded on the inside by median line, on the outside is even with the edge of jaw; below, on a level with the Pomum Adami, and in front tapers gradually as far as anterior edge of jaw; integuments not adherent to it; skin smooth and of natural color; it is uniformly soft, except in centre, where a small hard lump can be felt, corresponding in size and situation with submaxillary gland; can be made to disappear by compression, but seems rather to be displaced than emptied. The edge of the lower jaw-bone can be felt, through the tumor, to be irregular. On examination of the inside of the mouth, find a soft smooth tumor, a hemisphere about five lines in diameter, of a livid color, on the left lobe of tongue, about an inch behind tip. That portion of the organ in front and underneath the tumor is of a dark purple color. This tumor is readily emptied by slight pressure, but it fills again in one or two seconds, but not sooner when pressure is made simultaneously upon the external tumor. For distance of five lines from angle of mouth on right side the lower lip is of a

livid hue. This seems to be a continuation of a stripe, similar in appearance, which extends from angle of jaw on right side about on level of lower teeth; it is about four lines wide and slightly raised; its color seems to depend on small spots like granulations, of a livid color, set on mucous membrane of ordinary appearance.

This case is remarkable in the annals of surgery. It was the first surgical operation performed under the influence of ether. Dr. Warren had been applied to by Mr. Morton, a dentist, with the request that he would try the inhalation of a fluid which, he said, he had found to be effectual in preventing pain during operations upon the teeth. Dr. Warren having satisfied himself that the breathing of the fluid would be harmless, agreed to employ it when an opportunity presented. None occurring within a day or two in private practice he determined to use it on this patient. Before the operation began, some time was lost in waiting for Mr. Morton, and ultimately it was thought he would not appear. At length he arrived, and explained his detention by informing Dr. Warren that he had been occupied in preparing his apparatus, which consisted of a tube connected with a glass globe. This apparatus he then proceeded to apply, and after four or five minutes the patient appeared to be asleep, and the operation was performed as herein described. To the surprise of Dr. Warren and the other gentlemen present, the patient did not shrink, nor cry out, but during the insulation of the veins he began to move his limbs and utter extraordinary expressions, and these movements seemed to indicate the existence of pain; but after he had recovered his faculties he said that he had experienced none, but only a sensation like that of scraping the part with a blunt instrument, and he ever afterward continued to say that he had not felt any pain.

Note.—The results of this operation led to the repetition of the use of ether in other cases, and in a few days its success was established, and its use resorted to in every considerable operation in the city of Boston and its vicinity.

A few days later Dr. Morton was told that the "surgeons of the hospital thought it their duty to decline the use of the preparation until informed what it was." After some further correspondence and interviews Morton told them what the substance was, thus really showing the spirit of a public benefactor. There has been much dispute as to Morton's conduct in this matter, some holding that it was monstrous for him to

try to secrete the nature of his discovery and secure a patent for his rights, others justifying his course in the matter. I think that due attention should be given to the fact that Morton had worked hard and by virtue of his labors discovered something of the greatest commercial value. Just imagine what it would mean to a man to hold such a patent. Dentists have always been in the habit of patenting any devices or appliances which they have discovered, and no one has thought any the worse of them for doing it. Morton was not a doctor, and consequently under no professional obligations. It would, of course, have been a beautiful and noble thing for him to have freely given this great boon to the world, but it was almost too much to expect. And then it is but right to place some belief in what Morton claimed was the reason he wished the nature of the substance he used to remain a secret, namely, that he might perfect the method of its use, and not come before the world with his discovery until he had become positively assured of its efficacy. Certainly the surgeons of the Massachusetts General Hospital, than whom no more competent set of judges could be found, believed in Morton's sincerity from the outset and maintained their confidence in him to the last.

A patent was issued to Morton on November 12, 1846, and on December 21, 1846, he secured an English patent through an English subject named Dore, who at once assigned his rights to Morton.

Morton called the anesthetic "Letheon," but, of course, this term was soon given up for the real name of the substance, ether. The term anesthetic was first suggested by Dr. Oliver Wendell Holmes in the following letter to Dr. Morton:

Boston, Nov. 21st, 1846.

My Dear Sir:—Everybody wants to have a hand in a great discovery. All I will do is to give you a hint or two, as to names, or the name, to be applied to the state produced and the agent. The

state should I think be called "Anaesthesia." This signifies insensibility, more particularly (as used by Linnaeus and Cullen) to objects of touch. (See Good—Nosology, p. 259.) The adjective will be "Anaesthetic."¹ Thus we might say, the state of anaesthesia, or the anaesthetic state. The means employed would be properly called the anti-aesthetic agent. Perhaps it might be allowable to say anaesthetic agent, but this admits of question.

The words, antineuritic, aneuric, neuro-leptic, neuro-lepsis, neuro-etasis, etc., seem too anatomical; whereas the change is a physiological one. I throw them out for consideration, I would have a name pretty soon, and consult some accomplished scholar, such as President Everett or Dr. Bigelow, senior, before fixing upon the terms, which will be repeated by the tongues of every civilized race of mankind. You could mention these words which I suggest for their consideration; but there may be others more appropriate and agreeable.

Yours respectfully,
O. W. Holmes.

Dr. Morton.

MORRILL WYMAN, HENRY I. BOWDITCH AND THORACENTESIS

Morrill Wyman (April 25, 1812 to January 21, 1903), the first to actually practice aspiration of a pleural effusion, was the son of Dr. Rufus Wyman, the first superintendent of the McLean Insane Asylum, and a brother of Dr. Jeffries Wyman, the distinguished naturalist. He was born at Chelmsford, Mass., and after graduating from Harvard in 1833, graduated from the Harvard Medical School in 1837. Wyman then served as house officer at the Massachusetts General Hospital before settling in practice at Cambridge, Mass. For some years he was Hersey Professor of the Theory and Practice of Medicine at Harvard and Consulting Physician to the Massachusetts General Hospital. On February 23, 1850 he tapped a patient suffering from pleural effusion using an exploring needle and a stomach pump, and on April 17, 1850, he aspirated a

¹ Osler, *Ann. M. Hist.*, 1: 1917, says, "Nor is the word anaesthesia modern, as is sometimes said. It occurs, Withington tells me, first in Plato (Timaeus) and is used by Dioscorides in the modern sense."

patient with Dr. Henry I. Bowditch. The latter was most enthusiastic in his advocacy of the measure and by his writing and speaking so much in its favor has given rise to the opinion that he was the real inventor of the procedure. This Bowditch himself always disclaimed generously conceding the credit to Wyman. The latter perfected a trocar and cannula with a syringe attachment shortly after his first experience, and he performed the operation many times with great success. Thoracentesis had been suggested previously, by Trousseau, but to Wyman belongs the credit of designing and employing the instruments and technique. In 1870 Dieulafoy published his method of aspirating the chest without mentioning the previous work of Wyman in anyway or referring to Bowditch's advocacy of it. In the "Life of Bowditch" by his son he is said to have aspirated the chest over 300 times without a single fatality. Before Wyman's invention pleural effusions had occasionally been evacuated by incision of the chest wall, an extremely dangerous procedure in pre-antiseptic days.

Henry Ingersoll Bowditch¹ was born in Salem, Mass., on August 9, 1808. His father was the distinguished mathematician, Nathaniel Bowditch, the translator of La Place's "La Mécanique Céleste." After graduating from Harvard College in 1828 he entered the medical school under the tuition of Dr. James Jackson. He received his M.D. in 1832 but in August, 1830, he had been appointed House Physician in the Massachusetts General Hospital. He went abroad in 1832 and spent nearly two years studying in Paris, especially with Chomel, Andral and Louis. For the latter he had the most enthusiastic admiration as did all the young Americans, who went to Paris chiefly to work under him. This was the period in which Paris was the Mecca

¹ The most complete information about Henry I. Bowditch is contained in his "Life," written by his son Vincent Y. Bowditch.

for Americans who wished to do post-graduate work.¹ Among Bowditch's fellow-students in Paris were Oliver Wendell Holmes, Mason Warren and James Jackson, Jr., from Boston, and W. W. Gerhard, of Philadelphia. Jackson was a great favorite with Louis and Bowditch seems to have also been treated by him with great consideration. There are few pleasanter things in medical literature than the letters written by the American medical students of Louis concerning their great teacher. He must not only have been a man of great ability but also of a wonderful heart. In the year 1833 Bowditch went to England where he was not nearly so greatly impressed by the great teachers whom he saw nor by the work in the hospitals, compared with what he had seen in France. He returned to Paris and resumed his work at La Pitié, writing to his family that the advantages there were so much greater that he could not forego them in order to comply with his father's wish that he would remain in London. In 1834 he returned to America and began practicing in Boston. Bowditch was an ardent abolitionist, losing no opportunity to express his views. His aggressiveness in support of his views got him into hot water with many of his old friends and associates. In 1841 while he was Admitting Physician to the Massachusetts General Hospital, the trustees passed a resolution refusing to admit negroes to the wards. Thereupon Bigelow proffered his resignation in a vigorous letter condemning the action of the trustees. Shortly after the trustees rescinded the resolution and Bowditch withdrew his resignation. He was elected Visiting Physician to the Hospital in 1846 and held that position until he resigned, in 1863, because of pressure of other duties. He was then elected Consulting Physician and continued so until his death. His son dwells on his intimacy with Garrison, Whittier and

¹ Consult Osler, "The Influence of Louis on American Medicine," reprinted in "An Alabama Student and Other Biographical Essays."

others of the leading abolitionists of New England and relates how he asked Frederick Douglass to dine with him. He was an early advocate of the admission of women to the same privileges as men in the medical profession. In 1846 Dr. Bowditch was the leading spirit in founding the Society for Medical Observation, an organization limited to twelve members chosen from among the teachers in the Boylston Street Medical School. Later the membership was enlarged and the scope of the Society broadened. It had a profound and useful influence on medical affairs in Boston and was a powerful factor in stimulating the growth of the Boston Medical Library. From 1859 to 1867 he was Jackson Professor of Clinical Medicine at Harvard. He was much interested in hygiene and was chairman of the Massachusetts State Board of Health when that body, the first of its kind in the United States, was organized in 1869. He wrote much on tuberculosis and its hygienic management. In 1850 Bowditch advocated the employment of paracentesis for the relief of pleural effusion and the weight of his authority was such as to greatly aid in the adoption of the procedure.

ERASTUS B. WOLCOTT¹

THE FIRST NEPHRECTOMY

Erastus Bradley Wolcott was born at Benton, Yates County, New York, October 18, 1804. His father, who belonged to the distinguished Wolcott family of Connecticut, was one of the many natives of that State who trekked to New York in the latter part of the eighteenth century. After studying medicine with Dr. Joshua Lee, a well-known physician of central New York, he started

¹The account of Wolcott's nephrectomy written by Dr. Charles L. Stoddard is contained in the *Med. & Surg. Rep.*, 7: 126, 1861-62, Philadelphia. It is quoted practically in full in M. B. Tinker's article, "The First Nephrectomy and the First Cholecystotomy, with a sketch of Doctors Erastus B. Wolcott and John S. Bobbs," *Johns Hopkins Hosp. Bull.*, No. 125, August 1901, p. 247. It is curious that Gross does not refer to him in his biographical or historical accounts of American surgeons.

in to practice in 1825, under a license received from the Yates County Medical Society. After five years of practice with a mining company and in Charleston, S. C., Wolcott entered the College of Physicians and Surgeons of the Western District of New York, at Fairfield, from which he received his M.D. in 1833. In 1836 he received a commission as surgeon in the United States Army. After serving in this capacity on the western frontier, he resigned in 1839 and settled in practice in Milwaukee where he soon acquired a widespread reputation for surgical ability. Wolcott was a man of great physical strength, marked force of character, and amiable disposition. His remarkable success as an abdominal surgeon and lithotomist testify to his surgical skill. He was honored by a number of public appointments; to the Board of Regents of the Wisconsin State University, Trustee of the State Insane Asylum, Surgeon General of the National Guard, etc. Tinker was unable to find any report by Wolcott himself of his nephrectomy, but he reprints the report of it by Dr. Charles L. Stoddard in the *Medical and Surgical Reporter* of Philadelphia.¹

Dr. Stoddard was invited by Wolcott to assist him in the removal of a tumor in the right hypochondrium of a man fifty-eight years old, on June 4, 1861. The preoperative diagnosis was cystic tumor of the liver, pressing on the kidney.

After the administration of chloroform, Dr. Wolcott proceeded to the removal of the tumor by making an incision diagonally across it down to the peritoneum which we found to be very much thickened and slightly attached to it. He then proceeded to free it from its extensive posterior attachments, after which he found that the superior attachment was a very dense cord-like structure, about an inch in circumference, and apparently proceeding from the posterior of the liver.

Carefully tying the pedicle, he severed this connection with a knife, and after removing foreign matter carefully from the

¹ Vol. 7: p. 126, 1861-62.

abdomen, brought the edges of the wound together with common sutures and adhesive strips, which was the only dressing used . . . The tumor weighed $2\frac{1}{2}$ pounds, and on incising it freely, we found undoubted evidence of its being a kidney from a small portion of its upper portion, which had not degenerated, showing the tubules and a portion of the pelvis.

The patient survived the operation fifteen days, and then died "apparently from exhaustion, caused by the great amount of suppuration which necessarily followed it."

As Tinker points out Wolcott's operation was performed eight years before the nephrectomy reported by Simon of Heidelberg in 1870, in the *Deutsche Klinik*, Berlin. Simon, however, undertook the performance of nephrectomy deliberately, after having studied the operation experimentally on dogs.

Dr. Wolcott died on January 5, 1880, of pneumonia. Perhaps one reason for the neglect of Wolcott by Gross and other contemporary writers is to be found in the fact, stated in the biographical sketch by Marion Wolcott Yates in Kelly's "American Medical Biographies," that, "the illiberal rules of the medical societies of that day excluded Dr. Wolcott from membership because he would extend his surgical and consultation aid to homeopathic physicians."¹

JOHN STOUGH BOBBS,

THE FIRST CHOLECYSTOTOMY²

John Stough Bobbs was born in Green Village, Penna. December 28, 1809. He began the study of medicine under Dr. Martin Luther, of Harrisburg, Penna, and

¹ Irving S. Cutter has recently published in the *Internat. Abst. Surg.*, February, 1929, a facsimile of Dr. Stoddard's report of Wolcott's case.

²There is a memoir of Dr. Bobbs by P. H. Jameson, M. D., in the *Tr. Indiana M. Soc.* for 1894. Dr. M. B. Tinker published an interesting article on Bobbs in the *John Hopkins Hosp. Bull.*, August 1901, entitled, "The First Nephrectomy and the First Cholecystotomy, with a Sketch of the Lives of Doctors Erastus B. Wolcott and John S. Bobbs." In the *Indiana M. J.*, July, 1905, Dr. A. W. Brayton reprinted Bobb's paper from the *Tr. Indiana M. Soc.* of 1868 with a picture of his patient as she appeared in 1899. The *Indiana M.*

practiced for some years in Middletown near Harrisburg without having obtained a degree. In some way he managed to attend the necessary two terms of courses at Jefferson Medical College and in 1836 he graduated from it. Settling in Indianapolis he soon acquired a very large practice. The Medical College of Indiana was organized in 1869 with Bobbs as Professor of Surgery. He was a great believer in the organization of the profession, helping to organize the Marion County Medical Society in 1847, and the Indiana State Medical Society in 1849. In 1868 he was president of the latter. During the Civil War he was a brigade surgeon and medical director for Indiana. He was active in establishing the Indiana State Hospital for the Insane. For a time he was in the State Senate. In 1840 Bobbs married Miss Catherine Cameron, a sister of Senator Simon Cameron, of Pennsylvania. He died May 1, 1870.

Bobbs was a daring surgeon. Jameson mentions a number of major operations which he saw him perform. His cholecystotomy was performed on June 15, 1867, and is reported in the *Transactions of the Indiana State Medical Society* for 1868. The patient was a woman, thirty-eight years old, suffering from a swelling in the right side of the abdomen. Dr. Bobbs stated that he could not be sure of the true nature of the mass but advised an exploratory laparotomy. The operation was performed under chloroform. A large mass was exposed, from which after an incision had been made into it, a number of gallstones were removed. The patient made an uneventful recovery, and according to an editorial note in the *Indiana State Medical Journal*, was alive and well in 1899, thirty-two years after the operation.

Tinker states that Fabricius Hildanus, in his "Observations Chirurgiques," 1669, credits Johannes Fabri-

J., had previously in 1899 republished Bobbs' report. Irving S. Cutter has published in the *Internat. Abst. Surg.*, November, 1928, an interesting summary of the matter.

cius with having incised a gall bladder and removed stones from it in 1618, but there is no evidence that this was an operation on a living person. He adds, that Jean Louis Petit in the "Memoires de L'Academie Royal de Chirurgie," 1743, mentions three cases in which the gall bladder was incised by mistake as an abscess, and from post-mortem studies he concluded that if there were adhesions walling off the gall bladder it would be a justifiable operation to incise it where patients were in danger of death unless operated on. It does not appear, however, that he ever actually performed the operation.

AMOS TWITCHELL AND LIGATION OF THE COMMON CAROTID¹

Although Sir Astley Cooper was the first to publish in the *Medico-Chirurgical Transactions*, in 1809, the report of a successful ligation of the common carotid, which he had performed in 1808, the priority over his operation is really due to Amos Twitchell, a practitioner in rural New England, whose report, however, was not published until thirty-six years later.

Amos Twitchell was born in Dublin, N. H., April 11, 1781. After graduating from Dartmouth College in 1802, he began the study of medicine under Nathan Smith and in 1805 he got his medical degree from Dartmouth. He started practicing in Norwich, Vt., but in a few years moved to Marlborough, N. H. On October 8, 1807, he was called to Sharon, N. H. to see a boy whose jaw had been wounded during a sham battle of the militia. He had a large wound "penetrating the pharynx and mouth, by which were destroyed, or greatly lacerated, nearly the whole of the parotid gland, the temporal, masseter and pterygoid muscles." Twitch-

¹ Dr. Irving S. Cutter, of Chicago, in his series of articles entitled "Landmarks in Surgical Progress" has recently published in *Internat. Abs. Surg.*, January, 1929, an interesting account of this operative procedure, with facsimile excerpts from the most important part of Twitchell's report.

ell took charge of the case and dressed the wound. Ten days later, October 18, 1807, the wound looked clean but still "presented a huge circular aperture; at the bottom of which might be distinctly seen the internal carotid artery denuded from near the bifurcation of the common trunk, to where it forms a curve to enter the canal in the petrous portion of the temporal bone." Twitchell dressed the wound and was on the point of leaving the house when one of the family called to him that the boy was bleeding. Twitchell says:

I hastened back to his room, and found him deluged with blood. The dressings were immediately removed and the blood jetted forcibly, in a large stream, to the distance of three or four feet. With the thumb of my left hand, I instantly compressed the artery against the base of the skull; and thus effectually controlled the hemorrhage. The patient had fainted, and fifteen or twenty minutes had elapsed before he was so much revived that I dared to make any attempt to secure the artery. Then, still keeping the thumb pressed firmly on the orifice, I proceeded to clear the wound from blood; and having done this, I made an incision with a scalpel, downward, along the course of the artery, to more than an inch below the point where the external branch was given off; which, as stated above, had been destroyed at the time of the injury. Having but one hand at liberty, I depended upon the mother of the patient to separate the sides of the wound; which she did, partly with a hook and occasionally with her fingers. At length, by careful dissection and partly by using my fingers and the handle of the scalpel, I succeeded in separating the artery from its attachments; and passing my finger under it, I raised it up sufficiently for my assistant to pass a ligature round it. She tied it with a surgeon's knot, as I directed, at about half an inch below the bifurcation.

Unfortunately when Twitchell removed his thumb blood spurted again from the rupture in the artery. He then proceeded to put a sponge against the orifice and kept on putting one sponge on top of another over it till he had filled the wound with a cone of sponges "the base of which projected two or three inches externally." Upon the projecting part he now made firm

pressure by a roller bandage over the head, face and neck. This proved effectual. The patient made a complete recovery. In 1843 Twitchell wrote his account of the case and gave it to G. C. Shattuck, Jr. who published it in the *New England Quarterly Journal of Medicine* in 1843.

In 1810 Twitchell removed to Keene, N. H., where he practiced until his death on May 26, 1850.

Cutter quotes the following ligations of the common carotid. Abernethy tied it in 1798 but the patient died. He reports the case in his "Surgical Observations," London, 1804. Mr. Fleming, a British naval surgeon, tied the common carotid in 1803, in a patient who had attempted suicide. The man recovered. Sir Astley Cooper operated unsuccessfully on a patient on November 1, 1805. Accordingly Twitchell's case was only preceded by one other successful ligation of the common carotid, that of Fleming.

EDWARD LIVINGSTON TRUDEAU

THE PIONEER IN THE CLIMATIC TREATMENT OF TUBERCULOSIS IN THE UNITED STATES¹

Trudeau was born in New York City, October 5, 1848, of French stock on both sides of the family. His father who practiced medicine in New Orleans possessed great artistic ability and a passionate love of life in the woods. He was a friend of Audubon, the naturalist, accompanying him in some of his expeditions and drawing some illustrations for his book. Trudeau's maternal grandfather, Dr. François Éloi Berger, was a French physician, living in New York City, where he had a large practice. When Trudeau was a small boy his father and mother separated, later obtaining a divorce, and Dr. Berger retiring from practice went to live in

¹ The best authority for the life work of this foremost pioneer in the fight against tuberculosis is "An Autobiography, by Edward Livingston Trudeau, New York, 1916," in which he modestly relates the chief events in his career.

Paris, taking his daughter and her children with him. There Trudeau lived nearly fifteen years, when the family all returned to New York in 1865. In that year his interest in tuberculosis was awakened by the death of a beloved brother to whom Trudeau served as nurse and companion during his last illness. Trudeau, according to his own account of his youthful days, was a strong athletic pleasure-loving young fellow, who led a gay life until he settled down to study medicine, getting his M.D. from the College of Physicians and Surgeons of New York in 1871. He was appointed House Physician at the Strangers Hospital, a position he only held for six months. In June, 1871, upon leaving the hospital he married Miss Lottie Beare, who in subsequent years proved herself such a splendid aid not only in his fight against his own physical disabilities, but also in the realization of his dream of helping others. On their return from a European honeymoon Trudeau began practice in New York. He had several attacks of illness which, thanks largely to his researches, would nowadays be considered as evidences of tuberculous infection. In 1873 he had a breakdown and was told by Dr. Janeway that he had pulmonary tuberculosis. Having been advised to seek the mountain air he went to Paul Smiths' boarding house in the Adirondacks, which he had previously visited on a shooting trip. After spending a winter at Smiths', Trudeau determined that he would henceforth live in the mountains. In November, 1876, he settled at Saranac Lake and began his lifework. Dr. Alfred Loomis, of New York, had realized the value of the climatic treatment in the Adirondacks and had sent patients there from time to time. Trudeau in 1882 had read of the results achieved by Brehmer and Dettweiler in the treatment in sanatoria of tuberculous patients. He realized what the Adirondacks had done for him and also the difficulties which beset the path of those who most needed such treatment. Trudeau set

about personally begging funds with which to erect a suitable building. He had been in the custom of giving his professional services for nothing to the guides and their families and was greatly beloved by them because of his generous disposition as well as his qualities as a first-class sportsman. A number of the guides chipped in and presented him with sixteen acres of land as a site. The Adirondack Cottage Sanitarium was opened in 1885. In 1882 Koch's paper on the "Etiology of Tuberculosis" appeared. Trudeau at once grasped its importance. Going to New York he got Dr. J. Mitchell Prudden to teach him the method of staining the tubercle bacillus and returning to Saranac constructed a little laboratory adjoining his office. From that time until his death many of the most important contributions to research in tuberculosis were made by Trudeau from his laboratory. In 1894, while Dr. Trudeau was sick in New York City he received a telegram telling him that his house and laboratory had been destroyed by fire. Osler telegraphed him, "I am sorry to hear of your misfortune, but take my word for it, there is nothing like a fire to make a man do the Phoenix trick." People who realized the value of the work Trudeau was engaged in sent him financial help and as a result a fireproof laboratory building, splendidly equipped, soon replaced the little room in which he had been carrying on his investigations.

Trudeau died on November 15, 1915. When one contemplates the ill-health from which he suffered from early manhood and the difficulties he had to overcome the result of his lifework is truly astonishing. Not only did he build up what is probably the most complete institution of its kind in the world but his contributions to our knowledge of tuberculosis and the best means of combating it are invaluable. It is not too much to state that to him more than to any other person is due the tremendous effort which has been made during the past

fifty years in the United States to combat the White Plague.

WALTER REED, JAMES CARROLL AND JESSE W. LAZEAR
THE DISCOVERY OF THE CAUSE OF YELLOW
FEVER¹

Yellow fever was one of the great epidemic scourges which from time to time devastated various parts of the United States. Elsewhere in this book we have described some of the great epidemics which swept the country towards the close of the eighteenth and the beginning of the nineteenth century. Throughout the latter the old difference of opinion as to whether the disease was contagious or not prevailed and the measures taken to combat an epidemic varied in different localities in accordance with which view prevailed in it. These divergent views were first brought into active conflict during the yellow fever epidemic of 1792, one group of physicians headed by Benjamin Rush contending that the disease was contagious, spread by contact with individuals having it, another group represented by Dr. Deveze in Philadelphia and Dr. Nathaniel Potter in Baltimore holding that it was not conveyed by contact but was due to decomposition of organic matters or morbid exhalations or miasmata. Jean Deveze was a French physician practicing in Philadelphia and though favorably known he was not able to successfully combat the great Rush. In 1794 he published at Philadelphia "An Inquiry into and Ob-

¹ A most complete, concise resume of information on this subject is contained in "Walter Reed and Yellow Fever," by Howard A. Kelly, the revised edition of which published in 1907 may be ranked as a medical classic. "The Life of George M. Sternberg" by his widow should also be read. J. C. Hemmeter's "Master Minds in Medicine" contains several chapters with much information largely derived from personal sources. For the previous history of yellow fever see Noah Webster, "A Brief History of Epidemics and Pestilential Diseases, etc.," Hartford, Conn., 1799, and especially the writings of Matthew Carey, Benjamin Rush and R. La Roche, *Yellow Fever*, Phila., 1855. La Roche gives a splendid bibliography of yellow fever up to 1855. Reed's own papers and the reports of the commission are, of course, the most important sources.

servations upon the Causes and Effects of the Epidemic which Raged in Philadelphia from the Middle of August till toward the Middle of December, 1793" which contained the first authoritative printed statement of the non-contagious nature of the disease.

Deveze had distinguished himself by his courage and devotion to duty at the Bush Hill Hospital. He had arrived in Philadelphia from the West Indies on the vessel the passengers on which were accused of importing the disease, and he asserted most positively that none of those on board had yellow fever. The same thing was true of another vessel, a privateer which brought two prizes into port at about the same time. There was no illness on either the ship or its prizes. At Bush Hill Hospital Stephen Girard and Peter Helm along with the physicians and nurses were exposed constantly by personal contact with the sick, yet the principal nurse was the only attaché of the Hospital who contracted yellow fever. All these circumstances strengthened Deveze's view of the non-contagiousness of the disease. After his experience in the epidemic of 1794 Rush himself changed his views and in 1799 with great candor announced that he was convinced of the non-contagiousness of the disease, and stated his conviction that it was due to local causes, especially filth undergoing decomposition.

Kelly quotes the following statement from the *U. S. Marine Hospital Service Report* in 1898 as summing up the prevailing views at that time:¹

While yellow fever is a communicable disease, it is not contagious in the ordinary acceptation of the term, but is spread by the infection of places and articles of bedding, clothing and furniture.

¹ I am indebted to Lt. Comm. R. P. Parsons, M.C., U. S. N., who has kindly directed my attention to the work of the late Henry R. Carter, M.D., who during the epidemic of yellow fever in New Orleans in 1897 noted what he called the "extrinsic and intrinsic periods of incubation." He stated that the period of "extrinsic incubation" was explained as being the time during which some host other than man was developing the infection, and this intermediate host was probably a mosquito.

This is a process requiring several days (extrinsic infection), and during this period the yellow fever patient is as harmless as one suffering from a surgical complaint . . . More recently the idea has been advanced that probably the germ of yellow fever enters the general circulation through the respiratory organs in some obscure manner, and incubating in the blood directly poisons this life-giving stream. However this may be, the present opinion is that one has not to contend with an organism or germ which may be taken into the body with food or drink, but with an almost inexplicable poison so insidious in its approach and entrance that no trace is left behind.

There are many allusions in the older medical authors which indicate that they regarded flies or other insects as possibly associated with the spread of disease. Kelly refers to several references of this character and gives a most excellent resumé of the work of the modern investigators which immediately preceded Reed's great experiments. Manson, Ross, Laveran and others had proved that malaria was transmitted by the mosquito.

The first to suggest that yellow fever was an insect-borne disease was Dr. J. C. Nott, of Mobile, Ala. In a paper published in the *New Orleans Medical and Surgical Journal* in March, 1848, entitled "On the Cause of Yellow Fever," Nott reviewed the peculiar features which characterized the transmission of yellow fever and expressed the opinion that its communicability could be best explained as due to insect transmission; but he merely stated a hypothesis and presented no experimental proof, nor did he name a special insect as the culprit.

On August 11, 1881, Dr. Carlos Finlay of Havana, Cuba, first definitely accused the mosquito as the transmitter of yellow fever. His paper, entitled "The Mosquito Hypothetically Considered as the Agent of Transmission in Yellow Fever," was read before the Royal Academy of Havana. Finlay thought the poison of the disease adhered to the proboscis of the mosquito

and was directly injected into the blood vessels of the person bitten by it. In subsequent papers he modified his views in several particulars. Thus he said the poison was not necessarily directly transmitted by a mosquito which had previously bitten a person with yellow fever, but that the faculty of transmission might be inherited by mosquitos issuing from an infected parent. Later he believed that the micrococcus tetragonus was the specific cause of the disease. As Kelly says as a result of the discoveries of Koch and Pasteur, bacteriologists "naturally turned to yellow fever, a promising field for exploration." Thus in 1885 Dr. Freire, of Rio de Janeiro, thought he had discovered its cause in a microorganism, and Dr. Carmone Y. Valle, of Mexico, also announced that he had discovered the specific germ. Dr. George M. Sternberg investigated the claims of Finlay, Freire and Carmone Y. Valle, and was able to prove that the so-called specific organisms were bacteria which were common in many conditions and in no way specific to yellow fever. Thus the doctrine of contagion was practically abandoned, that of spontaneous generation from the decomposition of organic material had been knocked out by bacteriology, and with the exception of Dr. Finlay and a very few others most physicians held that yellow fever was conveyed by fomites.

In 1887 Sternberg had isolated from yellow fever patients a microorganism which he termed *bacillus x*. An Italian scientist named Sanarelli announced in 1897 that he had discovered the specific organism of yellow fever. He termed it *bacillus icteroides*. Sternberg, then Surgeon-General of the United States Army, detailed Reed and another Army Surgeon, James A. Carroll, to investigate Sanarelli's bacillus to see if it was identical with that which he had found ten years previously. They found that the bacillus icteroides was only a variety of the hog-cholera bacillus, and was certainly not

the specific cause of yellow fever. Sanarelli contested their conclusions but they were confirmed by other observers. In 1900 Surgeon General Sternberg ordered a commission of American officers to investigate the disease at Havana where it had broken out among the United States soldiers who were stationed there. The members were Drs. Walter Reed, James Carroll, Jesse W. Lazear, who were not immune and Dr. Aristide Agramonte, a Cuban, who was immune. The Commission studied the bacteriology of the blood and organs of many patients and sought the means by which they had been infected. Reed was thoroughly familiar with the previous work of other observers and felt that there must be an intermediary host. On July 31, 1900, Reed had gone to Pinar del Rio where a number of cases had occurred at the barracks. He found that men had contracted the disease who had not been in contact with cases, that men who had been exposed to patients with yellow fever had not taken it, and that other men who had handled the clothing and bedding of patients had also escaped. Dr. Reed made up his mind that although the search for the specific agent must be kept up, the most important thing must be to ascertain the way the disease was transmitted from the sick to the well and he regarded the views of Finlay as the best lead to follow. He decided that the best mosquito to use in the experiments would be the female of that which had been used by Finlay, the *stegomyia fasciata*. The Commission made the weighty decision to use human beings in their experiments, themselves first. Reed was obliged to return to the United States at this juncture but the other members of the Commission proceeded to carry on the work. They procured mosquito eggs from Dr. Finlay and applied infected mosquitos hatched from them. The first successful inoculation on August 27, 1900 was performed on Carroll. After a severe illness he recovered. Dr. Lazear had applied the insects which had bitten

Carroll to himself, besides using other infected mosquitos, but had not succeeded in inoculating himself. On September 13, he noticed a mosquito biting his hand but let it remain. Five days later he was seized with yellow fever, and on September 28 he died.¹

Jesse William Lazear was born May 2, 1866, in Baltimore. After graduating from Johns Hopkins University in 1889, he studied medicine at Columbia from which he received his M.D. in 1892. After serving as an interne in Bellevue Hospital, New York, Lazear went abroad for further study, partly at the Pasteur Institute. On his return he became bacteriologist at Johns Hopkins Hospital. While in Bellevue he had isolated the diplococcus of Neisser in the bloodstream in a case of ulcerative endocarditis, and he did a great deal of work at Johns Hopkins on malaria. He was not an army officer but was appointed an acting assistant surgeon so that he could serve on the Yellow Fever Commission. He had charge of the bacteriological work. Aristides Agramonte, the other member of the Commission, was a native of Cuba, where he was born June 3, 1868. After the death of his father, a general in the Insurrectionary Army who was killed in battle in 1872, the family had come to the United States and lived in New York. Agramonte graduated from the College of Physicians and Surgeons in 1890. He served as assistant bacteriologist to the city health department. In May, 1900, he was in charge of the army laboratory in Cuba and detailed to the Yellow Fever Commission with which he did the autopsies and pathological work. In the same year he became Professor of Bacteriology and Experimental Pathology in the Medical Faculty of Havana.

¹ James Carroll was born at Woolwich, England, June 5, 1854. His parents emigrated to Canada when he was fifteen years old. In 1874 he enlisted in the United States Army. In 1891 he graduated M.D. from the University of Maryland. He did post-graduate work at John Hopkins. He was a commissioned officer in the Medical Corps of the United States Army when assigned on the commission with Reed.

Shortly after Lazcar's death Reed returned to Cuba. The preliminary experiments seemed to point conclusively to the mosquito as the carrier of the disease. But further confirmation was necessary. Reed established an experimental station, Camp Lazcar, near Quemados, and in it obtained the absolute proof of the correctness of his views. Two private soldiers, John R. Kissinger and John J. Moran, offered themselves as subjects for inoculation, absolutely refusing any pecuniary reward for the great service which they rendered to the world. They were carefully isolated from any possible source of yellow fever for fifteen days. To Kissinger fell the honor of being bitten first by five supposedly infected mosquitos. At the end of three days he developed a typical attack of yellow fever, from which he fortunately recovered. The experiment was repeated on others with positive results. In order to prove that the disease was not carried by clothing, bed clothing, or other fomites, Dr. Robert P. Cooke, an Acting Assistant Surgeon in the United States Army, with two enlisted men, Folk and Jernigan, all non-immune, entered a small building which had been so built as to be absolutely mosquito proof, and in which had been placed boxes of contaminated clothing, blankets, etc., purposely soiled with the black vomit, feces, urine, etc. of yellow fever victims. These three brave men opened out the contaminated material and shook it about. They then passed twenty days in confinement in the room. Not one of them developed the disease. This experiment was repeated a number of times until it could be definitely considered proved that yellow fever was not conveyed by fomites.¹ At the meeting of the Pan-American Medical Congress at Havana in February, 1901, Reed was able to present a report

¹ The details of the Commission experiments are, of course, to be found in full in the various reports which were made by it and in individual papers published by Reed, Carroll, and Agramonte. Kelly gives all the essential facts in a most readable way. He also prints a full bibliography.

which covered the entire subject of conveyance and proved it was always due to the mosquito, *stegomyia fasciata*.

The specific cause of the disease had not yet been discovered. By further experiments Carroll subsequently proved that this was an ultramicroscopic organism, capable of passing through a filter. Thus the Commission had fulfilled the scientific object sought by it. Its work had been rendered possible by the hearty cooperation and support of General Leonard Wood, himself at one time a surgeon in the Army. During his rule as Governor-General of Cuba he labored in every way in the utilization of the Commission's findings in a practical way in the city of Havana; and later throughout Cuba. As a result of the measures enforced by Major William Gorgas in Havana there was not a single case of yellow fever in that city during 1902, and as far as was known, according to Major J. R. Kean, none on the Island of Cuba. What was accomplished by Gorgas during and subsequent to the building of the Panama Canal in the Canal Zone was the greatest triumph of science on a large scale that has yet occurred. As an object lesson to the world of the value of scientific research it has worked marvels. The frightful epidemics which decimated cities are things of the past and man is free to labor with safety in regions where formerly his coming was fraught with deadly peril. Kelly directs attention to the enormous amount of money saved to the Government by the abolition of the former expensive quarantine establishments and regulations.

His work in Cuba finished, Reed returned to the United States. As Professor of Bacteriology and Clinical Microscopy in the Army Medical School and Pathology and Bacteriology in the Columbian University at Washington he proved himself an admirable teacher. Unfortunately but little time remained in which he could

exercise his talents in this line. He died on November 22, 1902, on the sixth day after having been operated on for an appendiceal abscess. He was buried in Arlington Cemetery. Reed was survived by his widow, formerly Miss Emilie Lawrence, of North Carolina, and one daughter.



CHAPTER XV
THE BEGINNINGS OF SPECIALISM IN
AMERICA

CHAPTER XV

THE BEGINNINGS OF SPECIALISM IN AMERICA

OBSTETRICS AND GYNECOLOGY

AS shown elsewhere in Colonial times, the practice of obstetrics was largely in the hands of midwives, although a few eminent physicians such as William Shippen, Jr. of Philadelphia and Samuel Bard, of New York, were distinguished for their skill in the obstetric art. One of the most notable early American contributions to the literature of the diseases of women was made by Dr. John Bard (1716-1799), of New York. It is contained in a work entitled "Medical Observations and Inquiries. By a Society of Physicians in London."¹ The title is "A case of an extra-uterine foetus, described by Mr. John Bard, Surgeon at New York; in a letter to Dr. John Fothergill, and by him communicated to the Society. Read March 24, 1760." The patient, aged twenty-eight years, had had one child, with nothing abnormal throughout her pregnancy or labor. Becoming pregnant a second time, she had some labor pains at the end of nine months; but without giving birth to a child. The swelling of her abdomen gradually subsided, and her menses returned. There remained a hard mass in the abdomen. She became pregnant again and after a short and easy labor was delivered of a healthy child. Five or six days later, however, she was taken ill with symptoms of violent abdominal sepsis. Bard kept hot fomentations and emollient poultices applied over the mass in the abdomen. Finally he perceived that it fluctuated. He asked

¹ London, 1760. 2: 379. The two volumes of "Observations and Inquiries" owed their publication largely to Dr. John Fothergill and thanks to his active interest in the medical affairs of the Colonies they contain many interesting communications from American physicians.

a Dr. Huck, an army physician, to see the patient in consultation. Bard then proceeded to open the abdomen and evacuated a large abscess and a decomposed full-term fetus. The patient made a perfect recovery.

Dr. Joseph Lyon Miller¹ has recently brought to light what he considers "the first successful cesarean section in America." It was performed by Dr. Jesse Bennett, a country practitioner in the Valley of Virginia on January 14, 1794. Bennett was born in Frankford, Phila. Co., Penna. in 1769. Although he is said to have studied medicine at the University of Pennsylvania his name does not appear among the list of graduates from the medical school. In 1792 he began to practice in the Valley of Virginia and in the following year married Elisabeth Hog, whose father after graduating from the University of Edinburgh had served as an officer in the war with the French and Indians, and afterwards became a prominent lawyer in Rockingham Co., Va. Mrs. Bennett became pregnant but when the time arrived for her delivery it was found impossible owing to a contracted pelvis or some other obstruction. Dr. Bennett summoned Dr. Alexander Humphreys, of Staunton, Va., in consultation. The two physicians decided that they must either perform a cesarean section or do a craniotomy.

Mrs. Bennett thinking she was going to die anyway insisted that the child should be saved, so over the protest of Dr. Humphreys, preparation was made to do the operation, which at that time was almost unheard of on the living mother anywhere in the world. Dr. Humphreys refusing to undertake so formidable an operation, Dr. Bennett proceeded with it himself.

The patient was given a large dose of laudanum, and placed on a table made of two planks laid on a couple of barrels. Two negro women held her while "Dr. Bennett with one quick stroke of the knife laid open

¹ *Virginia M. Month.*, January, 1929.

the abdomen and uterus. Enlarging the opening in the uterus with his hands he quickly lifted out the child and placenta. Before closing the wound, which he did with some stout linen thread used in making heavy clothing, he remarked "this shall be the last one," and proceeded to remove both ovaries. Both the mother and child survived and lived many years. The account of the operation was first printed in "The History of the Great Kanawha Valley,"¹ in the chapter on the medical history of the Valley, which was written by Dr. A. L. Knight, who had known Dr. Bennett well, and in addition had heard the details of the operation from Mrs. Bennett's sister, and a negro woman who were in the room during the operation. Dr. Knight also related them personally to Dr. Miller.

John King of Edisto Island, South Carolina,² performed a remarkable operation for extra-uterine pregnancy in 1816, saving both mother and child by cutting through the walls of the vagina and applying the forceps with abdominal pressure exerted upon the fetus from above. He subsequently published his observations in a book, which was issued at Norwich, England, in 1818, entitled, "An Analysis of the Subject of Extra-uterine Foetation, and of the Retroversion of the Gravid Uterus," which Garrison says was the first book on the subject. The woman upon whom King operated in 1816 was walking about two weeks after the operation.

Francis Prevost (1764-1842) of Donaldsville, La., performed cesarean section four times, with three successful cases before 1832. His cases are related by Naucrede³ and also by Robert P. Harris in an article entitled, "A Record of the Cesarean Operations that have been performed in the State of Louisiana during the Present Century."⁴

¹ Vol. 2, p. 265.

² Medical Repository, N. Y., 1817, n. s. 111.

³ Am. J. M. Sci., 16: 347, 1835.

⁴ N. Or. M. & S. J., n. s. 6: vi, 935, 1878-79.

William Baynham (1749-1814), of Virginia, operated on a case of extra-uterine pregnancy in 1791, in which conception had occurred ten years before, and in 1799 on a woman eighteen months after conception. In both cases the women made complete recoveries.¹

John Lambert Richmond² performed a cesarean section at Newton, Ohio, April 22, 1827. The child died but the mother survived and was pursuing her usual avocations twenty-four days later.

The most important early work on obstetrics by an American author was "A Compendium of the Theory and Practice of Midwifery, containing practical instructions for the management of women during pregnancy, in labor, and in child-bed," by Samuel Bard, the first edition of which was published in 1807. The book went through five subsequent editions, and was for many years a standard textbook on the subject.

Samuel Bard (1742-1821) was the son of the famous Dr. John Bard, of New York. He began his medical studies under his father, but in 1760 sailed for Europe. The ship in which he was a passenger was captured by a French privateer, and young Bard passed six months as a prisoner at Bayonne. When released he went to London and Dr. John Fothergill, the generous benefactor of all American medical students, secured him the position of assistant to Dr. Alexander Russell at St. Thomas's Hospital. After he had finished his term in this capacity, Bard went to Edinburgh where he received his medical degree in 1765. His thesis was entitled "De Viribus Opii," and he also received a prize given by Dr. Hope, for the best herbarium of the vegetables indigenous to Scotland. Returning to New York he began practice with his father. He had already formulated a plan to establish a medical college in New York and by getting the assistance of some of the phy-

¹ *N. York M. J. and Rev.*, 1: 160, 1809.

² *West. J. Med. & Phys. Sc.*, Cincinnati, 3: 485, 1830.

sicians of the City, he succeeded in organizing the medical department of King's College, in which he became Professor of the Theory and Practice of Medicine. Bard was a loyalist and in consequence he found it wise to leave New York in 1770, but returned when the British occupied the city. He was not molested after their departure, and continued to practice his profession in New York until his death. When Washington lived in New York, Dr. Bard attended him, and when Columbia (formerly King's) College organized a medical faculty in 1792, Dr. Bard was reappointed to his former position, although his chief professional interest lay in obstetrics.¹

In the early days of organized medical education in this country the teaching of midwifery was usually combined with that of some other subject. Thus in the oldest medical school, that of the University of Pennsylvania, founded in 1765, William Shippen, Jr., held the chair of Surgery and Anatomy, there being no provision made for the teaching of obstetrics probably because Shippen had already a well-established private school for that purpose. In 1791, when the College of Philadelphia and the University of the State of Pennsylvania, were combined to form the University of Pennsylvania, Shippen was elected Professor of Anatomy, Surgery, and Midwifery. In 1805 the chair of surgery was separated from that of anatomy and midwifery and filled by the election of Philip Syng Physick. Shippen taught the other two subjects until his death in 1808. He was succeeded by Dr. Caspar Wistar, who had been adjunct professor to Shippen. In 1810 the trustees passed a resolution as follows: "That the present establishment of a Professorship of Anatomy and Midwifery be divided, and that hereafter there shall be

¹ A Domestic Narrative of the Life of Samuel Bard, M.D., by Rev. John McVickar, New York, 1822.

a Professorship of Midwifery, but that it shall not be necessary in order to obtain the Degree of Doctor of Medicine, that the student shall attend the Professor of Midwifery."

To the curtailed chair thus created Thomas Chalkley James (1766-1835) was elected. After receiving the degree of Bachelor of Medicine at the University of Pennsylvania in 1787, James had gone abroad and studied in London and Edinburgh. In London he studied under John Hunter at St. George's Hospital, and also spent some time as a house-pupil in the Story Street Lying-in Hospital, under Dr. Osborne one of the leading obstetricians of his time. Thus James was well trained for his work and he soon proved it to such a degree that in 1813 the trustees recognized the professorship of midwifery as a full faculty chair, and made the subject obligatory for the degree of M.D. In 1810 James, who had previously been "physician" to the Pennsylvania Hospital, had his title changed to that of "obstetric physician" to that institution.

In 1834, William P. Dewees (1768-1841) was appointed Adjunct Professor of Midwifery in the University of Pennsylvania, and in the following year succeeded James in the full professorship. In 1824 Dewees published his "System of Midwifery," which went through many editions and was long a standard work.

The first medical school in this country to have a professorship devoted solely to midwifery, was King's College (later Columbia), New York, and the first incumbent was John Van Brugh Tennent (1737-1770). The chair was created when the college was organized in 1767. Tennent was the son of a Presbyterian minister. After graduating from Princeton he had gone abroad and got his M.D. at Edinburgh. Unfortunately his health was poor and when he went on a trip to the West Indies in hope of regaining it he contracted yellow fever and died. The troubles incident to the Revolution disorgan-

ized King's College until it was reorganized after the War as Columbia College. In 1807 the College of Physicians and Surgeons of New York was founded. In its first faculty David Hosack (1769-1835) held the chair of Surgery and Midwifery, as well as that of *Materia Medica* and Botany, but a year later William James Macneven (1763-1841) was elected Professor of Obstetrics and Diseases of Women and Children. Macneven was an Irishman. A paternal uncle, Baron Macneven, was physician to the Empress Maria Theresa. When William was ten years old he went to Vienna where he lived with his uncle and received his education. In 1785 he received his M.D. from the University of Vienna. Returning to Ireland he practiced in Dublin. He became prominent in the political troubles of the time and was imprisoned for treason in 1798. After his release in 1802 he travelled on the Continent, and was one of the Irish refugees who organized an Irish brigade in France with the view of joining in Napoleon's contemplated invasion of "perfidious Albion." When that project fell through Macneven came to the United States and practiced in New York. When the union between Columbia College and the College of Physicians and Surgeons was accomplished Macneven was transferred to the chair of chemistry. There was no chair of midwifery in the new institution until 1814, when Dr. John C. Osborn (1766-1819), was appointed Professor of Obstetrics and Diseases of Women and Children.

One of the most distinguished workers in gynecology, as well as in other fields, was Edmund Randolph Peaslee (1814-1878), a native of New Hampshire, who graduated from Dartmouth, and then got his M.D. from Yale in 1840. After studying abroad he succeeded Oliver Wendell Holmes in the chair of anatomy and physiology at Dartmouth, and also taught anatomy and surgery at Bowdoin College. After settling in New York City, he continued to teach at Dartmouth for a number of

years. In 1874 he was appointed Professor of Gynecology in Bellevue Hospital Medical College. He contributed much to periodical medical literature, but his most important publication was his book "Ovarian Tumors, Their Pathology, Diagnosis and Treatment, Especially by Ovariectomy," which appeared in 1872. Peaslee performed his first ovariectomy in 1850, and followed it by many others. He was a great advocate of the use of salt solution, made with boiled water.

Thomas Addis Emmet (1828-1919) was Sims' assistant and associate in the work at the Woman's Hospital, and after Sims' resignation in 1861, he continued as the most prominent surgeon on its staff until 1902. Emmet was a Southerner, who had graduated from Jefferson Medical College of Philadelphia in 1850. Most of his professional life was passed in New York and his surgical work was almost all accomplished in the Woman's Hospital. Walsh¹ quotes the following summary of Emmet's achievements from an article by Dr. Edward T. Abrams in the *American Journal of Obstetrics and Diseases of Women and Children*, 1914:

Emmet was the only man in this country who had either the knowledge or interest in gynecology, and he was the only one that had the capacity of carrying on the work of the Woman's Hospital. For ten years after Sims' departure, Emmet was the only attending surgeon, as he was the only exclusive specialist in this country, and it was the only special hospital in the world for the diseases of women. It was during these years that men flocked to his clinics from all parts of the world to obtain something of his knowledge of this hitherto unknown specialty.

It was Emmet who gave us the plastic operations for the cure of lacerated cervix, for rectocele, for cystocele, for rectovaginal fistula, for laceration and prolapse of the urethra. It was he who first performed those plastic operations of marvellous mechanical ingenuity and patience of restoring the whole vagina, together with the base of the bladder and the urethra after they had sloughed away and giving the patient retentive power. He invented well-nigh all the instruments used in plastic work. It was only

¹ History of Medicine in New York, vol. 1, p. 203.

after forty-six years of continuous service that in 1900 he resigned with years and honors full upon him.

The American Gynecological Society was founded at a meeting in the Academy of Medicine of New York in June, 1876. The first officers of the Society were President Fordyce Barker; Vice-Presidents, W. L. Atlee and W. H. Byford; Council, J. Marion Sims, William Goodell, Theophilus Parvin and G. H. Lyman; Secretary, J. R. Chadwick; Treasurer, P. F. Munde.

At the first meeting of the American Gynecological Society Emil Noeggerath (1827-1895) read his epochal paper "Latent Gonorrhoea, especially with regard to its Influence on Fertility in Women," in which he claimed that latent gonorrhoea was the chief cause of sterility in women. He had read a similar paper in Germany four years before but it excited no particular interest, whereas the interest aroused by his New York paper was intense. Noeggerath was a German who had come to New York in 1857. He was one of the founders of the American Gynecological Society. He held a number of hospital positions and was co-founder with Abraham Jacobi of the *American Journal of Obstetrics* in 1868.

The American Association of Obstetricians and Gynecologists was organized at a meeting in Buffalo in April, 1888. The first officers were William H. Taylor, President; E. E. Montgomery and J. H. Carstens, Vice-Presidents; William Warren Potter, Secretary; X. O. Werder, Treasurer.

The New York Obstetrical Society was founded in 1864.

The Philadelphia Obstetrical Society was organized in 1868, with Francis Gurney Smith as its first president.

In 1868 Abraham Jacobi and Emil Noeggerath founded *The American Journal of Obstetrics*. It was discontinued after five years.

The American Journal of Obstetrics and Diseases of Women and Children was founded in 1869. The first

editors were E. Noeggerath and B. F. Dawson. It was published quarterly. It ceased publication December, 1919, when under the editorship of George W. Kosmak. In October, 1920 the *American Journal of Obstetrics and Gynecology* under the editorship of Dr. Kosmak made its first appearance.

EPHRAIM McDOWELL, THE FIRST OVARIOTOMY¹

Ephraim McDowell was born in Rockbridge County, Va., November 11, 1771. When he was twelve years old his family migrated to Kentucky and settled in Danville. When about nineteen years old he began the study of medicine as pupil of Dr. Alexander Humphreys at Staunton, Va., and then went to Edinburgh University, where he attended the sessions of 1792-93 and 1793-94. The most important feature of his Edinburgh life was his contact with John Bell, then an extramural teacher of anatomy in that city. With Bell he seems to have worked hard at his subject and Bell's inspiration as a teacher of the practical value of a thorough grounding in anatomy to the surgeon proved of immense value in McDowell's subsequent career. McDowell left Edinburgh and returned to America without receiving his degree. The statement made years later by some of his relatives that he graduated M.D. from Edinburgh University has been disproved by many facts adduced by Gross in his biographical sketch, and by A. R. Simpson who searched the archives of the University. It is probable that lack of funds rendered it impossible for him to remain for the completion of his course. As Schachner points out the medical degree at that time was not held

¹The chief authorities concerning McDowell are his "Biography" by his granddaughter, Mary Young Ridenbaugh, 1890, and "Ephraim McDowell, Father of Ovariectomy and Founder of Abdominal Surgery," by August Schachner, M.D., 1924. Schachner reprints McDowell's first report of his cases from the *Eclectic Repertory*, 7: 242, 1817, and Lizar's article published in the *Edinburgh M. J.*, 12: 1824. S. W. Gross published an authoritative sketch of McDowell in his "Lives of Eminent American Physicians and Surgeons of the Nineteenth Century," 1861.

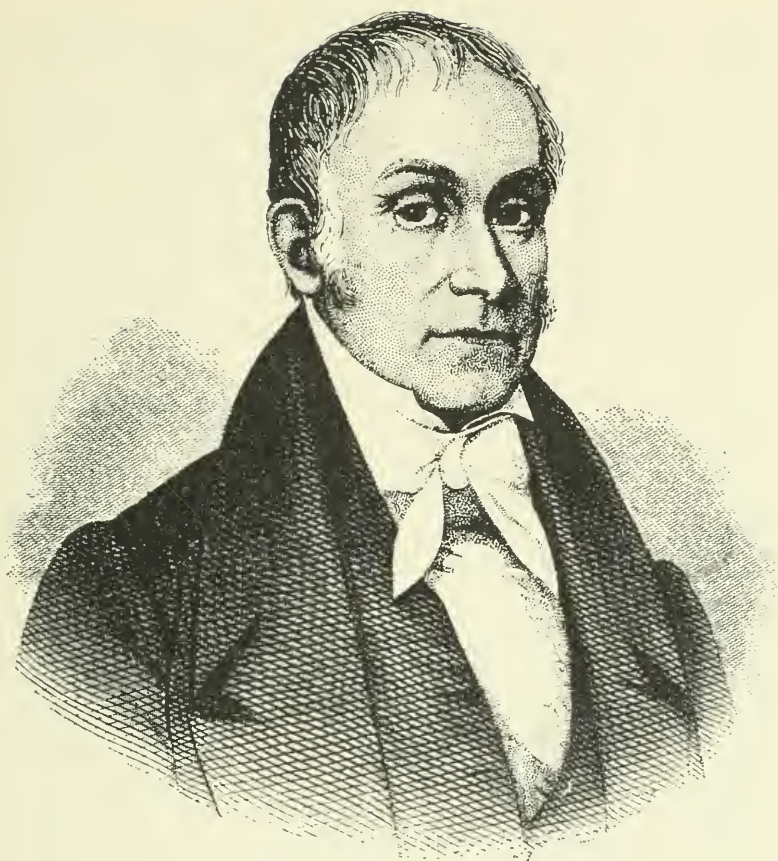


FIG. 100. Ephraim McDowell (1771-1830).

as a prime necessity for the practice of medicine in the United States, many of the best physicians in the country never having received one, and there were no legal requirements rendering it necessary. McDowell began practice in Danville, Ky., in 1795. He was a daring as well as a skilful surgeon, performing many herniotomies and lithotomies. For the latter he used the lateral operation. In 1812 he successfully lithotomized James K. Polk, who subsequently became President of the United States, and was always his grateful and sincere friend.

McDowell used to prefer Sunday as his operating day, a preference which seems to have prevailed with most Kentucky surgeons in the early days. In December, 1809, McDowell performed the first ovariectomy. Jane Todd Crawford, a white woman, was the patient who, with a full knowledge of the experimental character of the procedure, submitted to the operation, which proved a complete success. Schachner disposes of several false reports which have been perpetuated about the operation. He proves that McDowell's first case was not a negro, that his house was not surrounded by a threatening mob, during the operation, and that the operation was performed in his house where the patient was accommodated until her recovery and that his nephew who assisted him really performed the operation instead of merely assisting. In 1813, and again in 1816, McDowell performed ovariectomy successfully, each time on a negress. In 1816 he wrote an account of his three cases, which he sent to his old teacher and friend, John Bell of Edinburgh, sending a copy also to Philip Syng Physick, the famous surgeon of Philadelphia. The letter to Bell fell into the hands of John Lizars, who had charge of Bell's affairs during the latter's absence while travelling. Ephraim McDowell's nephew, William McDowell, presented his uncle's letter to Physick. The latter appears not to

have shown any interest in the matter so William McDowell took the letter to Dr. Thomas C. James, Professor of Midwifery in the University of Pennsylvania, and one of the editors of the *Eclectic Repertory*. Dr. James seems to have at once appreciated the importance of McDowell's communication which he published in Volume 7 of the *Medical Repertory*, 1817. In the same periodical in volume 9, 1819, Ephraim McDowell published the report of two more successful ovariectomies. The first report by McDowell aroused but little interest beyond two criticisms, one by Ezra Michener, of Philadelphia, the other by George Henderson, of Georgetown, D. C. which blamed McDowell for the loose manner in which he had reported his cases and seem to think that his reports might not be strictly truthful. Both these criticisms appeared in the *Eclectic Repertory* in 1818.

Lizars apparently paid no attention to McDowell's letter to Bell, which he had received in 1816, until, in the *Edinburgh Medical Journal*, October 1824, volume 22, he published his article "On Extirpation of the Ovaria, with Cases." In this communication Lizars reported a case in which he had operated for a supposed ovarian tumor in a patient in whom it was shown that it did not exist. He states that L'Aumonier had successfully extirpated the ovary in a patient about fifty years before, which was untrue, as L'Aumonier simply drained an abscess, and then inserts McDowell's report to Bell, which he had kept unpublished for seven years. Lizars then concludes that the operation has been demonstrated to be practicable. In other words he rather skilfully built up about McDowell's report an article which gave the appearance of being based on original work on his own part.

McDowell's modest statements were greeted by incredulity by many. Dr. James Johnson, editor of the *London Medico-Chirurgical Review*, was particularly

severe and outspoken in his comments during 1825 and 1826, and down to the end of the nineteenth century, there were many attempts by both English and American writers to deprive McDowell of the place of premier ovariologist. Schachner gives a full analysis of these and refutes them satisfactorily. Although McDowell undoubtedly operated on more than the number of cases he reported the exact number is not known. The second surgeon to perform ovariectomy in the United States was the distinguished Nathan Smith, who operated July 5, 1821. He was followed by Alban Goldsmith on May 24, 1823. Dr. David L. Rogers, of New York, and Dr. J. Bellinger, of Charlestown, S. C., who both also performed successful ovariectomies. For some years after 1835 when Bellinger performed his ovariectomy the operation seems to have fallen into disuse until it was revived and practiced with such splendid results by the Atlees during the forties in this country and by Dr. Charles Clay in England.

McDowell died on June 20, 1830. There is some dispute as to the day of the month but Schachner has probably solved it rightly at that.

S. D. Gross ("Autobiography") was deeply interested in McDowell. In May, 1879, he delivered the address at the unveiling of a monument to McDowell by the Kentucky State Medical Society at Danville. On this occasion he was presented with the knocker which used to hang on McDowell's door and now hangs in the Gross room in the College of Physicians of Philadelphia. In his address on "The History of Kentucky Surgery," which is published in the *Transactions of the Kentucky State Medical Society* for 1856, he managed to produce the record of thirteen cases of ovariectomy performed by McDowell, of which only eight had been published in McDowell's lifetime. Gross always insisted that Nathan Smith must have known of McDowell's previous ovariectomies at the time when he

operated in 1821. Irving S. Cutter¹ has recently published an interesting account of Nathan Smith's connection with ovariectomy, with a reprint of his report of the case from *The American Medical Recorder*, volume 5, 1822. Cutter is confident that Smith operated "with no knowledge that McDowell had preceded him."

As stated previously the operation of ovariectomy had been practically abandoned or not recognized until it was brought into general recognition by John Light Atlee and his brother Washington L. Atlee.

John Light Atlee (1799-1885) was born in Lancaster, Pa. After graduating from the medical department of the University of Pennsylvania in 1820, he returned to Lancaster, in which city he practiced until his death. There he performed his first ovariectomy on June 29, 1843. During the next forty years he performed 78 ovariectomies with sixty-four recoveries. Dr. Atlee was Professor of Anatomy and Physiology in Franklin and Marshall College.

Washington Lemuel Atlee (1808-1887), the younger brother of John L. Atlee, graduated from Jefferson Medical College in 1829. He did his first ovariectomy on March 29, 1844, and his three hundred and eighty-seventh on May 31, 1878. He was a very daring operator and Marion Sims praised him highly for his operations on fibroid tumors of the uterus. He performed two successful myomectomies in 1844.²

J. MARION SIMS

THE OPERATION FOR VESICOVAGINAL FISTULA AND THE VAGINAL SPECULUM³

J. Marion Sims was born in Lancaster County, S. C., January 25, 1813. His father's family were of English

¹ *Internat. Abs. Surg.*, April, 1929.

² Atlee. *The Surgical Treatment of Certain Fibrous Tumors of the Uterus*. N. Y. 1853.

³ One of the most delightful of autobiographies is "The Story of My Life" by J. Marion Sims, edited by his son H. Marion Sims, and published in 1900. Of course Sims' own medical writings should be consulted.

origin and his mother's Scotch-Irish. Both his grandfathers had fought on the patriotic side during the Revolution. Sims gives a most interesting account of his boyhood passed in a back-country village in which his father kept a tavern as well as holding the office of sheriff. He was a man of fine character but of limited education not learning to read until he was twenty-three years old. Nevertheless he rose to the command of a company in the War of 1812 and was held in the greatest respect throughout the countryside. He gave young Marion the best education he could provide for him. In 1825 the elder Sims joined his neighbors in raising funds to open an academy in the town of Lancaster in order that they might give their children the educational opportunities that they had lacked. From this institution Sims passed to South Carolina College at Columbia, from which he graduated in 1832. His College career was not marked by any notable events but his description of the duelling customs which prevailed and accounts of some of these combats afford a vivid picture of a social condition which we can only thank God has passed. To the great disappointment of his father Sims determined to study medicine. Mr. Sims said, "it is a profession for which I have the utmost contempt. There is no science in it. There is no honor to be achieved in it; no reputation to be made, and to think that my *son* should be going around from house to house through this country, with a box of pills in one hand and a squirt in the other, to ameliorate human suffering, is a thought I never supposed I should have to contemplate." Fortunately Marion persisted. He began studying with Dr. Churchhill Jones, who he says was a very great surgeon but drank so as to incapacitate himself at times for his professional duties. In November, 1833, Sims entered the Medical College of South Carolina at Charleston. This medical school had been founded in 1824 as the Charleston Medical Col-

lege. It had just been reorganized under the new name in 1833 when Sims began his courses there. The faculty was excellent. Samuel Henry Dickson was Professor of the Practice of Medicine, John Wagner, of Surgery, and John Edwards Holbrook, of Anatomy, but Sims decided that he could do better work in Philadelphia, and after one term at Charleston and another summer with Dr. Jones he entered Jefferson Medical College in the autumn of 1834. He was greatly impressed by the teaching of George McClellan in surgery and Granville Sharp Pattison¹ in anatomy. Sims graduated from Jefferson in 1835 and began practice at Lancaster. He tells the tragic story of how his first two patients died. He felt he could not stay in the town. Leaving he practiced first at Mount Meigs in Alabama, then in a place some ten miles in the country from that town, and finally in Montgomery.

Sims gives an amusing description of the fear and trembling with which he was inspired by the writing of his first published report of a case, one of hairlip, which he wrote for the *Journal of Dental Surgery* in 1846. In the previous year he made what he said he considered was "my first great discovery in medicine," namely that trismus nascentium was due to pressure on the base of the brain and that the newborn child suffering from tetanic attacks could frequently be relieved by placing it in proper position to relieve such pressure with its resultant extravasation.

But what the world will always regard as his greatest service to the human race also marked the year 1845. Sims had had several cases of vesicovaginal fistula and considered them as totally hopeless, no means of relief being then known. While examining in the knee-chest position a woman who had a retroversion of the uterus he found that on dilating the vagina with the fingers air rushed in and filled it up. This gave him his idea.

¹ In the "Autobiography" the name is given as Patterson.

Stopping at a store he purchased a pewter spoon and hurried to a young colored woman who had been sent to him a few days before with a vesicovaginal fistula and whom he had ordered to go back to her home as incurable. Placing her in the knee-chest position he introduced the bent spoon handle and as he writes:

I saw everything, as no man had ever seen before. The fistula was as plain as the nose on a man's face . . . I said at once, "Why can not these things be cured?" It seems to me there is nothing to do but to pare the edges of the fistula and bring it together nicely, introduce a catheter in the neck of the bladder and drain the urine off continually, and the case will be cured.

Sims now sought to gather in the cases of vesicovaginal fistula which he had recently rejected as hopeless and worked hard perfecting the instruments he would need for the operation. He operated on his first patient in December, 1845. For three years he kept some six or seven negro women at his own expense in his little private hospital operating upon them repeatedly but in no case achieving a cure. His professional colleagues became sceptical as to any good coming from his experiments and his family remonstrated with him for the expenditure of money and time that he lavished on them. The great difficulty was how to secure sutures far up in the area where he could not reach. Lying awake one night he suddenly conceived the idea of using a perforated shot, slipping it up over the suture threads and clamping it. He hastened to try out his idea but only to have another failure. Heretofore he had used silk threads. One day he picked up a bit of brass wire from the ground. He took it to a jeweler and asked him to make him a similar thread of silver wire, and with it he performed the thirtieth operation on one of his patients. This was in May or June, 1847, and at last he achieved a perfectly successful result, after four

years of unceasing work and many bitter disappointments. He published an article describing his operation and technic in *The American Journal of the Medical Sciences* for January, 1853.

Sims was suffering from ill-health which he felt was maintained by the climatic conditions in which he lived. In 1853 he moved to New York. There he freely demonstrated his operation and soon the leading surgeons of the city were performing it daily while its author having no hospital position was forced to remain idle. He determined to try to establish a hospital for women. In this project he tells of the rebuffs he met with from leading physicians and of the terrible poverty to which he was reduced. The details throw very interesting side-lights on Valentine Mott, Edward Delafield, Gurdon Buck, and other leading doctors who dominated the profession in New York at that epoch. Finally Sims triumphed in spite of their opposition and the Woman's Hospital was opened in May, 1855. Sims' position in New York was now assured. In 1861 Sims went to Europe, visiting Ireland and Scotland and then going to France. He was cordially received and given plenty of opportunities to demonstrate his operation. He writes entertainingly of Syme, Simpson, and others of the leading British surgeons. Nélaton, Velpeau, Vernier and other French surgeons gladly extended the facilities of their wards to him and expressed their admiration for his technique. From Paris he went to Brussels where similar triumphs awaited him. Returning to Paris he operated successfully on a patient, having among the witnesses Nélaton, Velpeau, Civiale and Baron Larrey. These successful operations created the greatest excitement and he was universally acclaimed. In 1862 when he got back to New York he found the country plunged in the Civil War. He therefore decided to go back to Paris where he at once acquired a large amount of practice. He accepted the

position of physician to the Duchess of Hamilton and accompanied her in that capacity to Baden-Baden. The Emperor summoned him to attend the Empress Eugénie and he spent some time at St. Cloud in the performance of that duty. Sims remained in Paris several years in the enjoyment of a lucrative practice. He went to London and operated successfully on a number of cases winning the hearty admiration of the English profession. Sims received decorations from many foreign governments. While living in London in 1865 he published his "Clinical Notes on Uterine Surgery." In 1870 he organized the Anglo-American Ambulance Corps, which served with the French army. Returning to New York in 1872 he resumed his practice there. In 1876 he was elected President of the American Medical Association and in 1880 he filled the same office in the American Gynecological Society. Sims died on November 13, 1883. He was survived by his widow who had been Miss Theresa Jones of Lancaster, S. C. His son, H. Marion Sims, became a physician.¹

Much of Sims' work was done at the Woman's Hospital of the State of New York, which he had been the chief factor in founding. On December 1, 1874, he resigned his position on the staff, because the Board of Managers passed a rule limiting the number of spectators at any operation to fifteen. Sims usually had a large number of physicians, foreign as well as American, at his operations, eager to learn his methods at first hand. The managers urged that "a due regard for the modesty of patients demanded such restrictions." Just why they chose fifteen as the limit was not stated. Sims tried in vain to have this absurd regulation altered, and failing to do so resigned.

¹ Irving S. Cutter, *Internat. Abs. Surg.*, September, 1928, has recently published an article on Sims with reproductions of parts of his original report and the illustrations accompanying it.

OLIVER WENDELL HOLMES

THE CONTAGIOUSNESS OF PUERPERAL FEVER¹

Oliver Wendell Holmes was an eminent example of the "Brahmin caste" of New England, as well as the inventor of the term. In other words he sprang from the best sort of New England stock and beginning life under the most favorable auspices made the best use of his subsequent opportunities. Holmes was born in Boston, August 29, 1809. His father, the Reverend Abiel Holmes, after graduating from Yale College married the daughter of its president, the Reverend Ezra Stiles. After her death he married Sarah Wendell, the daughter of the Honorable Oliver Wendell, and she became the mother of the subject of our sketch.

Oliver went to Phillips Academy at Andover, and thence to Harvard College, graduating from the latter in 1829. He then began the study of law but a year later gave it up and entered the Harvard Medical School in September, 1830. Dr. James Jackson, Professor of the Theory and Practice of Medicine, was a strong advocate of the value of study abroad for medical students. His son, James Jackson, Jr., had shown what advantages could be reaped from it and it was probably due to his

¹ Authorities. Holmes' original paper on the contagious nature of puerperal fever was read before the Boston Society for Medical Improvement and published in the "*New England Quarterly J. Med. & Surg.*" for April, 1843 and reprinted with additions in 1855. It is republished in the collected edition of his works in the volume entitled "Medical Essays." In the later edition (1855) Holmes refers to the adverse views maintained by Hodge and Meigs. The former are contained in a pamphlet entitled "On the Non-Contagious Character of Puerperal Fever: An Introductory Lecture. By Hugh L. Hodge, M.D., Professor of Obstetrics in the University of Pennsylvania. Delivered Monday, October 11, 1852," Philadelphia, 1852. Two years later Meigs published his book "On the Nature, Signs and Treatment of Childbed Fevers: in a Series of Letters addressed to the Students of his Class." By Charles D. Meigs, M.D., Professor of Midwifery and the Diseases of Women and Children in Jefferson Medical College, Philadelphia. In his Essays Holmes gives a number of references to other writings on the subject. The best biography of Holmes is the "Life and Letters of Oliver Wendell Holmes," by John T. Morse, Jr., Boston, 1896. A comprehensive account of the medical aspects of Holmes is to be found in "The Medical Life of Oliver Wendell Holmes," by J. H. Mason Knox, M.D. in *Johns Hopkins Hosp. Bull.*, No. 191, 18: February, 1907. An appreciative notice by Osler, written in 1894, is contained in the volume of his Essays, entitled an "Alabama Student and other Biographical Essays."

influence that Holmes went abroad in 1833 to pursue his medical studies in Paris. Osler¹ has described the wonderful influence which Louis had upon American medicine through the students who flocked to him in Paris from the United States. There were other great teachers in Paris at that time but it was to Louis that Jackson, Gerhard, Stillé, Holmes and many other young Americans owed most of their training. Throughout the first-half of the nineteenth century the hospitals and dissecting rooms of Paris under the guidance of a group of brilliant teachers were the mecca of the medical world because nowhere else were such facilities obtainable. Besides Louis there were Broussais, Andral, Dupuytren, Boyer, Larrey, Velpeau and Lisfranc, not to mention many minor lights. Holmes made the most of his advantages and enjoyed the special friendship and guidance of Louis, as his young fellow-townsmen, James Jackson, Jr., had before him.

During the more than two years which he passed abroad he managed to make excursions into England, Germany and Italy, finally returning to the United States in December, 1835. After receiving his medical degree from Harvard in 1836 he began practice in Boston. As he writes in the "Autocrat of the Breakfast Table": "Behind the pane of plateglass which bore his name and title burned a modest lamp, signifying to the passers-by that at all hours of the night the slightest favors (or fevers) were welcome." Holmes never acquired very much practice. From his own statements we gather that this was largely due to his reputation as a wit and a poet. He had begun his literary career when he was an undergraduate at Harvard with poetical contributions to the college magazine, of which he was later mightily ashamed and tried hard to suppress them. As early as 1830 one of his most remembered poems, "Old Ironsides" had been published in the *Boston*

¹"The Influence of Louis on American Medicine," published in "An Alabama Student and other Biographical Essays."

Advertiser and achieved immediate popularity. In 1836 he published the first volume of his collected poems. In spite of this handicap he received professional recognition being elected one of the physicians to the Massachusetts General Hospital and, in 1838, Professor of Anatomy at Dartmouth College. He won the Boylston Prize in 1836 and again in 1837, in the latter year receiving two prizes. The essay of 1836 on "Indigenous Intermittent Fever in New England" is still of value for the mass of information it contains. He taught for some years in the Tremont Street Medical School and with Dr. Jacob Bigelow edited the American edition of Marshall Hall's "Theory and Practice of Medicine." In 1842 Holmes first entered the field of medical controversy by publishing two lectures on "Homeopathy and kindred Delusions." Classing homeopathy with such absurdities as the Royal Touch, the Weapon Ointment and Sympathetic Powder, the Tar Water mania and Perkins Tractors, he exposed the foolishness of Hahnemann's theories with the wit which was so peculiarly his own. In April, 1843, Holmes published in the *New England Quarterly Journal of Medicine and Surgery* his essay on "The Contagiousness of Puerperal Fever," which has proved his most lasting title to medical fame. Holmes had read the essay before the Boston Society for Medical Improvement, prompted thereto by the death of a medical man who had received a wound of the hand while performing an autopsy on a woman who had died of puerperal fever, and by the number of instances which he had observed or heard of in which the disease seemed to have been directly conveyed from one patient to other persons. Holmes' views met with the most violent opposition from the leading obstetricians of the day. Hugh L. Hodge, Professor of Obstetrics in the University of Pennsylvania in an Introductory Lecture entitled "On the Non-Contagious Nature of Puerperal Fever," published in 1852

opposed them in the most formal manner, but Charles D. Meigs, Professor of Obstetrics in Jefferson Medical College in his book "On the Nature, Signs, and Treatment of Childbed Fevers: in a Series of Letters addressed to the Students of his Class," 1854, waxed abusive in his language, classing Holmes' article among "the jejeune and fizenless dreamings of sophomore writers." Holmes republished his original article in 1855 accompanied by remarks on the strictures which it had excited. Although Holmes made many practical suggestions as to the precautions necessary to prevent the conveyance of the disease they were chiefly prophylactic, such as abstaining from attending other women in childbirth after having attended a case of puerperal fever or performed an autopsy on one of its victims, and change of clothing and frequent ablutions under such circumstances. In 1846 Ignaz Philipp Semmelweis began his study of puerperal fever in the obstetric wards of the Allgemeines Krankenhaus in Vienna and in 1847 began the publication of his views on it, declaring it to be a septicemia or blood-poisoning. Holmes when he republished his article in 1855 only knew of Semmelweiss by references to him in papers by other men, and refers to him as "Semmeliveis."

Many years afterwards Osler¹ asked Holmes from which he derived the greater satisfaction, the "*Essay on Puerperal Fever*, which had probably saved many more lives than any individual gynecologist, or the *Chambered Nautilus*, which had given pleasure to so many thousands." Holmes wrote him:

I think I will not answer the question you put me. I think oftenest of the *Chambered Nautilus*, which is a favorite poem of mine, though I wrote it myself. The essay only comes up at long intervals . . . I had a savage pleasure, I confess, in handling the two professors—learned men both of them, skilful experts, but babies, as it seemed to me, in their capacity of reasoning and arguing. But in writing the poem I was filled with a better feeling—

¹ An Alabama Student, etc.

the highest state of mental exaltation and the most crystalline clairvoyance, as it seemed to me . . . There is more selfish pleasure to be had out of the poem—perhaps a nobler satisfaction from the life-saving labour.

Holmes was much interested in microscopy and did much work with the microscope as well as instructing students in its use. In addition to his medical work he gave lectures in Boston and elsewhere throughout New England on various subjects in English literature.

In 1847 Holmes was appointed Professor of Anatomy and Physiology in the Harvard Medical School. He gave up the Chair of Physiology in 1871 but continued as Professor of Anatomy until 1882, when he resigned, and the University made him Professor Emeritus. He served as Dean of the Medical School from 1847 to 1853.

Holmes as a teacher has been well described by Dr. David W. Cheever¹ and Dr. Thomas Dwight.² He was a vivid lecturer, and enlivened his remarks with many witticisms. As Dwight says:

None but Holmes could have compared the microscopical coiled tube of a sweatgland to a fairy's intestine. Medical readers will appreciate the aptness of likening the mesentery to the shirt ruffles of a preceding generation, which from a short line of attachment expanded into yards of complicated folds. He has compared the fibres connecting the two symmetrical halves of the brain to the band uniting the Siamese twins.

When James Russell Lowell assumed the editorship of the newly founded *Atlantic Monthly* he engaged Holmes as his first contributor and the latter began most brilliantly with the "Autocrat of the Breakfast Table," to be followed in later years by the "Professor" and the "Poet." These essays undoubtedly embody Holmes' best literary work. Of his novels "Elsie Venner," is probably the best known, "The Guardian Angel" and "A Mortal Antipathy" never having achieved any measure of popularity. He made two

¹ Harvard Grad. Mag. vol. 3, No. 10, Dec. 1894.

² Scribner's Mag., vol. 17: No. 1, January, 1895.

excursions into the field of biography, writing the "Life of Motley" and the "Life of Emerson," neither of them adding to his literary fame. Holmes died on October 7, 1894. In 1840 he married Amelia Lee Jackson, a niece of Dr. James Jackson, the elder. They had three children; Oliver Wendell who became Justice of the Supreme Court of the United States; a daughter who married Mr. Turner Sargent, and a son Edward Jackson, who suffered from ill-health throughout his life and died in 1884.

THE DEVELOPMENT OF LARYNGOLOGY AND OTOLOGY AS SPECIALITIES IN THE UNITED STATES

In the earlier years of the development of the specialities we find otology developing side by side with ophthalmology as a special branch of study. Ophthalmology began as a speciality earlier than either otology or laryngology and most of the early pioneers in the study and practice of ophthalmology combined with it the practice of otology. Thus the earlier institutions for diseases of the eye were generally termed "Eye and Ear" infirmaries or hospitals. Rhinology and laryngology were not taken up as specialities until well into the middle of the nineteenth century, and the combination of otology with them rather than with ophthalmology was only established towards the end of the century.

LARYNGOLOGY IN THE UNITED STATES¹

The late Stanton A. Friedberg² of Chicago, wrote an interesting article in 1917, on "Laryngology and Otol-

¹ For the history of laryngology in the United States consult "A History of Laryngology and Rhinology," by Jonathan Wright, M.D. Ed. 2, Phila., 1914. At the Semi-Centennial meeting of the American Laryngological Association in 1928, the President, D. Bryson Delavan, delivered a most interesting "Historical Address," in which he gave a summary of the development of the speciality in this country, a development in which he himself had played a large part, and with the details of which he was thoroughly familiar. Delavan's address was published in the *Tr. Am. Laryng. A.*, 1928. It is accompanied by numerous pictures of prominent laryngologists. Louis Elsberg published valuable papers on the early history of American laryngology in the *Tr. Am. Laryng. A.*, 1: 33, 1879, and in the *Arch. Laryng.*, 4: 122, 1883.

² *Ann. M. Hist.*, 1: 86, 1917.

ogy in Colonial Times." It deals chiefly with a manuscript written by a clergyman named Matthew Wilson (1734-1790), who styles himself on the titlepiece, "Physician at Lewes (Delaware), about 29 years," although he had no medical degree. It gives some interesting details regarding the "Throat Disorder in America," and an "Epidemic Cynanche," which prevailed so extensively in colonial times. He describes a very crude operative procedure for the cure of harelip, and also a method of removing nasal polypi.

Elsberg in his presidential address before the American Laryngological Association in 1879 reviewed very thoroughly the literature bearing on diseases of the nose and throat that he had been able to collect from the earliest Colonial period down to the introduction of the use of the laryngoscope in the United States, quoting Josselyn and Captain Morton's statements concerning the throat disease, probably diphtheria, which prevailed with great intensity on a number of occasions in different parts of New England. In 1736 William Douglass, M.D., published at Boston, "The Practical History of a New Epidemical Eruptive Military Fever with an Angina Ulcusculosa which Prevailed in Boston, New England, in the years 1735 and 1736." This essay was reprinted in part in the *New England Journal of Medicine and Surgery*, January, 1825, and in its entirety as an appendix to his "Essay on Scarlet Fever," by Dr. Caspar Morris, of Philadelphia, in 1855. In 1740 the Reverend Jonathan Dickenson published "Observations on that terrible Disease vulgarly called the Throat Distemper, with advices as to the Method of Cure. In a letter to a friend"; which is reproduced in the "The History of Medicine in New Jersey," by Stephen Wickes, M.D., 1879. Cadwallader Colden wrote a description of the "Throat Distemper" to Dr. John Fothergill, of London, which was pub-

lished in the collection of "Medical Observations and Enquiries."¹

In 1771 Dr. Samuel Bard dedicated to Cadwallader Colden, "An Enquiry into the Nature, Cause, and Cure of the Angina Suffocativa, or Sore Throat Dis-temper, as it is commonly called by the Inhabitants of this City and Colony."

Dr. Jacob Ogden, of Long Island, wrote a letter to Mr. Hugh Gaime, of New York, on the same subject, which was published in the *New York Medical Repository*.²

In 1781 appeared "Cases of the Angina Trachealis, with the Mode of Cure in a Letter to William Hunter, M.D., etc., by Richard Bayley, Surgeon. To which is added a Letter from Peter Middleton, M.D., to the Author," New York, 1781. Dr. Bayley was the distinguished anatomist whose dissecting room was the focus of the "Doctors' Mob" in 1787.

In 1820 Philip Syng Physick, of Philadelphia, published in the *Philadelphia Journal of the Medical and Physical Sciences*, an account of the method which he employed for the removal of "Scirrhus tonsils." It consisted in strangling the tonsil with a silver wire passed around it by means of a double cannula, a method in general use, but Physick stated that he removed the instrument at the end of twenty-four hours instead of allowing it to remain for a week or ten days, until the tonsil had sloughed away. Eight years later³ he described a modification of the guillotine which had been devised by Benjamin Bell for the amputation of the uvula, and which Physick adapted for the removal of the tonsils also.⁴

¹ 1: 211, 1757.

² 5: 97, 1796.

³ *Am. J. M. Sc.*, February, 1828.

⁴ Desault had previously described an instrument which he used for the removal of the tonsils, which was a modification of a cystotome, or kiotome, used in operating on vesical cysts. It consisted of a silver sheath, with a crescentic notch at one end. A cutting blade passed through the sheath and

Physick describes his instrument as follows:

In the operation for cutting off the uvula, Dr. Physick has, until very lately, used scissors; but being unable to complete the operation by one application of that instrument, several have been necessary to effect the division of the part. To obviate this difficulty, he determined to try the old instrument as modified and represented by Benjamin Bell in his "System of Surgery." He found, however, that although he could divide with that instrument the greater part of the uvula, a portion of the membrane that covers the back part of it was not always divided, making the use of scissors necessary to cut it through. To remedy this inconvenience, he caused an instrument to be made having two plates instead of one, between which the knife was passed; but still the same difficulty was experienced in cutting through the membrane on its posterior part. He then thought of wrapping a strip of waxed linen over the semicircumference of the opening, to support the membrane until it should be divided by the knife. Thus constructed the instrument answered the purpose completely, and cut through the whole substance of the part in an instant. Dr. Physick has since used an instrument of similar construction for the removal of scirrhus tonsils. He finds it easy to cut off the whole, or any portion that may be necessary, of the enlarged tonsil in this manner. The operation can be finished in a moment's time. The pain is very little, and the hemorrhage so moderate that it has not required any attention in four cases in which he has lately performed it. The size of the perforated end of the two plates, and of course that of the knife, must be larger in the instrument for extirpation of the tonsils than in that for truncation of the uvula.

Following Physick's publication of his description of his tonsil guillotine a number of instruments for the performance of tonsillectomy were brought forth by American physicians. Friedberg¹ lists those of Caleb S. Matthews,² William Gibson,³ A. L. Cox,⁴ D. L.

cut off the tonsil which was drawn into the notch by means of a hook or vulsellum. The late Stanton A. Friedberg, M.D., of Chicago, published a valuable article on "The Evolution of the Tonsillotome," in the *Annals of Otolaryngology and Laryngology*, June, 1914, accompanied by an excellent series of illustrations.

¹ Evolution of the Tonsil Guillotine, *Ann. Otol. Rbin. & Laryng.*, June, 1914.

² *Am. Med. Recorder*, 13: 309, 1928.

³ *Institutes and Practice of Surgery*, Ed. 3, Phila., 1832.

⁴ *N. Y. Med. & Phys. J.*, 2: 52, 1829-30.

Rogers,¹ J. K. Mitchell,² William B. Fahnestock³ of Lancaster, Penna. who devised one which remained a popular type in this country down to the closing years of the nineteenth century. Morell MacKenzie's guillotine was much after the type of Physick's and it has prevailed with various modifications to the present time.

In spite of the number of instruments devised to amputate the tonsil the old method of causing the tonsil to slough off by means of a ligature was persisted in by some. Fanny Kemble, the famous English actress who married Senator Pierce Butler, in "Records of Later Life," wrote from Philadelphia on January 8, 1838, as follows:

S—'s scarlet fever had been followed by the enlargement of one of the tonsils, which grew to such a size as to threaten suffocation, and the physician decided that it must be removed. This was done by means of a small double-barrelled silver tube, through the two pipes of which a wire is passed, coming out in a loop at the other end of the instrument. This wire being passed round the tonsil, is tightened, so as to destroy its vitality in the course of twenty-four hours, during which the tube remains projecting from the patient's mouth, causing some pain and extreme inconvenience. The mode usually resorted to with adults (for this, it seems, is a frequent operation here) is cutting the tonsil off at once; but as a hemorrhage sometimes results from this, which can only be stopped by cauterizing the throat, that was not to be thought of with so young a patient. At the end of the twenty-four hours, the instrument is removed, the diseased part being effectually killed by the previous tightening of the wire. It is then left to rot off in the mouth, which it does in the course of a few days, infecting the breath most horribly, and, I should think, injuring the health by that means.

I think that the credit of being the pioneer laryngologist in the United States is undoubtedly due to Horace Green (1802-1866), who was certainly the first to advocate and practice the application of medicaments directly on the laryngeal mucous membrane.

¹ *N. Y., Med. J.*, 2: 13, 1831.

² *Am. Med. & Surg. J.*, 11: 239, 1831.

³ *Am. J. M. Sc.*, 11: 249, 1832.

Born in Chittenden, Vt. he studied medicine under his brother, Dr. Joel Green, of Rutland, and then received his degree from the medical school at Middlebury, Vt. later called Castleton Medical College. Later he attended courses in the medical department of the University of Pennsylvania. After practicing for a time in Rutland, he removed, in 1835, to New York City. In 1835 he went to Europe for some months. From 1840 to 1843 he was Professor of Medicine and President of Castleton Medical College, and in 1850 he was one of the founders of New York Medical College.

In 1846 Green published his "Treatise on Diseases of the Air Passages." In it he states that six years before, in 1840, he had spoken before the New York Medical and Surgical Society on the feasibility of making direct applications to the mucosa of the larynx, but that his statements had been received with such scepticism that since then he had remained silent. In his book he told his method of introducing a probang into the larynx, which it must be remembered was done without the aid of the laryngoscope, the latter not having as yet been invented. Green's book aroused the bitterest opposition. He was accused of stealing his ideas from the treatise on laryngeal phthisis published by Trousseau and Belloc in 1837. Many claimed that it was anatomically impossible to pass a probang as he claimed to have done through the vocal cords into the larynx. As Jonathan Wright,¹ says Desault, Loiseau and Bouchut had fully demonstrated the possibility of introducing instruments into the larynx through the glottis:

Horace Green was persecuted and reviled for claiming he could perform this operation, but this is only a part of the story. He laid himself open to criticism by claiming that by this procedure he could apply medicaments which would cause the cure of various

¹ History of Laryngology and Rhinology, Ed. 2, Phila., 1914.

pulmonary and laryngeal lesions, which the same vastly more accurate manoeuvres guided by the laryngoscope, are today unable to accomplish. His pathology, resting on the half comprehended ideas of Louis, was so erroneous and crude as to secure no support from his more scientific colleagues.

The chief agent which Green applied to the interior of the larynx, which again we should recall he had never seen, was a 40 to 80 grains to the ounce solution of nitrate of silver. He made the most extravagant claims as to the results he had achieved by his methods. An effort was made to have him expelled from the New York Academy of Medicine. A committee which was appointed to investigate his claims reported against him, but the report was tabled. He finally proved that he was able to introduce a probang into the larynx, but could not sustain his statement that he was able to medicate the bronchial tubes and tuberculous cavities in the lung intralaryngeally.

In 1856 Manuel Garcia published a description of the laryngoscope. Two years later Dr. Ernst Krackowizer (1821-1875), an Austrian who had come over to the United States because of political persecution after the troubles in 1848, and was practicing surgery in New York City, received a laryngoscope from Vienna, the first of these instruments to reach the United States. According to his friend, Abraham Jacobi:¹

With it Krackowizer demonstrated the vocal cords for the purpose of proving its possibilities, but being a general surgeon he made no further use of the instrument. Through Krackowizer, Horace Green got a laryngoscope and proceeded to utilize it to the fullest extent in conjunction with his partner, Dr. John H. Douglas. As Delavan says, "He was the first in this country to appreciate its value and to use it clinically."

On March 6, 1861² Dr. William H. Church spoke on the laryngoscope before the New York Academy of

¹ Biographical sketch of Krackowizer in Kelly and Burrage, "American Medical Biographies."

² *Bull. New York Acad. Med.*, 1: 156, 1861.

Medicine, and in the discussion which followed Dr. Krackowizer said:

I have very little doubt but that I was the first person in this country who saw the vocal cords in a living subject. I sent over for the instrument in 1858, and very soon after I had a case where I had an opportunity to use it. The patient was a gentleman from Texas who suffered from tuberculous disease of the larynx and lungs. After frequent and rather prolonged sittings, I succeeded in seeing the vocal cords. I was enabled to state that there was no ulceration of the parts present, but that there was stenosis of the cartilages from immobility of their joints.

This must be regarded as the first report of a laryngoscopic examination made in the United States.

In 1864 Elsberg published a book embodying his previously published papers, entitled "Laryngoscopic Medication." To the end of his presidential address before the American Laryngological Association, in 1879, he appended a very valuable bibliography of laryngology in the United States from 1809 to 1878.

Among the early American workers in the new subject of laryngoscopy should be mentioned Ephraim Cutter (1832-1917), a native of Woburn, Mass., who after getting the degree of M.D. from both Harvard and the University of Pennsylvania, practiced in Boston. He devised a laryngoscope of which he writes:¹

In 1856 I had a most earnest desire to see my own larynx. I heard of Garcia's invention, but could not find an instrument representing it, so had to invent one for myself. Taking the microscope for a pattern, I made drawings and explanations to Alvan Clark and Sons, who constructed a laryngoscope for me in 1859. I did but little with it. I saw Czermak in Paris, in 1856, demonstrate his own larynx. After this I had my tinsmith construct my laryngoscopes out of his mirrors. They were successful. In 1866 I photographed my own larynx.

Cutter was an excellent laryngologist, and a daring and successful operator.

¹ *Tr. Am. Laryng. A.*, 1917.

LARYNGOLOGICAL TEACHING

In 1866 Dr. Henry K. Oliver was appointed University Lecturer on Laryngoscopy at Harvard, a position which he held until 1873. In 1872 Dr. Frederick I. Knight was appointed Instructor in Percussion, Auscultation and Laryngoscopy, and started a special clinic for diseases of the nose and throat in the Massachusetts General Hospital. In 1882 he was appointed Assistant Professor of Laryngology, and in 1888 was made Clinical Professor of Laryngology.

Louis Elsberg began giving courses in Laryngoscopy in the autumn of 1861, and in 1868 was appointed Professor of Diseases of the Nose and Throat in the University of the City of New York. In 1863 he had opened a nose and throat clinic in the Hospital.

In 1870 J. Solis-Cohen was appointed Instructor in Laryngology and Diseases of the Chest in the summer course at Jefferson Medical College of Philadelphia. In 1883 he was given the title of Honorary Professor of Laryngology.

These early teachers were a brilliant and enthusiastic group. Louis Elsberg (1836-1885) was a native of Germany but came to the United States with his parents when a young boy. His family settled in Philadelphia where he graduated from Jefferson Medical College in 1857. He then went abroad and studied laryngology with Czermak. On his return to America he practiced laryngology in New York City. He was one of the founders of the American Laryngological Association in 1879 and cooperated in founding and editing the *Archives of Laryngology* with George M. Lefferts, J. Solis-Cohen, and Frederick I. Knight, in 1880. He made many excellent contributions to laryngological literature.

Frederick Irving Knight (1841-1909) graduated from Harvard Medical School in 1866. He spent several years abroad studying especially diseases of the respira-

tory tract. He was one of the founders of the American Laryngological Association.

Jacob Da Silva Solis-Cohen (1838-1927) was one of the most distinguished American laryngologists of his time. He was born in New York but his family moved to Philadelphia when he was but two years old. Graduating from the medical department of the University of Pennsylvania in 1860, he was appointed a resident physician in the Philadelphia General Hospital (Blockley), but resigned before the expiration of his term to enter the United States Army. He enlisted as a private, but was soon made an assistant surgeon. In September, 1861, he resigned from the Army and entered the Navy as an acting assistant surgeon. He saw very active service in both capacities. In January, 1864, he resigned from the Navy and received the appointment of visiting surgeon to the Turner's Lane Army Hospital in Philadelphia. In 1872 he published his "Diseases of the Throat and Nasal Passages," which was long a standard work. He contributed much to current laryngological literature, and was one of the founders of the American Laryngological Association.

The earliest laryngological society founded in the United States was the New York Laryngological Society, which was organized in 1873. In 1886 it ceased to exist as most of its members became members of the newly organized section for diseases of the throat of the Academy of Medicine of New York.

The American Laryngological Association held its first meeting in 1879, with Louis Elsberg as president. This was the first national laryngological society to be founded,¹ and it has maintained the highest standing throughout the subsequent years.

The first special hospital for diseases of the nose and throat in the United States was the Metropolitan

¹ According to Delavan the second was the British Laryngological Society founded by Sir Morell Mackenzie in 1888.

Throat Hospital and Dispensary, founded by Dr. Clinton Wagner (1837-1914) in 1873. Wagner was born in Baltimore, and graduated in medicine from the University of Maryland in 1858. He made a fine record as a surgeon during the Civil War. He was one of the founders of the New York Laryngological Society and of the American Laryngological Association.

JOSEPH O'DWYER AND INTUBATION¹

Joseph O'Dwyer was born October 12, 1841, in Cleveland, Ohio. Shortly after his birth his parents moved to the neighborhood of New London, Canada, where after receiving an ordinary school education, O'Dwyer studied medicine for two years, as apprentice to a Dr. Anderson. He completed his medical education at the New York College of Physicians and Surgeons, from which he graduated in 1866. In a competitive examination he secured the appointment as resident physician and sanitary superintendent of the Charity or City Hospital of New York City, on Blackwell's Island. Soon afterwards during an epidemic of cholera on the Island, O'Dwyer contracted the disease during his devoted attendance on its victims. Not long afterwards in another epidemic he volunteered to attend the cholera patients who were transferred to Hart's Island, and once more contracted it himself. After two years' service at Blackwell's Island he resigned his position and opened an office in New York with Dr. Warren Schoonover. O'Dwyer devoted himself especially to obstetrics at this time.

In 1872 O'Dwyer was appointed on the staff of the New York Foundling Asylum, where he worked assiduously until his death, working out his great achievement within its wards.

¹ The best biographical account of O'Dwyer is that by James J. Walsh, "Makers of Modern Medicine," New York, 1907.

Before the discovery of the antitoxin of diphtheria that disease was justly dreaded as one of the most frequent causes of death in childhood. The fatal result was usually due to asphyxia, against which the only remedial agent of any value was tracheotomy. Even this operation failed to give relief in many cases and O'Dwyer was so impressed by the number of such failures that he sought to find a substitute for it. In 1880 he began experimenting to find a means by which the mechanical obstruction to the passage of air through the larynx and trachea could be overcome.

He first tried springs made of wire to hold the larynx open, but with no success. A small bivalve speculum at first promised better results, but the edematous mucous membrane forced its way through the slit of the speculum and soon occluded the lumen. Finally he hit upon the idea of using a tube. The first case in which it was employed resulted fatally, but the patient's last hours were rendered much easier by the relief from dyspnea which the tube afforded. In a second case O'Dwyer could claim complete success.

As would be expected the tubes underwent many modifications before O'Dwyer perfected them. For many years he had studied the anatomy of the larynx, making casts and models of wax and putty, and studying the materials best adapted for his purpose. The larynx had been regarded as peculiarly intolerant of the presence of any foreign object. Walsh reviews the steps by which this idea had come to be questioned. As early as 1801, the French surgeon Desault while trying to pass a tube into the esophagus had passed it into the larynx by mistake. Finding that the tube was unexpectedly tolerated he suggested that possibly tubes could be passed into the lungs through an obstructed larynx and a supply of air thus assured. He practiced this procedure with success in a few cases.

In 1813 Finaz of Seyssel, a student of the University of Paris, in writing his graduation thesis for the faculty of medicine, suggested the use of a gum-elastic tube that should be passed down into the larynx in order to allow the passage of air in spasmodic and other obstructive conditions. In 1820, Patissier suggested that some such remedy as this should be employed for edema of the glottis. Liston and John Watson both asserted their belief that the larynx might tolerate a tube more readily than was generally thought, having observed its tolerance of tubes accidentally passed into it during the passage of feeding tubes. Dieffenbach protected his finger by a shield which also acted as a mouth gag.

Bouchut suggested a tube about the size of a thimble that could be inserted into the larynx.

At the upper part of this tube were a pair of rings, between which the vocal cords were supposed to rest and hold it in place. Bouchut operated in seven cases with his tube, but five of his patients died, while two of them recovered only after tracheotomy had been performed. Bouchut succeeded, however, in showing that the larynx would tolerate a tube, though he made exaggerated claims for his method, while the very imperfect instruments he employed foredoomed his inventions to failure. It happened, however, that the time was unpropitious. Trousseau had not long before re-invented tracheotomy, and had employed it with considerable success in cases of croup. Under Trousseau's influence, a committee of the Academy of Medicine of Paris declared Bouchut's method unphysiological and impracticable. Moeller of Koenigsberg, tried to reintegrate Bouchut's method with certain ameliorations, but failed.

O'Dwyer found great difficulties.

"One of the great difficulties in the matter was the liability, when a tube was in place, for food and drink to find its way, during the process of swallowing, into contact with the sensitive tissues of the larynx. In order to overcome this difficulty, Dr. O'Dwyer made many modifications of the upper part of the tube. Accordingly he made many wax models of the larynx, and studied the function of the epiglottis and its method of covering the larynx

in order to facilitate the complete protection of the laryngeal tissues during the process of swallowing.

The problem of making a tube that would remain in position, not descending into the lungs nor being expelled out of the larynx during coughing or expiration, was difficult.

Eventually Dr. O'Dwyer decided that the best form of tube for all purposes would be one with a collar, or sort of flaring lip at the top, which was to rest on the vocal cord, with moreover, a fusiform or spindle-shaped enlargement of the middle portion of the tube, which lay below the vocal cords, fitting more or less closely to the shape of the trachea.

O'Dwyer's first tubes were made of metal, but he soon found that hard rubber was a better material.

It is gratifying to record that though O'Dwyer had to meet some criticism of his method, he did not encounter the determined opposition which has so often befallen the proposers of great advances in science. The value of the procedure could be so readily demonstrated that his critics were obliged to give way. O'Dwyer had worked and experimented for twelve years before he had devised a practicable instrument. The first record of his use of them in a patient is found in a case history in the records of the Foundling Hospital on April 25, 1884. At a meeting of the New York Academy of Medicine two years later the method was criticized by some of the pediatricians who were present as not likely to be of great practical value. This criticism was a source of bitter disappointment to O'Dwyer who, by virtue of his own observations on a number of cases was convinced of its value. Fortunately even the most sceptical were converted within a few years and before his death O'Dwyer could feel assured of the recognition by the medical profession of the great benefaction he had bestowed on humanity.

Dr. O'Dwyer died on January 7, 1898.

OTOLOGY

Diseases of the eye and ear have always furnished a rich field for quackery. Bass¹ gives the following advertisement published by one James Graham, in the *New York Gazette and the Weekly Mercury*, July 19, 1773:

Doctor Graham, Oculist and Aurist, is arrived in this City, from Philadelphia, and may be consulted at his apartments at Capt. Fenton's opposite Trinity Church, in the disorders of the Eye and its appendages; and in every species of deafness, hardness of hearing, ulcerations, noise in the Ears, etc. Persons born Deaf and Dumb, and those labouring under any impediment in their Speech, by applying personally, will probably be assisted. The Doctor intends to sail for England in a few months; those, therefore, who have occasion for his assistance, must apply immediately.

This man was the infamous "Doctor" James Graham, who conducted a "Temple of Health" in London, of which the notorious Emma Hamilton, Lord Nelson's mistress, was at one time the chief divinity.

As already stated most of the men who practiced otology in the pioneer days were ophthalmologists, and the work they did in diseases of the ear was subordinate to their interest in diseases of the eye. Treacher Collins² in his recent account of the Moorfields Hospital tells how John Cunningham Saunders founded it as an eye and ear infirmary but five years later got the managers to change the name to "The London Infirmary for Curing Diseases of the Eye" and give up the treatment of ear diseases in the institution. As most of the early American ophthalmologists went to Moorfields for their training it is not surprising to find them following in Saunder's footsteps when they established infirmaries in the United States, beginning them as eye and ear infirmaries and in later years gradually, in most instances, confining their activities to diseases of the eye.

¹ History of Medicine, tr. by Henry E. Handerson, Ed. 1889.

² The History and Traditions of the Moorfields Eye Hospital-London, 1929.

The Pennsylvania Infirmary for Diseases of the Eye and Ear¹ was organized by a group of citizens of Philadelphia in 1822, although it was not incorporated until 1826. Dr. Oliver says that although the last meeting of the Board of Managers was held on May 1, 1829, he thinks it probably continued its work subsequently as the minutes of that meeting show that a committee was appointed to collect subscriptions and there is every indication that its work was to be continued. It is probable that the Infirmary continued to function until the opening of the Wills Eye Hospital in 1834, when the latter supplanted it. Drs. George B. Wood, Isaac Hayes, John Bell and Robert Griffith were the first surgeons to the Infirmary, with Drs. Philip Syng Physick and William Gibson as consulting surgeons. This was a strong staff though none of them made any mark for themselves as otologists.

The Massachusetts Charitable Eye and Ear Infirmary was founded in Boston by Drs. Edward Reynolds and John Jeffries, Jr., in November, 1824, and incorporated in 1827. In 1836 a building was fitted up for a hospital and bed-patients admitted for treatment. The Infirmary has had a long and splendid career and has continued its otological as well as its ophthalmic work to the present day.

The Illinois Charitable Eye and Ear Infirmary was organized in May, 1858, as the Chicago Charitable Eye and Ear Infirmary. In 1871 the name was changed by substituting "Illinois" for "Chicago" in its title, and the institution at the same time was taken over by the State of Illinois. Its first surgeon was Dr. Edward L. Holmes.

In 1869 two New York institutions, the Manhattan Eye and Ear Hospital and the New York Ophthalmic and Aural Institute received charters, and in 1871 the New York Ear Dispensary was opened.

¹ A Brief Account of the Pennsylvania Eye and Ear Infirmary, *Med. Lib. & Hist. J.*, By Charles A. Oliver, M.D., New York, April, 1903.

AMERICAN OTOLOGICAL SOCIETY

After the organization of the American Ophthalmological Society so many of its members were found to be interested in otology as well as ophthalmology that it was decided to allot one day at each annual meeting to the subject of diseases of the ear. This arrangement proved unsatisfactory and consequently in July, 1868, some of the members of the American Ophthalmological Society who were in attendance at the annual meeting of the Society at Newport, R. I., met and organized the American Otological Society. Dr. Elkanah Williams (1822-1888) was elected as the first president. No transactions were published of this meeting. The first volume of *Transactions* contained the papers read at the Second Annual Meeting, held at Newport, R. I., in July, 1869.

At that meeting H. D. Noyes was elected President; E. L. Holmes, Vice-President, and J. Orne Green, Secretary and Treasurer.

For many years the American Otological Society used to hold its annual meetings at the same time and place as those of the American Ophthalmological Society. It is illustrative of the change which has taken place in the relations of the specialities, that for the past twenty-five years or more it has become customary to link the annual meetings with those of the American Laryngological Association, so many more Fellows being now interested in rhinology and laryngology rather than in ophthalmology.

One of the most prominent of the early American otologists was Daniel Bennett St. John Roosa (1838-1908), of New York, who received his M.D. from the University of the City of New York in 1860. After a short period of service in the Army as an assistant surgeon, he studied abroad. From 1866 to 1882 he was Professor of Ophthalmology and Otology in his alma

mater. He was one of the founders of the Manhattan Eye and Ear Dispensary, and also of the New York Postgraduate Medical School and Hospital. In 1863-64 he translated Von Troeltsch's book, "Diseases of the Ear," and his translation went through several editions before he published his own textbook on the same subject. Roosa had a very large practice and was a successful and popular teacher.

Cornelius Rea Agnew (1830-1888), of New York, also took a prominent part in the development of otology in this country. He graduated from the College of Physicians and Surgeons of New York in 1852, having as his preceptor John Kearny Rodgers. Agnew went out to Michigan to practice but shortly afterwards returned to New York, having received, probably through the influence of Rodgers, the appointment of surgeon to the New York Eye Infirmary, in which his former preceptor had great authority. Before assuming the duties of the position Agnew went abroad for post-graduate study, which he carried out under Sir William Wilde in Dublin, William Bowman in London, and Sichel and Desmarres in Paris. Returning to New York he entered upon a most successful career. Agnew was a born organizer. He was one of the founders of the Brooklyn Eye and Ear Hospital, and of the Manhattan Eye and Ear Infirmary, also of the American Ophthalmological and the American Otological Societies. In 1866 he established the eye clinic in the College of Physicians and Surgeons of New York, and from 1869 until his death he was Clinical Professor of Ophthalmology and Otology in that institution.

Charles Henry Burnett (1842-1902), of Philadelphia, was one of the first men in this country to devote his entire professional work to diseases of the ear. He received his M.D. from the University of Pennsylvania in 1867. After serving his term as resident physician in the Episcopal Hospital of Philadelphia he went abroad

and did post-graduate work for ten months. Returning to Philadelphia he practiced for a year and then returned to Europe for another year of post-graduate work, chiefly under Helmholtz, Virchow and Politzer. In spite of a very large private practice and several important hospital positions, Burnett devoted much time to research work, especially on changes in intra-labyrinthine pressure and the movements of the ossicles. He made numerous contributions to otologic literature. In 1877 he published his "Treatise on Diseases of the Ear," and in 1893 edited a most excellent "System of Diseases of the Ear, Nose and Throat."

OPHTHALMOLOGY IN THE UNITED STATES¹

One of the first Americans to devote particular attention to diseases of the eye was the distinguished Elisha North (1771-1843), who wrote the first monograph on epidemic cerebrospinal meningitis. While practicing in New London, Conn., in 1817, he opened an eye infirmary, the first establishment of its kind in the United States. W. R. Steiner² has written a most interesting account of North's life. On the title-page of his book, "The Science of Life," which was published in 1829, North places after his name "Conductor of an Eye Infirmary" which would indicate that his institution was still in existence at that time. No other definite particulars concerning it are known.

Hubbell refers to several surgeons who did notable work in ophthalmology before the day of specialists in that field. Philip Syng Physick (1768-1837) Professor of Surgery and later of Anatomy in the University of

¹ In 1908 Dr. Alvin A. Hubbell published his very comprehensive little book, "The Development of Ophthalmology in America, 1800-1870, a Contribution to Ophthalmologic History and Biography." See also, *Early History of Ophthalmology and Otology in Baltimore*, by Harry Friedenwald, *Johns Hopkins Hosp. Bull.*, 8: Aug. and Sept., 1897, Nos. 77-78. *Some of the Phases and Contributions of American Ophthalmology*, by G. E. de Schwenitz, *Arch. Ophth.*, 3: 1-30, 1930.

² *Johns Hopkins Hosp. Bull.*, vol. 19: 1908.

Pennsylvania and Surgeon to the Pennsylvania Hospital, was especially expert in operating for cataract and artificial pupil. He devised a punch-forceps for use in the latter operation. William Gibson (1788-1868), Physick's successor as Professor of Surgery in the University of Pennsylvania, described¹ in 1821 a pair of scissors which he had devised for destroying the crystalline lens in cataract. Hubbell tells of another method which Gibson employed for the absorption of cataract by passing a curved needle armed with a thread of silk through the sclera and the opaque lens, after dilating the pupil with belladonna. The thread was cut on each side and left in situ, to act in the manner of a seton. Gibson had operated successfully in this manner in two cases. "No reaction or accident intervened, and at the end of ten days, in both cases, the diseased lens had disappeared." The silk was then withdrawn and vision was found restored. In 1818, while Gibson was Professor of Surgery in the University of Maryland, he operated for strabismus by dividing the recti muscles. Afterwards he attempted the operation several times in Philadelphia, but without success, and he finally was dissuaded by Dr. Physick from its further employment. Hubbell says: "He was the first surgeon to perform the operation for convergent strabismus, which was afterwards made so popular by Dieffenbach. Unfortunately, he did not record his operation in time to receive due credit for priority." In this connection Hubbell publishes a letter written by Samuel Y. Atwell, a lawyer of Providence, R. I., to Dr. H. W. Rivers, in which he states that Dr. William Ingalls, of Boston, in 1812 or 1813, wished to perform the operation of dividing the internal rectus on him (Atwell) for strabismus, from which he suffered. There is no evidence supplied that Ingalls actually performed the operation. John H. Dix (1812-1884), of Boston, graduated from Jefferson Medical College of

¹ *Phila. J. Med. & Phys. Sc.*, 3: 192, 1821.

Philadelphia in 1836. In the *Boston Medical and Surgical Journal*, September 30, 1840, he reported a successful operation for convergent strabismus by Dieffenbach's methods. Another surgeon who was also a pioneer in American ophthalmology was George McClellan (1796-1847), the founder of the Jefferson Medical College of Philadelphia, in which he held the professorship of surgery. In 1821 a group of philanthropic citizens of Philadelphia united to establish a free dispensary for diseases of the eye. A charter was procured for the "Philadelphia Hospital for Diseases of the Eye and Ear." McClellan was the surgeon and apparently patients went to his office for treatment and advice. Hubbell gives several notices concerning it which were published in the *American Medical Recorder* in 1821 and 1822, and an abstract of McClellan's report of its activities dated March 26, 1822. There is a last mention of it in the *American Medical Recorder* in 1823, after which no further record of it is known. In 1828 McClellan was sued for malpractice due to alleged want of skill in an operation he performed for cataract. The plaintiff won a verdict for \$500.00.

William Edmonds Horner (1793-1853), who succeeded Physick as Professor of Anatomy at the University of Pennsylvania was the discoverer of the tensor tarsi muscle, which was frequently termed "Horner's muscle." He also devised an operation for ectropion of the lower eyelid, which he described in the *American Journal of the Medical Sciences*.¹ Hubbell reproduces his account of the operation with diagrammatic illustrations of it.

Many of the surgeons of the nineteenth century operated with great skill and success on the eye, even long after the establishment of ophthalmology as a distinct speciality. Among those Hubbell mentions S. D. Gross and D. Hayes Agnew, of Philadelphia; John

¹ 21: 105, 1837.

Kearny Rodgers and Edward Delafield, of New York; Edward Reynolds and John Jeffries, of Boston; Horatio Gates James, John Mason Gibson, John Harper and Nathan R. Smith, of Baltimore. Gibson published in 1832 a book entitled "A Condensation of Matter on the Anatomy, Surgical Operations and Treatment of Diseases of the Eye, Together with Remarks. Embellished with Twelve Lithographic Plates, Illustrative of the Anatomy and Morbid Appearances." It was the second American book on the eye and as Hubbell says a very inferior production. Smith devised a knife to divide structures of the nasal duct and also gold lachrymal cannulae. Alfred C. Post (1806-1886), of New York, might almost be claimed as a specialist in ophthalmology although he was very eminent as a general surgeon. He was especially interested in the plastic surgery of the eye.

John H. Dix (1812-1884), of Boston, although engaged in general practice, was a most expert operator on the eye and a frequent contributor to ophthalmic literature.

L. A. Dugas (1806-1884), of Augusta, Ga., one of the best known surgeons of the South, was a very skilful eye surgeon. In 1840 he devised and performed with success an operation for abscission of the cornea in corneal staphyloma.

EARLY SPECIALISTS IN OPHTHALMOLOGY

The first American physician to devote himself to ophthalmology as a specialist was George Frick (1793-1870), of Baltimore. He received his medical degree from the University of Pennsylvania in 1815. After studying under Beer in Vienna Frick began to practice in Baltimore. He organized an eye clinic in the Baltimore General Dispensary and lectured on ophthalmology at the University of Maryland. In 1823 he published "A Treatise on the Diseases of the Eye,

Including, the Doctrines and Practice of the Most Eminent Modern Surgeons, and Particularly those of Professor Beer," which was the first American textbook on ophthalmology.

Isaac Hays (1796-1879), of Philadelphia, graduated from the medical department of the University of Pennsylvania in 1820. He was one of the surgeons to the Pennsylvania Infirmary for Diseases of the Eye and Ear when that institution was founded in 1822, and when the Wills Hospital for the Blind and Lame was established in 1830 he was appointed surgeon to it. Hays contributed much to ophthalmological literature and edited with notes the American editions of T. Wharton Jones' "Principles and Practice of Ophthalmic Surgery" and Lawrence's "Treatise on Diseases of the Eye." In 1854 he gave up all clinical work to devote himself to literary work. He edited the *American Journal of the Medical Sciences* for so many years that it was very generally spoken of as "Hays' Journal" instead of by its real name. Hays devised a "needle knife" which Hubbell praises very highly. It was used for the operation for cataract "by solution or absorption." Hubbell says, "Not only did this instrument admirably serve the purpose for which it was designed by Dr. Hays, but it is still an excellent knife for discission."

Squier Littell (1803-1886), whose professional life was chiefly spent in Philadelphia, is classed by Hubbell along with Frick and Hays as one of the trio of pioneers who established ophthalmology as a speciality in the United States. He graduated from the medical department of the University of Pennsylvania in 1824. When the Wills Eye Hospital was established in Philadelphia he was appointed one of the surgeons on its first staff. In 1837 he published "A Manual of the Diseases of the Eye," which was a real contribution to ophthalmology. The work was so well esteemed that it was republished

in England in an edition revised and enlarged by Hugh Houston, in 1838. Besides his book Littell made many other contributions to medical literature.¹

Henry Willard Williams (1821-1895), of Boston, was one of the first Americans to devote himself solely to diseases of the eye. He began the study of medicine at Harvard in 1844, but before getting his degree he went abroad and studied ophthalmology for three years in Paris, Vienna and London. Returning to America in 1849, he took his degree of M.D. at Harvard. In 1850 he organized a class in ophthalmology at Harvard, and in the same year was appointed ophthalmic surgeon to the Boston Dispensary. When the Boston City Hospital was opened in 1864 Dr. Williams was appointed Ophthalmic Surgeon to the Boston Dispensary, and in 1885 his title was changed to Visiting Ophthalmic Surgeon to the Hospital. For many years he was President of the staff of the Hospital. His greatest influence was due to his position as Professor of Ophthalmology in the Harvard Medical School, to which he was elected in 1871. When he retired from the professorship in 1891, he endowed the chair. In addition to several highly-esteemed textbooks Dr. Williams contributed much to periodical ophthalmological literature. He was very conservative and clung to the methods of operation in vogue when he began his practice. This was sympathetically but justly brought forth in the memoir by Dr. John Green.² He was a remarkably skilful operator and the methods he employed were successful in his hands. He was one of the founders of the American Ophthalmological Society and for some years its president.

Another early pioneer who confined his practice solely to diseases of the eye was Elkanah Williams (1822-1888), a native of Indiana. He received the degree of M.D. from the University of Louisville in 1850, and in 1852

¹ There is a memoir of Littell by A. D. Hall, in the *Tr. Coll. Phys. Phila.* for 1887.

² *Tr. Am. Ophth. Soc.*, 7: 1896.

went to Europe with the avowed purpose of studying ophthalmology. After studying in Berlin and Paris, he went to London, where in 1854 he demonstrated the use of the newly discovered ophthalmoscope, which he had studied on the Continent. Returning to America in 1855 Williams practiced in Cincinnati for the rest of his life. In 1860 Miami Medical College created the first chair of Ophthalmology to be established in any medical college in the United States and Williams was chosen as its first incumbent. Williams acquired an enormous practice and was held in the highest esteem by his professional colleagues. In 1876 he was president of the International Ophthalmological Congress which was held in New York. Dr. Williams wrote many important articles on the eye in Ashhurst's "International Encyclopedia of Surgery," 1884, and was regarded as a most valuable contributor to ophthalmological literature.

SPECIAL INSTITUTIONS FOR THE TREATMENT OF DISEASES OF THE EYE

With the recognition of the importance of special training for the treatment of diseases of the eye there soon developed a demand for institutions especially adapted for such diseases. Ophthalmology was one of the earliest specialties to be generally recognized as such, being only preceded by obstetrics and mental diseases. Dr. Elisha North's "Eye Infirmary" has already been referred to. It was a private concern and had like the somewhat similar "Institution for Diseases of the Eye and Ear" of Dr. George McClellan, but a short career.

NEW YORK EYE INFIRMARY

This is the oldest of still existing eye hospitals in the United States. Hubbell quotes from the charming ad-

dress of Dr. Edward Delafield, delivered at the opening of a new building for the Infirmary in 1856, his account of how it was founded. In 1816 Edward Delafield¹ and John Kearny Rodgers,² recent graduates of the College of Physicians and Surgeons of New York, went abroad for post-graduate study. They were particularly impressed by the work at the London Eye Infirmary (Moorfields) and returned to America in 1818 enthusiastic to pursue their researches in this comparatively untrodden field. They decided to open an infirmary for the treatment of diseases of the eye, hoping that after they had demonstrated its usefulness they might be able to obtain public support for its continuance. In August, 1820, they hired two rooms in the second story of a building in Chatham Street, fitted them up in a modest way, got some medical students to volunteer their assistance, and started their work. After the lapse of a year they found themselves in a position to ask for outside assistance. In April, 1821, a Board of Directors was elected and the New York Eye Infirmary was established as a public institution. Hubbell says that from August, 1820, to September 30, 1906, 1,051,892 patients had received treatment in it.

THE PENNSYLVANIA INFIRMARY FOR DISEASES OF THE EYE AND EAR³

On February 8, 1822, some citizens of Philadelphia

¹ Edward Delafield was born May 4, 1794 and died on February 13, 1875. Graduated from the College of Physicians and Surgeons of New York in 1816. He was Professor of Obstetrics and Diseases of Women and Children in that college for many years. He was the first president of the American Ophthalmological Society. In 1825 he edited with notes and additions the American edition of Benjamin Travers, "A Synopsis of Diseases of the Eye and Their Treatment." Delafield made many contributions to the current literature on ophthalmology.

² John Kearny Rodgers, 1793-1851, graduated from the College of Physicians and Surgeons of New York in 1816. He was one of the surgeons to the New York Hospital. In 1843 he ligated the left subclavian artery within the scaleni muscles for aneurysm. He wrote very little except a few case reports.

³ In the *Med. Lib. & Hist. J.*, New York, April, 1903, Dr. Charles A. Oliver, of Philadelphia, published "A Brief Account of the Pennsylvania Infirmary for Diseases of the Eye and Ear."

met and proceeded to organize an infirmary for the treatment of diseases of the eye and ear. It was not incorporated until 1826, although a room had been rented and fitted up with the necessary appliances for its work within a few weeks of the meeting at which it was organized. Drs. George B. Wood, Isaac Hays, John Bell and Robert Griffith were appointed surgeons, and Drs. Philip Syng Physick and William Gibson, consulting surgeons. Dr. Oliver states that the last meeting of the Board of Managers of which he can find any record was held on May 1, 1829, but as a committee was appointed to collect subscriptions and other resolutions were adopted indicating that its work was to be continued he thinks this cannot have been the end of the venture. Hubbell suggests that it may have continued until the Wills Hospital was founded in 1834, when the necessity for its further activity was no longer obvious.

THE MASSACHUSETTS CHARITABLE EYE AND EAR INFIRMARY IN BOSTON

This institution like that of New York was founded by two young physicians and Dr. Hubbell quotes from a speech made by one of them, Dr. Edward Reynolds.¹ Edward Reynolds (1793-1881) a native of Boston, graduated in Arts at Harvard College. He studied medicine for several years as a private student with Dr. John Collins Warren and then spent three years studying under Abernethy, Astley Cooper and Sir William Lawrence in London. From the latter he acquired his enthusiasm for ophthalmology. In Paris he worked under Bichat and Dupuytren. He received the honorary degree of Doctor of Medicine from both Brown and Bowdoin College in 1825. He was Professor of Surgery at the Tremont Street Medical School and at the dedication of a new building for the Infirmary in 1850,

he read the account of its establishment. When Reynolds returned from his studies in Europe he found his father, a man of sixty, suffering from cataracts in both eyes. Reynolds operated on both eyes at one sitting with complete success. The fame of this case brought many ophthalmic patients to the young physician. In November, 1824, he and Dr. John Jeffries, Jr.¹ rented a room in Scollay's buildings, which they fitted up as an eye clinic. During the first sixteen months they treated 886 patients and felt that they had established the necessity for such an institution. Accordingly they called a meeting on March 13, 1826, at which a report of their work was read and a subscription started to enable them to continue it. The movement was successful beyond the most sanguine expectations. A board of managers was elected and in February, 1827, the Massachusetts Eye and Ear Infirmary received a charter from the Legislature of Massachusetts. Until 1836 there was no provision made for house patients, but in that year a house was purchased and fitted up as a hospital. Since then the demand for increased accommodations has led to changes in location and new buildings. In 1899 an entirely new hospital was erected in Charles Street, in connection with which there was a special ward for contagious diseases of the eye, as Hubbell states, the first in America. The institution founded solely by the efforts of two young doctors has grown to be one of the most famous ophthalmic hospitals in the world.

¹ John Jeffries (1796-1876), of Boston, was the son of Dr. John Jeffries, a celebrated physician of Boston, who delivered the first public lecture on anatomy in Boston. He was an ardent Tory, serving with the British forces during the War and going with them to London in 1782. He was quite famous as an aeronaut, making the first balloon ascent over London, and crossing the English Channel in a balloon on another occasion. He returned to Boston in 1790 and enjoyed a large practice there in spite of his adherence to the royal cause during the Revolution. John Jeffries, Jr., had a very large general practice but served on the staff of the Eye and Ear Infirmary from its foundation until 1841.

BALTIMORE DISPENSARY FOR THE CURE OF DISEASES OF THE EYE

In 1823 the Baltimore Dispensary was opened and there was a ward reserved in it for the treatment of diseases of the eye.¹ Cordell states that clinical instruction in ophthalmology was a prominent feature in the institution. Hubbell quotes from the preface to Frick's "Diseases of the Eye," published at Baltimore in 1823 a statement that "opportunity has been considerably augmented since his [the author's] return to his native country, by his appointment to the Baltimore Dispensary for the Cure of Diseases of the Eye." Apparently the eye dispensary was only one branch of the activity of the Baltimore Dispensary and not a special institution for the eye.

THE WILLS EYE HOSPITAL OF PHILADELPHIA

In 1830, James Wills, a citizen of Philadelphia, left a bequest to found a "hospital for the indigent blind and lame." With it a building was erected on Race Street between Eighteenth and Nineteenth Streets. The Hospital was opened in 1834 and has continued its work on the same site to the present day. The first staff was composed of Drs. Isaac Parrish, Squier Littell, Isaac Hays and George Fox. After a few years the work of the Hospital became entirely limited to diseases of the eye.

THE NEW YORK OPHTHALMIC HOSPITAL

This institution was opened in 1852, with Drs. David L. Rogers and Mark Stephenson as surgeons. It grew rapidly and continues to flourish. Since 1867 the staff has been composed of homeopathic physicians.

¹ Eugene F. Cordell, *The Medical Annals of Maryland, 1799-1899*, Baltimore, 1903.

THE ILLINOIS CHARITABLE EYE AND EAR INFIRMARY

Founded in May, 1858, as the Chicago Charitable Eye and Ear Dispensary, the name was changed by substituting "Illinois" for "Chicago" in 1871, the hospital at the same time becoming a state institution. It was destroyed by fire in the same year but reopened in new buildings in 1874. Dr. Edward L. Holmes was its first surgeon.

THE AMERICAN OPHTHALMOLOGICAL SOCIETY

On January 9, 1864, Drs. H. B. Sands, H. Althof, J. H. Hinton, F. J. Bumstead, D. B. St. John Roosa, W. F. Holcomb, H. D. Noyes, all of New York, and Hasket Derby, of Boston, met at Dr. Noyes' office in New York, to consult on the best mode of promoting the interests of ophthalmology in this country. Drs. Bumstead, Noyes and Derby were appointed a committee to invite the ophthalmologists of the country to assemble at a meeting in New York to be held at the same time as that of the American Medical Association. The meeting was held on June 7, 1864, with eighteen persons in attendance. It organized with Dr. Edward Delafield as chairman and Dr. H. D. Noyes as secretary. The meeting then proceeded to organize the American Ophthalmological Society, of which Dr. Edward Delafield was elected president, Dr. H. D. Noyes recording secretary, and Dr. Herman Althof corresponding secretary. Hubbell says:

Thus was founded the first ophthalmological society in America, if not in the world . . . The transactions of the society from 1864 to 1906, [Hubbell wrote in 1907] record the essential results of the study and practice of these and subsequent members, and in a great measure represent the progress of ophthalmology in this country during the last forty years.

The New York Ophthalmological Society was founded with Dr. Cornelius R. Agnew as its first president in 1864, and continues in existence. The Philadelphia Ophthalmological Society, which was founded in 1870 with Dr. Isaac Hays as its first president, has been superseded by the Section on Diseases of the Eye, of the College of Physicians of Philadelphia.

PERIODICAL OPHTHALMOLOGIC LITERATURE

About 1862 a Dr. Julius Hornberger, who had studied under von Graefe and Sichel, came to New York and started *The American Journal of Ophthalmology*. It was issued quarterly and consisted, according to Hubbell, of but few original articles, chiefly written by the editor, the bulk of the contents being translations of articles by von Graefe and other Germans. Only six issues appeared, and Hubbell quotes an amusing letter written to him by Hasket Derby in which he says that Hornberger "a peripatetic German adventurer" was unconsciously the cause for the founding of the American Ophthalmological Society, the meeting at Noyes' office at which it was originally suggested having been called for the purpose of consulting on the establishment of a respectable magazine to counteract the miserable publication of Hornberger. Dr. Hubbell summarizes some of the more notable contributions to ophthalmic literature during the last half of the nineteenth century in so admirable a manner that we cannot do better than quote from his list. As among the most important he gives: the Transactions of the American Ophthalmological Society; of the Section on Ophthalmology of the American Medical Association; of the American Academy of Ophthalmology and Oto-Laryngology, and of the various local societies in New York, Philadelphia, Boston, Baltimore, Buffalo, Detroit, Denver, and other cities. In 1869 Dr. Herman Knapp began the publication of his *Archives of Ophthalmology and Otolaryngology* in

New York. Alt's *American Journal of Ophthalmology* was started in 1884; the *Ophthalmic Record* was founded by Savage in 1891, and the *Annals of Ophthalmology*, under James P. Parker in 1892, to be followed by Würdemann's *Ophthalmology* in 1904. Excellent summaries of the progress of ophthalmologic science were begun by Hays in *The American Journal of the Medical Sciences*. Such summaries are now to be found in various yearbooks and other periodical publications. The textbooks by de Schweinitz, Posey and other recent writers compare favorably with those produced in any other country of the world.

PEDIATRICS

The first volume of transactions published by any medical society in the United States was "Cases and Observations by the Medical Society of New-Haven County, in the State of Connecticut, Instituted in the Year 1784," New Haven, 1789. Among the contributions it contains is the report of a case of "Congenital Hypertrophic Stenosis of the Pylorus" by Dr. Hezekiah Beardsley, of New Haven.

Osler was so much interested in Beardsley's report that he had it reprinted in the *Archives of Pediatrics*.¹ Hezekiah Beardsley (1748-1790) was born in Stratford, Conn. Nothing is known as to where he obtained his medical education, but in 1778 he had a drug-store and practiced medicine in Southington, Conn. Two years later he was pursuing the same occupations in Hartford. In 1782 he moved to New Haven, and practiced there until his death from consumption eight years later. Ruhräh² reprints Beardsley's paper and also a report of a case of pyloric stenosis contained in George Armstrong's "An Account of the Diseases

¹ 20: 1903. Dr. Walter R. Steiner read a paper on Beardsley before the Connecticut State Medical Society in 1908, and also wrote his biography for Kelly and Burrage's "American Medical Biographies." My information is derived from these sources.

² *Pediatrics of the Past*, 1925.

most incident to Children from their birth to the age of puberty, with a successful method of treating them, to which is added the Essay on Nursing, also a General Account of the Dispensary for the Infant Poor, from its first Institution in 1769 to the present Time." London, 1777. Thus Beardsley's case was antedated by some years. Mention was first called to this earlier report by Dr. John Foote, of Washington. Armstrong states that the case he reports was the third child which its parents had lost at the same age, of the same disease.

Beardsley only learned of the death of his patient two days after it occurred. Nevertheless he made a post-mortem examination, though, at "this late period, the almost intolerable stench, and the impatience of the people who had collected for the funeral prevented so thorough an examination of the body, as might otherwise have been made." He was, however, able to confirm his ante-mortem diagnosis and in his report gives a very good account of the autopsy findings.

Ruhräh¹ gives Samuel Bard, of New York, a place among early American writers of pediatrics because of his treatise entitled, "An Enquiry into the Nature, Cause, and Cure of the Angina Suffocativa," which was published in New York in 1771, and was subsequently translated and published in Bretonneau's classic work on diphtheria.

In his "Medical Inquiries and Observations," published at Philadelphia in 1789, Benjamin Rush included "An Inquiry into the Cause and Cure of the Cholera Infantum" which Ruhräh considers important as the first systematic account of the disorder.

According to Samuel S. Adams² the first pediatric monograph published in the United States was a thesis presented for the degree at the University of Pennsylvania, on May 17, 1797, by Charles Caldwell, entitled

¹ Pediatrics of the Past, New York, 1925.

² The Evolution of Pediatric Literature in the United States. *Tr. Am. Pediat. Soc.*, 9: 5, 1897.

“An Attempt to establish the original sameness of those phenomena of Fever (principally confined to infants and children) described by Medical Writers under the several names of Hydrocephalus Internus, Cynanche Trachealis and Diarrhoea Infantum.”

Adams¹ states that the first American book on the management and feeding of infants was “The Maternal Physician: A Treatise on the Nurture and Management of Infants, from the Birth until two years old. Being the result of Sixteen Years Experience in the Nursery. Illustrated by Extracts from the most approved Medical Authors. By an American Matron. Philadelphia, 1810.”

In 1825 two books on pediatrics were published by physicians, (1) “Practical Observations on Diseases of Children, Comprehending a Description of Complaints and Disorders incident to the Early Stages of Life,” By George Logan, M.D., Honorary Member of the Medical Society of South Carolina, and Physician to the Orphan House, Charleston, 1825. (2) A “Treatise on the Physical and Medical Treatment of Children” by William P. Dewees (1768–1841), of Philadelphia, which was first published in 1825, and, as Adams says, marks the dawn of scientific work in children’s diseases, and went through many editions.

Until 1810 the teaching of midwifery in the University of Pennsylvania had been associated with that of surgery. In that year a separate chair of midwifery was created but with the stipulation that attendance upon the course was not obligatory in order to obtain the degree of M.D. Thomas Chalkley James (1766–1835) was elected Professor of Midwifery, and Dewees was made Adjunct Professor.

Dewees also wrote a “System of Midwifery,” which was held in great esteem and frequently reprinted. He succeeded James in the professorship of midwifery in 1834. Dewees had an enormous practice and his writings

¹See footnote on page 1179.

bear witness to his large experience and the good use he made of it.

S. S. Adams directs attention to an essay which Dr. Edward Reynolds, of Boston, published in 1833, entitled "On the Importance of a Knowledge of the Principles of Physiology to Parents and Teachers." This he considers a pioneer effort at school hygiene, antedating Lorenser's German classic "The Protection of Health in Schools," by four years. Reynolds is better known for his work in ophthalmology.

A notable contribution of medicine was made in 1803, when John Conrad Otto (1774-1844) published in the *Medical Repository* his article, "An Account of an Haemorrhagic Disposition existing in certain families," in which he described the occurrence of hemophilia in a family which had been under his care, stating that the hemorrhagic tendency was transmitted by the females to the males but that the females were not susceptible themselves. Two years later he reported in Coxe's "Medical Museum" his observations on four fatal cases of purpura hemorrhagica occurring in another family. Otto was born in Philadelphia. After graduating from Princeton he studied medicine under Benjamin Rush, graduating from the medical department of the University of Pennsylvania in 1796. He was one of the physicians to the Pennsylvania Hospital for many years.

William Wood Gerhard, better known for his work in the differentiation of typhus and typhoid fevers, published in 1833-34, two papers, (1) "Cases of Rubeola followed by Death" and (2) "Cerebral Affections of Children" which Adams considers of great importance because, "Gerhard, who had recently returned from Europe, was the first to record his observations with auscultation and percussion in the pulmonary diseases of children."¹

¹ *Am. J. M. Sc.*, 13-14, 1833-34.

In 1843 Dr. James Stewart, of New York, published an excellent treatise on the "Diseases of Children."

In 1847 Dr. D. Francis Condie, of Philadelphia, published "A Practical Treatise on the Diseases of Children."

In 1889 Dr. John M. Keating published his "Cyclopaedia of the Diseases of Children."

In 1894 Dr. Louis Starr edited "An American Text-Book of the Diseases of Children."

In 1884 Dr. William Perry Watson began the publication of the *Archives of Pediatrics*.

In 1893 Dr. Dillon Brown established *Pediatrics*.

SOCIETIES FOR THE STUDY OF PEDIATRICS IN THE UNITED STATES

In his presidential address to the American Pediatric Society at its First Annual Meeting, in September, 1889, Dr. Abraham Jacobi¹ stated:

Thirty years ago I contemplated the foundation of a section for the purpose of studying the diseases of children in the New York Academy of Medicine, and failed. These nine years the American Medical Association has had its section on diseases of children, the first meeting of which took place under the presidency of S. C. Busey, and the New York Academy of Medicine has a flourishing pediatric section under J. L. Smith.

Thus the Section on Diseases of Children of the American Medical Association was one of the first, if not the first association of pediatricians to be organized in this country. Its establishment, as Dr. Jacobi stated, was chiefly due to the efforts of Dr. Busey, but Dr. Jacobi modestly refrains from saying that he himself was largely instrumental in its organization, and that but for his aid Dr. Busey would probably not have succeeded.

Samuel Clagett Busey (1828-1901) of Washington, D. C., graduated from the medical department of the

¹ I wish to express my thanks to Dr. S. Mc C. Hamill, of Philadelphia, for directing my attention to this important statement by Jacobi.

University of Pennsylvania in 1848. In 1869 he organized a department for diseases of children in Columbia Hospital, Washington. A year later a Children's Hospital was founded in Washington and in 1872, when the first post-graduate school in the United States was organized in that city, Busey occupied the chair of pediatrics. A few years later he was appointed Professor of Diseases of Infancy and Childhood in the Medical School of Georgetown University. In 1880 he presided at the first meeting of the Section of Diseases of Children of the American Medical Association, at which he read the first paper, on "Chronic Bright's Disease in Children caused by Malaria." In 1881 he was president of the Section.

One of the earliest pioneers in pediatrics in the United States was Job Lewis Smith (1827-1897), who was born in Spafford, Onondaga County, N. Y., but after graduating from the College of Physicians and Surgeons of New York in 1853, passed the rest of his life in New York City, devoting himself chiefly to pediatrics. When George I. Elliot, who held the chair of Obstetrics and Diseases of Women and Children in the Bellevue Hospital Medical College, died in 1871, the chair was divided and Dr. Smith appointed Clinical Professor of the Diseases of Children. In 1869 he published his work on "Diseases of Infancy and Childhood," which went through many editions and was for many years the standard American textbook on the subject. He was one of the founders of the American Pediatric Society in 1889 and its second president. He had a very large practice and was held in great esteem for his kindness and generosity towards his poor patients, as well as for his eminent skill.

Abraham Jacobi (1830-1919), a native of Westphalia, after graduating from the medical school at Bonn in 1851, became actively engaged in the revolutionary movement in Germany. After a term of imprisonment

for his political offenses he escaped and managed to get to New York, where he practiced until his death. In 1857 he began giving lectures on pediatrics in the College of Physicians and Surgeons, and in 1860 was appointed to the first special chair on pediatrics in this country in the New York Medical College in which he established a clinic for diseases of children in 1862. In 1865 he became clinical professor of diseases of children in the medical department of the University of the City of New York, and from 1870 to 1899 was Clinical Professor of Pediatrics in the College of Physicians and Surgeons.

Jacobi was a voluminous contributor to medical literature, especially to that appertaining to pediatrics. He was twice president of the American Pediatric Association. His wife, Mary Putnam Jacobi (1842-1906) was one of the best known woman physicians of her time, making many notable contributions to neurology and pediatrics.

In the annals of pediatrics in the United States the three Meigs, father, son, and grandson, occupy a prominent position.¹ Charles Delucena Meigs (1792-1869) graduated from the medical department of the University of Pennsylvania in 1815. In 1841 he became Professor of Obstetrics and Diseases of Children in the Jefferson Medical College of Philadelphia. He also held the position of physician to the Lying-in Department of the Pennsylvania Hospital. He was a voluminous writer and several of his works on obstetrics and diseases of women went through a number of editions and were regarded as standard textbooks. Unfortunately Meigs did not believe in the contagiousness of puerperal fever and his bitter opposition to the views voiced by Oliver Wendell Holmes led him into expressions of anger and contempt which marred his writings on the subject,

¹ Consult the valuable article, *The Three Meigs and their Contribution to Pediatrics*, by A. Levinson, *Ann. M. Hist.*, 10: June, 1928.

and his persistent disregard of the new light thrown on the subject by Semmelweiss and Holmes caused his own work to fall into disrepute. In 1850 he published "Observations on Certain Diseases of Children," which Levinson considers a noteworthy book on pediatrics, particularly because in considering the question of infant feeding he made one of the first attempts at a scientific inquiry into alimentary disturbances in infancy. Meigs thought that the occurrence of indigestion in artificially fed infants was due to the larger proportion of casein in cow's milk as compared with human milk. John Forsyth Meigs (1818-1882), the son of Charles D. Meigs, got his M.D. from the University of Pennsylvania in 1838. After serving a term as resident physician in the Pennsylvania Hospital he went abroad for post-graduate work, especially in Paris, where he studied under Velpeau, Louis and the other great teachers who had made Paris the greatest medical center of that period. On his return he attained a very large practice in Philadelphia and became one of the physicians to the Pennsylvania Hospital. In 1848 he published his "Diseases of Children," which went through three editions. In the publication of the fourth edition in 1869, he associated with him William Pepper¹ and the book was henceforth known as "Meigs and Pepper on Diseases of Children," and as such attained great esteem. Levinson directs attention to the progressive character of the book as shown by the different views expressed in the succeeding editions from the first in 1848 to the last in 1882. Osler² says of the 1870 edition, "Nowhere in literature, I believe, before 1870, is the importance of the appendix so fully recognized, or is there so good a description of the results of perforation."

John D. Meigs' son, Arthur Vincent Meigs (1850-

¹ Then known as William Pepper, Jr., and later Provost of the University of Pennsylvania.

² An Alabama Student and other Biographical Essays, 1909.

1912), after graduating from the medical department of the University of Pennsylvania in 1871, went abroad for post-graduate study, especially in Vienna. On his return he served as resident physician in the Pennsylvania Hospital, to which he was later attending physician. His book, "Milk Analysis and Infant Feeding," published in 1885, Levinson ranks as a "Pediatric classic." Arthur V. Meigs could never be convinced of the value of the new science of bacteriology. Although an admirable clinician he refused to accept the germ theory of disease and combatted it resolutely until his death.

THE AMERICAN PEDIATRIC SOCIETY

Steps leading to the foundation of the American Pediatric Society were taken at a meeting held in New York, September 9, 1887, by some physicians who had been members of the Pediatric Section of the Ninth International Medical Congress. It was decided to organize the American Pediatric Society. Dr. J. Lewis Smith of New York, was elected temporary chairman and Dr. W. D. Booker, of Baltimore, temporary secretary. The following year, September 18, 1888, the Society met for permanent organization, in Washington, D. C., during the session of the American Congress of Physicians and Surgeons. A constitution and by-laws were drawn up and adopted. Dr. Abraham Jacobi was elected president, and Dr. W. D. Booker, secretary of the Society.

HISTORY OF NEUROLOGY IN THE UNITED STATES¹

The American Neurological Association was organized in response to a letter, dated December 15, 1874, signed by William A. Hammond, Roberts Bartholow, Meredith Clymer, J. S. Jewell, E. C. Seguin, James J.

¹The best account of the development and history of neurology as a speciality in the United States is to be found in the articles contained in the "Semi-Centennial Anniversary Volume of the American Neurological Associa-

Putnam and T. M. B. Cross, which was sent to the leading men who were interested in neurology in the United States, inviting them to meet in New York on June 2, 1875, for the purpose of forming "The American Neurological Association." Twenty-eight favorable responses were received, and those who thus answered, with the seven original signers of the letter, constituted the thirty-five original members of the Association. The meeting was duly held, June 2, 1875, with eighteen in attendance. Dr. S. Weir Mitchell¹ who was not present was elected the first President of the Association, but declined the honor, and Dr. J. S. Jewell, of Chicago, was thereupon elected in his stead.²

The Association has met annually every year since its first gathering in New York City. For some years

tion, 1875-1924," published by the Association in 1924, with Drs. Frederick Tilney and Smith Ely Jelliffe as editors. In it will be found, "The Foundation and Early History of the Am. Neur. Assoc.," by J. Ramsay Hunt, M.D.; "Some Recollections of the Early Meetings and Personnel of the Am. Neur. Assoc. with a glance at the Work of the last fifty years," by C. K. Mills; "The Military History of the Am. Neur. Assoc.," by T. H. Weisenburg; "Fifty Years of American Neurology, Fragments of an Historical Retrospect," by Smith Ely Jelliffe, and lists of the members of the Association with a most complete bibliography of their writings. To this volume I am indebted for most of the information in the following pages. I have also used the works of Rush which are among the earliest American writings on insanity and where autobiographic or biographic material has been attainable have utilized it.

¹ Silas Weir Mitchell (1829-1914), was the son of Dr. John Kearsley Mitchell whose father was also a physician. He was born at Philadelphia. He graduated from Jefferson Medical College, in 1850, and studied for a year in Paris, especially under Claude Bernard, which had much influence on his future work. He practiced in Philadelphia but was especially interested in research work on the venom of reptiles. During the Civil War he conducted a series of investigations into nerve injuries, which were of the greatest importance. His systematization of the so-called rest cure brought him renown as a clinician. Much of his clinical work was conducted at the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases of which he was the moving spirit for many years. Besides many contributions to medical literature Dr. Mitchell wrote a number of novels, "Hugh Wynne," "Dr. North and his Friends," etc., which achieved considerable popularity. He also wrote some very charming poetry. He was very active in the College of Physicians of Philadelphia, particularly in the affairs of its library which he very materially aided in making one of the foremost medical libraries in this country. He served the College twice as president and was the chief factor in securing the money for the erection of its handsome new building in 1909. Dr. Mitchell received many honorary degrees both in the United States and abroad. By his first wife Mary Elwyn he had two sons, Langdon, the author of several successful plays, and John K., who was a successful physician.

² Dr. Mitchell accepted the presidency of the Association in 1909.

its transactions were published in the *Chicago Journal of Nervous and Mental Diseases*,¹ a quarterly publication of which Dr. J. S. Jewell was editor. Since 1919 the *Archives of Neurology and Psychiatry* has been the official organ of the Association.

The first textbook on nervous diseases published in the United States was "A Treatise on Diseases of the Nervous System," by William A. Hammond² in 1871. Since then very many notable textbooks and treatises have appeared by American authors.

Jelliffe³ gives the following list of periodicals devoted to neurology in the United States: *The American Journal of Insanity*, *Journal of Nervous and Mental Diseases* (1874), *Archives of Neurology and Psychopathology*, *Quarterly Journal of Inebriety*, *Alienist and Neurologist*, *American Psychological Journal*, *Medico-Legal Journal*, *Archives of Electrology and Neurology*, *Journal of Comparative Neurology*, *States Hospital Bulletin*, *American Journal of Neurology and Psychiatry*, *Review of Insanity and Nervous Disease*, *Psychoanalytic Review*, *Monograph Series of Nervous and Mental Disease*, *Neurological Bulletin*, *Journal of Mental Pathology*, *Mental Hygiene*, *Archives of Neurology and Psychiatry*.

¹ The name was later changed to the *J. Nerv. & Ment. Dis.*

² William A. Hammond (1828-1900), a native of Maryland, graduated M.D. from the University of the City of New York, in 1848, and became an assistant surgeon in the United States Army. In 1860 he resigned from the Army and became Professor of Anatomy and Physiology in the University of Maryland. At the outbreak of the Civil War he again entered the Army as an assistant surgeon, being assigned to administrative work and the organization of hospitals. His efficiency attracted the attention of the Sanitary Commission which at that time was very much dissatisfied with the conduct of the Surgeon General's office. By means of pressure brought to bear by the Commission Hammond, in 1862, was appointed Surgeon General of the Army. In this capacity he did much excellent work but through the intrigues of those whom he had supplanted in office he was brought before a court martial, which after considering his conduct of the office, ordered his dismissal from the Army. This action was afterwards reconsidered and found to be unjust. It was reversed by resolution of Congress in 1878, by which he was ordered placed upon the retired list with the rank of brigadier general. One of the founders of the American Neurological Association he was its president in 1882, and always took a great interest in its affairs.

³ Semi-Centennial vol., Am. Neur. Assoc.

APPENDICES

APPENDIX A

THE EXAMINATION OF DR. CHURCH

I reprint Dr. Church's manuscript from the Massachusetts Historical Society's Collections, ser. 1, vol. 1, p. 84:

The following account of the examination of Dr. Benjamin Church was written while he was in prison, at Cambridge, having acknowledged that he was the author of a letter containing the state of the army, stores, etc., which was intercepted and thought to be part of a treacherous correspondence, as it was written to a gentleman in Boston. The letter was in cyphers, it was afterwards published; frequent reference is made to it in this relation.

On Friday, October 27, the high Sheriff, How, a messenger of the House of Representatives, at ten o'clock, A.M. came to my prison, accompanied by Adjutant General Gates, and the several officers of the guard, with a summons from the Honorable House, commanding my immediate attendance at the bar of the House. I requested to be indulged with an opportunity to change my linen, which was indulged me while the guard was parading, and the officer of my escort, waited upon the General, for his directions. By the time I had put myself in decent apparel, I received orders to proceed. I had procured in this interim, a chaise from a friend, into which the messenger entered with me; in which manner we proceeded, (To my utter astonishment, the House, forgetful of their dignity and privileges, in a manner unprecedented, suffered me to be held in custody of a military guard during the whole time of my trial before the Honorable House) in the centre of a guard of twenty men, with drum and fife, from my prison in Cambridge to Watertown, being three miles. When arrived at the Meeting House in Watertown, where the Assembly then sat, the messenger of the House announced my arrival; upon which, we received orders to tarry at the door till called for; after waiting a few minutes, the doorkeeper opening the door, directed the messenger to bring in the prisoner. I was then ushered into the House, and advancing up to the bar, which was placed about midway of the broad alley, I made my obeisance to the Honorable Speaker of the House, James Warren, Esq. and to the Members of the Honorable House of Representatives there assembled. The galleries being opened upon this occasion, were thronged with a numerous collection of people of all ranks, to attend so novel and so important a trial. The Honorable Speaker then began, by informing me, that the Honorable House of Representatives, having been informed, that I, a member of that House, was put under arrest by his Excellency General Washington; and their jealousy for the privileges of the House having been excited thereby they had appointed a committee of the Honorable House, to wait upon and confer with his Excellency upon the subject; to which they had received the following answer. Here his Honor recited a letter from His Excellency General Washington, attested by his secretary, the Honorable Joseph Reed, Esq. specifying, that at a meeting of a General Court Martial, held at Cambridge, on October third, Present, his Excellency General George Washington, Esq., President, all the Major-Generals and Brigadier-Generals of the Army, and Adjutant-General Gates, Benjamin Church, Esq. Director-General of the Hospital was summoned before them; when a Court of inquiry being held, it was their unanimous opinion, that said Benjamin Church was convicted of holding a criminal correspondence with the enemy, each member being questioned

seriatim upon the matter. After the Speaker had read the doings of the Court Martial, the criminal letter as decyphered by Mr. West was produced and read to the House; upon which the Honorable Speaker observed, "that the Honorable House, from a regard to their own honor and reputation, and to express their abhorrence of such conduct in one of their members, had summoned me to the bar of that House, to make answers to the charges exhibited against me, and to proceed in such manner as to vindicate the reputation of the House." And then holding out the letter, demanded "if that was a true copy of the letter I wrote in cyphers"; to which I replied: "May it please your Honor and the Honorable House, although I am a member of this Honorable House, or have been, and have sustained some little part in the struggles of this very respectable body for several months past, yet in the matter in which I hold some capital consideration, I profess myself to be totally unacquainted respecting the general design, mode of process, and the issue. If I might entreat the indulgence of the Honorable House I would inform them, about a month since, I was taken by an armed force, and have been confined a close prisoner for twenty-eight days; secluded by my stern gaolers from the cheering eye, and consoling tongue of friend and acquaintance, unless by a special license, which has been sparingly granted! and never indulged with the aid and advice of council learned in the law: six days retained in the most rigorous confinement. I was then led before a (I was not even there favored with the assistance of the Advocate General. They cannot pretend it was not a trial, as they made up their judgement, and determined I was convicted of a criminal correspondence, &c) general court martial attended by my guards; after a scrutiny novel and undecisive, which I then apprehended to be a trial, I was remanded back to my prison; but at my request, and the indulgence of the General, attended only by the officers of the guard. There I have been held in the most cruel imprisonment at the point of the bayonet ever since. This morning, may it please your Honors, at the hour of 10 o'clock, without any previous intimation of such design, without any expectation of such an event, I am summoned, *ex improviso*, and immediately to the bar of this Honorable House. Bowled to the dust by infirmity produced by distress, harassed and sickening with painful suspense, aggravated vexations, rigorous imprisonment, and a load of sorrows no longer supportable, am I called upon to make my defence. Though in a situation to wound the bosom of compassion, and from the eye of humanity to steal a tear, relying on conscious integrity, that trial I wish not to evade; only let me be determined, Sir, whether the jurisdiction of this House extends to the whole enormity of the transaction of which I stand accused; whether, may it please your Honor, this trial shall be final and decisive." To which, his Honor the Speaker made answer, "that the Honorable House has determined to examine this matter no farther than as if related to a member of that House." To which I rejoined: "Sorry am I, Sir, that my plea for justice cannot be heard: I have been led from Caiaphas to Herod, and from Herod to Pontius Pilate; to what tribunal shall I make my final appearance? The House will pardon Me; but while they appear so tremblingly alive to preserve their reputation unsullied, they should not forget the sinister influence such precipitation will have at the future trial of perhaps an innocent man; my cause will be pre-judged, and my guilt ascertained by the sanction of this important body before due inquisition is made. I did hear, Sir, that this House had determined on my (As the general Court Martial had convicted me without a trial, perhaps the Honorable House will think themselves warranted in *their sentence of excommunication*) expulsion; I immediately transmitted to your Honor a formal resignation of my seat as a member of this House, in some measure to prevent the ill consequences which their censure might produce hereafter.

"This Honorable House may possibly remember when Mr. Wilkes was arraigned in the language of Lord Chatham 'for blaspheming his God and libelling his King,' the House of Commons, of which he was then a member, did not evidence a premature distress lest their immaculate honors should be tainted; their generous humanity induced them to take no cognizance of the act, till by due process of law he was condemned to exile. After which they expelled him from the House." The Honorable Major Hawley then urged, that perhaps there was some trifling literal variations which made no material difference, but requested that I might be asked whether the letter then read did not contain the true meaning and import of my letter in general. The question was put by the Speaker; to which I answered as follows: "I perceive the Honorable House, influenced by a partial purpose are determined upon an immediate trial. The Honorable gentleman from Northampton perfectly mistakes me if he supposes, I mean through chicane or evasion to interrupt your inquisition; confirmed in assured innocence, I stand prepared for your keenest searchings. I now first learn, may it please your Honors, of my being convicted by a general Court Martial of a (It appears to me a strange perversion of language to assert that I was convicted of a criminal correspondence with the enemy, when there was no single circumstance to lead to such a conviction beyond the letter itself which carried in it such evident marks of fallacy as to destroy its own testimony; add to this—it savors not a little of Hibernianism to construe the bare writing a letter [which was never conveyed to the person for whom it was wrote] a conviction of an actual criminal correspondence. The most severe construction that common understanding could affix to this writing, were it indisputably calculated to betray the interest of the community, would be an 'attempt to correspond with the enemy,' but the person for whom the letter was designed, was not in office, was not a soldier; he was my friend and brother. I have a great veneration for several of the venerable personages, who composed this Court but abstracted from the consideration of *self*, I lament that those worthy characters should have been betrayed into so injurious, so unjustifiable a construction of an innocent piece of artifice to serve the common cause. If I was then convicted, I suppose my continued imprisonment is the penalty awarded for my transgression; if so, the month is up, and I ought to be discharged, but of this more hereafter) criminal correspondence with the enemy; what leads to such a conviction is perfectly unknown to me; and I presume it is something singular that I should first be acquainted with the judgement of that Court in my attendance upon this. It has been frequently objected to us by our adversaries, that we were struggling to establish a tyranny much more intolerable than that we meant to oppose. Shall we justify the prediction of our enemies? Will it be for the honor or interest of the community that one of your friends and partizans is reduced to deprecate that power, which by his constant exertions he has been in some measure instrumental in supporting? You profess, you are contending for the rights and liberties of British subjects. Why then deny appeal to common law? Am I impertinent in claiming the rights of Magna Charter, and bill of rights; have I no title to a trial by jurors, or the benefit of the Habeas Corpus Act? but if by a forced construction I am deemed amenable to martial law, for matters transacted before my appointment to the hospital, and before the promulgation of those laws; why are the rules and articles framed by the Continental Congress, for the government of the Army, violated in every letter, to accumulate distresses upon me?

"I have suffered already the utmost penalty annexed to the breach of that for which I now stand committed. Am I to be the victim of the unsatiable law, of my enemies? Am I perpetually to be subjected to the successive pain

and penalties of every capricious power? It is a maxim in that government which I claim as my inheritance, Sir and for which you have expressed the highest veneration, *Misera equidem est servitus, ubi jus est vagum et incertum*, miserable indeed is that state of slavery where the right of the subject is vague and uncertain. But I will not engross the time of this Honorable Court. I did say, Sir, the letter, as now read, is not a literal construction of that I wrote in cyphers, as far as my memory serves, for the letter was written in great haste. I never have been favored with a copy since, to consider of it; and have never seen it till to-day; except the very cursory reading I gave it when before the General Court Martial, at which time the perturbation of mind incidental to such a situation naturally prevented such a close attention as to enable me to recollect the contents. I believe in general the sense is preserved; in some instances it is perverted. It has been proposed that the letter be read in paragraphs, and that I be questioned in order. If it will be agreeable to the Honorable House, I will read the letter in paragraphs: I will candidly and faithfully execute my intention in the course of my reading, and to convince the Honorable House that I mean not to cavil at trifling inaccuracies, I will correct the erroneous passages as I proceed, and restore the true reading on a different sheet." This notion was acceded to by the Honorable House, and the copy of the letter being handed me by John Pitts, Esq. I began: "Previous to any remarks upon the substance of this reprobated letter in my hand, by your Honor's leave, and the indulgence of the Honorable House, I will repeat the circumstances which led to, and my motives for writing the letter; sometime after my return from Philadelphia, I was passing in my chaise toward Mystick, I met with a team conveying household furniture toward Cambridge. In the team, seated on a bed was a woman with two children; the woman accosted me by name, asking me if I did not know her; her countenance was familiar to me; I answered yes, and inquired when she left Boston; she informed me the day before, and told me she had a letter for me from Boston, from my brother; she took a small bundle out of her pocket, and opening it, handed the letter to the carman who delivered it to me; it was directed to me; upon breaking the seal I found it written in cyphers and signed J. F. I put it in my pocket and rode a few rods; curiosity induced me to return back and repair to my lodgings to decypher the letter and acquaint myself with the contents; this is the letter, to the speaker, who read it to the Honorable House as follows:

"Dear Doctor

I have often told you what the dreams of your high flaming sons would come to; do you forget my repeated cautions not to make yourself too obnoxious to government; what says the psalmsinger and Johnny Dupe to fighting British troops now? They are at Philadelphia, I suppose, plotting more mischief, where, I hear your High Mightiness has been Ambassador extraordinary; take care of your nob, Mr. Doctor; remember your old friend, the orator, he will preach no more sedition. Ally joins me in begging you to come to Boston. You may depend upon it government is determined to crush this rebellion, a large reinforcement of troops is hourly expected, when they are determined to penetrate into the country; for God's sake, Doctor, come to town directly; I'll engage to procure your pardon; your Sister is unhappy under the apprehension of your being taken and hanged for a rebel, which God grant may not be the case; you may rely upon it the Yankees will never be a match for the troops of Great Britain. The Yorkers have behaved like damned fools in robbing the King's stores, as government had intended to have granted them some exclusive privileges in trade, had they continued loyal. It will now be a rendezvous for British troops. We know well enough that you are divided, your people are

discouraged, that you want discipline, artillery, ammunition; and government has taken effectual care that you shall not be supplied by other powers. I have wondered that we have not heard from you; difference of politics has not cancelled my friendship for you. Let me entreat you not to take up arms against your rightful King, as your friend Warren did, for which he has paid dearly. I cannot send your sulkey and other matters you sent for; you may thank your own people for that, who first set the example by preventing anything from being brought to them. I think you might have sent us a bit of fresh pork now and then. You see Hancock and Adams are attainted already. If you cannot pass the lines, you may come in by Capt. Wallace, via Rhode Island, and if you do not come immediately write me in this character, and direct your letter to Major Cane of his Majesty's service, and deliver it to Capt. Wallace, and it will come safe. We have often heard your people intend to attack the town; by God, I believe they had such a dose on Bunker's Hill as to cool their courage. Your Sister has been for running away. Kitty has been very sick, we wished you to see her; she is now picking up. I remain your sincere friend and brother,

J. F.

P.S. Don't fail to write me soon."

This letter being read I proceeded, "your Honor well knows what was our situation after the action of Bunker's Hill; insomuch that it was generally believed, had the British troops been in a condition to pursue their success, they might have reached Cambridge with very little opposition. Not many days after this we had a report circulated very generally, and as generally credited, of the arrival of a reinforcement of 5000 British troops in Boston. This Honorable House have not forgot the general anxiety excited thereby, together with the consideration of our not being in a capacity to make any tolerable resistance from the reduced state of our magazines; was there a man who regarded his country who would not have sacrificed his life to effect a tolerable accomodation? My fears I must confess were greatly excited. At this interval, a week perhaps, or ten days after I had received this letter, I was confined to my lodgings by a stormy day, contemplating our disagreeable situation. I pulled the letter out of my pocket and reading it. the idea of writing an answer to my brother started into my mind; imagining I could improve the opportunity to effect a happy purpose I immediately set about it. One circumstance which was an inducement to writing at that time was, that a young woman in the same house was to set off for Newport the next morning. I will now proceed to consider the letter by paragraphs, after premising that I have endeavored to adopt the air and language of a tory throughout, for the purpose of securing confidence, and obtaining the intelligence I wanted. "Three attempts have I made to write you, the last the man was discovered, but fortunately my letter &c." May it please your Honor; had I written or attempted to write into Boston; is it not very extraordinary that during my long confinement when the very antipodes have been alarmed at the transaction, and every tongue has been clamorous against me, is it not strange, Sir, that no proof has been exhibited against me of such correspondence, but in this very letter, which is crowded with fallacy, and obviously designed to deceive? The idea of the man being discovered but escaped, "the letter being, &c," was suggested by the affair of Doctor ——, who was taken, as reported, going into Boston, was searched but no letter found. I heard of the matter upon my return from Philadelphia, and that the letter was so concealed, which was idly reported to be the reason of its not being detected. The other two attempts are mentioned in a subsequent paragraph, "twice have I been to Salem, &c," this idea was started by the following incident; about a week

before I set out on my journey, Major Bigelow informed me he had received intelligence that provisions and other matters were conveyed into Boston by the Custom House boat from Salem, which ought to be immediately prevented. I instantly laid the matter before the Committee of Safety, and they determined to take measures immediately to prevent her passing into Boston. I solemnly declare, Sir, I never wrote one letter into Boston since I left it. I solemnly declare I have never been to the town of Salem these seven years past. "I went by way of Providence to visit Mother." This passage I think, Sir, confirms my declaration that the letter was designed for my brother, and not for Major Cane. I should hardly have acquainted the Major of my going to visit my Mother, and surely I should not have neglected to affix the relative *my* to the substantive, were not the letter addressed to a relative character. The next paragraph is, "*the Committee for warlike stores ending at Bunker's Hill*" Here, may it please your Honor, is a capital omission, which leads to a suspicion of my having written before. In the original copy, I remember perfectly well, after the words "having taken a previous resolution to make the offer to General Ward" were added "for the purpose of fortifying Bunker's Hill." This part of the sentence was either inadvertently left out by myself in copying the letter into cyphers, or omitted by the person who decyphered the letter; this accounts for the references below "as I have hinted" and reconciles this passage with the first paragraph that "I had made three attempts to write him without success." The true state of the fact, is as follows: The taking and fortifying Dorchester hill was the first object in contemplation when I left the camp; I was sensible we had not heavy artillery. When at Providence, being informed that they had a considerable number there, I applied to the Honorable Mr. Ward, who resided then at Providence, and was a member of the Committee of War, for such of them as they could spare. Mr. Ward called the Committee together, when they generously granted them, and they were sent down. The application was made spontaneously by me and I wrote a letter of apology to General Ward for officiousness in this matter. The reason of my covering this transaction in my letter was a constant communication between Newport and Boston; there was no doubt but they would have accounts of this transaction; did I not account for it in a way to conceal my being active in the matter, I should have been defeated in my intentions in writing." Here I was interrupted, and the House voted to adjourn to 3 o'clock; I was ordered to make such corrections in the interim, as to make it correspond with the original draught. I was then by the order of the Honorable House conducted by my guard under custody of the Messenger of the House, where at the *public expense* I was regaled with half a mug of flip and the wing of a chicken, and was then reconvened to the House in the manner I came from thence. When arrived at the door of the House, the messenger communicated my arrival; he was directed to detain the prisoner at the door till called for. I was continued in the cold on a bleak eminence for the space of half an hour, which after a month's close confinement was not very eligible, and during the whole time surrounded by my guards with additional mobility. *Digito Monstrari, et dictur bic est*, during which time a solemn vote was passed to invite the Honorable his Majesty's Council for this Colony and sundry military gentlemen to be present at the trial, and when their Honors had taken their seats, orders were given to admit the prisoner; I was then introduced to the bar of the House; the Speaker addressing himself to me, informed me the House was ready to hear me, and ordered me to proceed; I began as follows: "May it please your Honor; to the patient attention, the apparent candor, and generous humanity of the Honorable House, I feel myself deeply indebted." I shall now proceed by their continued indulgence to some further observations on the letter, not

doubting from the approved justice and benignity of this Honorable Assembly, a full acquittance from the groundless charges levelled against me. The next paragraph is "which together with the cowardice of the clumsy Col. Gerrish, &c." to defeat. There is a mistake in the word *lucky* in this sentence; the original was unlucky, the negative being marked by an additional stroke on the l; here I cannot but observe, Sir, that notwithstanding the apparent labor and design throughout the whole to maintain the character of a tory, yet in this paragraph I have inadvertently betrayed myself; having mentioned Col. Gerrish and Col. Scammon [Scamnell] in terms of reproach and indignation for not engaging the King's troops, after giving an account in the next paragraph of the number killed and wounded in the battle of Bunker's Hill, which greatly falls short of the truth, and an oblique sarcasm upon them for their extravagant calculation in this matter. I proceed in several succeeding paragraphs in the most exaggerated terms possible, to alarm him with a very formidable account of the spirit, supplies, resources, industry, union, and resolution of the Colonies, all confirmed by ocular demonstration, beginning with "the people of Connecticut" and continued as far as "are readily exchanged for cash." As far as my contracted reading and observation extends, may it please your Honor, it has been the policy of those we have heretofore deemed our enemies to speak in contemptuous terms of the courage, strength, union, and resources of these Colonies; they have I apprehend, Sir, constantly endeavored to discourage us, and encourage the enemy by remonstrating in the warmest manner the impossibility of our making any effectual resistance against them. I am condemned for a representation perfectly the reverse of this. I would ask, Sir, who are your friends? Is it criminal and injurious to you to say we are able and determined to withstand the power of Britain; is it criminal, Sir, to alarm them with a parade of our strength and preparation, is it bad policy or a proof of enmity, when under the most alarming apprehensions of instant ruin from their attack, by an innocent stratagem to divert them from such a ruinous enterprise? The next matter, most strenuously urged and insisted upon, is an immediate accommodation, or the Colonies are disjoined from Britain forever; see from; "add to this—for God's sake prevent it by a speedy accomodation.' Here may it please your Honor, the plot is unravelled; the scope and design of the letter is here fully explained; to effect the reconciliation so vehemently urged, so repeatedly recommended. For what cause have I worn the garb of a friend to government throughout this letter, for what cause have I exaggerated your force, but to effect a union, to disarm a parricide, to restore peace to my distracted country; if this is the work of an enemy where are we to look for a friend? There are two or three passages which from being misunderstood have been greatly exaggerated which I shall explain hereafter. The next paragraph beginning at "writing this" to "discovery," are totally futile and apochryphal. The next passage, "I am not in place here, &c." is in answer to his request in his letter, not to take up arms against the King, and to quiet the fears of a sister, as well as to carry on the deception; but even here through haste and inattention I have committed a blunder which should have been avoided. I have mentioned a readiness to take up with an appointment in my own way, not considering that in the capacity of a physician or surgeon I should be deemed aiding and assisting and equally obnoxious with those who were actually in arms. The concluding paragraph contains particularly directions for writing me; from hence I think Sir, the following conclusions are fairly deducible; first, my endeavors to appear so zealous a friend to government, and so seemingly open and communicative were to engage him to a full and free communication on his part for purposes very obvious: again, Sir, I think it is indisputably proved from this paragraph, that a

previous correspondence never subsisted between us; if this had been the case, Sir, can it be supposed I should be so extremely minute and circumstantial in pointing out a mode and channel of conveyance, or if we had heretofore communicated, should I not have intimated my reasons for altering the plan? I have urged labor and pains writing him, I have urged secrecy, I have urged danger, merely to impress his mind with my being zealously attached to his party, to secure full faith and credit to influence him to an unlimited confidence in his return to me. If in this I have transgressed the motive will surely absolve me. Here, may it please your Honor, concludes the letter innocently intended, however indiscreetly executed; a letter which has alarmed the world, wounded me in the esteem of my friends, and glutted the malice of my enemies. I shall now by your Honor's leave make a few observations on some particular passages and then conclude. One or two paragraphs have been urged as proofs of my having carried on a correspondence with this person for some time past; the words, "as I hinted before to you," is one; this I have explained to you already; another is "you know I never deceived you." The man I wrote to, had implicitly swallowed the doctrine of Mr. Hutchinson; that all the opposition arose from a small but very busy faction; that the Americans would never dare to fight the British troops. These sentiments I had constantly and warmly opposed, assuring him, the continent was engaged in the opposition to the present measures, and if blood should be drawn, he would be convinced of the spirit and resolution of Americans. These facts he assented to the last time I saw him, and acknowledged I had not deceived him; which fully explains this passage. That the letter is totally fallacious as far as evidence is admissible, you cannot doubt, Sir. The pains taken to send letters is in every instance incontestably false; the matter of sending cannon from Providence, as there related, is equally so, and probably calculated to effect political purposes. Why then, may it please your Honor, shall unbounded credit be given to that letter, which bears such glaring marks of fallacy and design, and couched in terms totally inconsonant with the conduct of my whole life; against the conviction arising from that conduct, against my solemn concurring circumstances, to prove that it was meant as a piece of political deceit to save my country! If I had intended to commence a spy, Sir, why did I not communicate other matters than those which were of public notoriety? The affair of robbing the King's stores in New York, is adopting his very language; the expedition against Canada, is barely mentioned, and introduced merely because it was published at the same time, and in the same papers with the matter mentioned by himself; it was impossible but he should have known it, and therefore, had I suppressed it, it might have excited a jealousy no way favorable to my purpose. Were there not sundry important matters then agitating, which I was well acquainted with; if I had been an enemy why did I not mention those matters, which to communicate would be to defeat. Were I that enemy, may it please your Honor, which the tongue of slander proclaims me to be; should I have made such an ostentatious parade of our strength and resources; should I not rather have dwelt with a malicious pleasure on our weakness; should I not rather have advised the enemy when to attack us with assurance of success; should I not rather have encouraged them to prosecute the war with vigor, than to desist from hostilities and propose terms of accommodation; certain I am, Sir, the letter bears the impression of an anxious friend to his country. I have there expressed a firm loyalty for the King, so has this House in every public proceeding; I have told him, and confirmed it with abundant facts, that the Americans were determined vigorously to defend their rights; so minded with all the warmth of an honest zeal to put an end to the work of death; is not this the universal wish, Sir; you will say perhaps, I conversed with him in the

language of an enemy; he is a friend to government, so called, Sir; I wrote *ad bominem*; I wrote *ad captum*. Where, may it please your Honor, is the crime, unless it be a crime to pursue indirect measures in a time of public danger to prevent a public calamity. The manner in which the letter was written, the mode of address, and conveyance have likewise been much condemned; but if it be considered, Sir, that this was the mode prescribed by the person to whom I wrote, that affected secrecy, and an ostensible coincidence in sentiment were indispensable, in order to effect my design; those of candid and liberal sentiments will readily pardon me; I have been used, Sir, to direct the reins in my little theatre of politicks. I had no suspicion of evil, because I meant none. The letter was intrusted to a man I did not know, whom I never saw. Two months it lay where I could easily have obtained it. I never was one moment anxious about it; surely, may it please your Honor, it will afford a presumption of my innocent intention at least, when the letter was lodged in the hands of a stranger, who resided in the very centre of my friends and relations, that I never was solicitous enough to write to one of those to secure it. I will entreat the patience of the Honorable House for a moment longer; when I was in Boston, exposed to certain hazard, solicited, persecuted, and personally obnoxious, did I ever recede one moment from the cause of my country? Though frequently threatened and abused as I passed the streets, my house assaulted, and my windows broken in the night; was I ever intimidated from pursuing with my utmost vigor the interest of the public? And now, Sir, when the Colonies are united, the opposition general and formidable, my person secure, and no other temptation to revolt but the hopes of pardon; to be thus influenced at this time must betray a versatility bordering upon insanity. Were my small but sincere services ill requited; were I entirely neglected in the dispensation of public benefits, I might be suspected of apostasy from chagrin and disappointment; but the matter is so totally different, that when the establishment of an hospital was in contemplation, I had every satisfactory encouragement that I should be appointed, and in such a way as to have my utmost wishes gratified. The result of this inquiry, may it please your Honor, the determination of this important body is to me of the last importance. I solicit not life; that, I have long held in my hand, a ready, a devoted oblation, to my country; I plead for more than life, I plead, in spite of one act of precipitation, and even that from a virtuous intention, I plead a restoration to your confidence and esteem, to the esteem and confidence of my country which I have never forfeited. If I have inadvertently erred, judge my mistakes with candor. The irregularity of a measure, which they are unable to account for, has alarmed, has startled my friends; their determination is suspended, it rests upon yours.

“I demand your confidence, gentlemen; the warmest bosom here, does not flame with a brighter zeal, for the security, happiness, and liberties of America, than mine; consider, gentlemen; the adopted character sustained through that letter, consider the apparent design, and attend to the concluding urgent recommendation of an immediate accommodation; weigh the labors of an active life against the indiscretions of an hour. Be pleased to consider, Sir, if the letter had arrived, but it never arrived; had it not produced the good intended, it could not have produced any mischievous consequences but to the guiltless, though unfortunate author: Consider, gentlemen, what a miserable, what an embarrassed situation I shall be flung into, if so unhappy as to incur your censure; here I shall be wretched indeed; subjected to the sting of invective, pointed with savage asperity, doubly wretched in having no sanctuary from reproach and ruin.

"The most obstinate and malicious enemy to his country, finds a secure asylum in that retreat where I have sacrificed my fortune for you and where I am effectually barred by my incessant exertions in your service.

"To your wisdom, gentlemen, to your justice, to your tenderness I cheerfully submit my fate." Here I was questioned respecting sundry matters which were uttered during my defence by sundry members of the Honorable House, and was directed to withdraw under the conduct of the guard.

Previous to my departure from the House, I addressed myself to the Honorable Speaker, informing the House, I desired to be admitted to bail, otherwise I was fearful of falling a martyr to the severities of my imprisonment, and then withdrew.

From my prison in Cambridge, November 1, 1775.

Attest. B. C. Jun.

APPENDIX B

CLINICAL LECTURE DELIVERED BY DR. THOMAS BOND BEFORE THE MANAGERS OF THE PENNSYLVANIA HOSPITAL ON NOVEMBER 26, 1766

When I consider the unskilful hands the Practice of Physick & Surgery has of necessity been committed to, in many parts of America, it gives me pleasure to behold so many Worthy Young Men, training up in those professions, which, from the nature of their Objects, are the most interesting to the Community, and I get a great pleasure in foreseeing, that the unparalleled public Spirit of the Good People of this Province, will shortly make Philadelphia the Athens of America, and render the Sons of Pennsylvania, reputable amongst the most celebrated Europeans, in all the liberal Arts and Sciences. This I am at present certain of, that the institution of Literature and Charity, already founded, & the School of Physick lately open'd in this City afford Sufficit. Foundation for the Students of Physic to acquire all the Knowledge necessary for their practising every Branch of their professions, respectably and Judiciously. The great Expence in going from America to Europe, & thence from Country to Country, & College to College in Quest of Medical Qualifications, is often a Bar to the cultivation of the Brightest Geniuses amongst us, who might otherwise be Morning Stars in their professions, & most useful Members of Society. Besides every Climate produces Diseases peculiar to itself, which require experience to understand and Cure, & even the Diseases of the several Seasons in the Same Country, are found to differ so much some Years, from what they were in others, that Sydenham, the most Sagacious Physician that ever lived, acknowledged that he was often difficulted and much mistaken in the treatment of Epidemics for sometime after their appearance.

No Country then can be so proper for the instruction of Youth in the knowledge of Physick, as that in which 'tis to be practised; where the precepts of never failing Experience are handed down from Father to Son, from Tutor to Pupil. That this is not a Speculative opinion, but real Matter of Fact, may be proven from the Savages of America, who without the assistance of Literature, have been found possessed of Skill in the Cure of Diseases incident to their Climate, Superior to the Regular bred, and most learned Physicians, & that from their discoveries the present practice of Physic has been enrich'd with some of the most valuable Medicines now in use.

Therefore from Principles of Patriotism and Humanity, the Physic School here, should meet all the protection and Encouragement, the Friends of their Country, & Well Wishers of Mankind can possibly give it. Though 'tis yet in its Infancy from the Judicious Treatment of its Guardians, it is already become A forward Child, & has the promising appearance of soon arriving to a vigorous & Healthful Maturity. The Professors in it at present are few; but their departments include the most Essential parts of Education; Another, whose distinguished Abilities will do honor to his Country and the Institution is Expected to join them in the Spring; and I think he has little Faith who can doubt that so good an undertaking will ever fail of Additional Strength, & a Providential Blessing. And I am Certain nothing would give me so much pleasure as to have it in my Power to contribute the least mite towards its perfect Establishment.

The Professor of Anatomy and Physiology, is well Qualified for the Task; his Dissections are Accurate and Elegant, & his Lectures, Learned, Judicious & Clear.

The Field this Gentleman undertakes is very Extensive, & has many difficulties which may mislead the Footsteps of an uncautioned Traveller, therefore Lectures, in which the Different Parts of the Theory & Practice of Physic are Judiciously classed and systematically explained, will prevent many Perplexities the Student would otherwise be embarrassed with, will unfold the Doors of Knowledge, and be of great use in directing & abridging his future Studies, Yet there is something further wanting, he must Join Examples with Study, before he can be sufficiently qualified to prescribe for the sick: for Language & Books alone, can never give him Adequate Ideas of Diseases, & the best methods of Treating them. For which reasons Infirmaries are Justly reputed the Grand Theatres of Medical Knowledge.

There, the Clinical professor comes in to the Aid of Speculation and demonstrates the Truth of Theory by Facts; he meets his pupils at stated times in the Hospital, And when a case presents adapted to his purpose, he asks all those Questions which lead to a certain knowledge of the Disease, & parts Affected, this he does in the most exact and particular manner, to convince the Students how many, & what minute Circumstances are often necessary to form a judgement of the Curative indications, on which, the Safety & Life of the Patient depend, from all which Circumstances and the present Symptoms, he pronounces what the Disease is, whether it is Curable or Incurable, in what manner it ought to be treated, and gives his reason from Authority or Experience for all he says on the Occasion; and if the Disease baffles the power of Art, and the Patient falls a Sacrifice to it, he then brings his Knowledge to the Test, & fixes Honour or discredit on his Reputation by exposing all the Morbid parts to View, and Demonstrates by what means it produced Death, and if perchance he finds something unexpected, which Betrays an Error in Judgement, he like a great & good Man, immediately acknowledges the mistake, and, for the benefit of survivors, points out other methods by which it might have been more happily treated;—The latter part of this Field of Tuition is the surest method of obtaining just Ideas of Diseases. The great Boerhaave was so attentive to it, that he was not only present at the opening of Human Bodies, but frequently attended the Slaughter Houses in Leyden, to Examine the Carcases of Beasts; and being asked by a learn'd Friend, by what means he had acquired such uncommon Certainty in the Diagnostics and Prognostics of Diseases, answered by examining dead Bodies, studying Sydenham's observations, and Bonetus's Sepulchretum Anatomicum, both of which he had read ten times & each time with greater pleasure, and improvement.

But to give you more familiar instances of the Utility of this practice, let me remind several of you, who were present last Fall at the opening two Bodies, One of which died of Asthmatic complaints, the other of a Phrenzy succeeded by a Palsey, and ask you whether anything short of ocular demonstration; cou'd have given you just Ideas of the causes of the Patient's Death, in one we saw a dropsy in the left side of the Thorax, and a curious Polypus with its growing Fimbriac of 14 inches in length (now in the Hospital) extending from the Ventricle of the Heart, far beyond the Bifurcation of the Pulmonary Artery, in the other we found the Brain partly separated and the Ventricle on the opposite side to that affected with Paralysis, distended by a large Quantity of Limpid Serum; and you must Remember, that the state of all the Morbid parts were predicted before they were exposed to View; which may have a further Advantage, by rousing in you an industrious pursuit after the most hidden causes of all the affections of the Human Body; and convince you what injury they do to the living, who oppose a decent painless, and well timed examination of the dead.

Thus all the professors in the best European Colledges, go hand in hand, and co-operate with each other by regular chains of Reasoning & occasional demonstrations, to the satisfaction & improvement of the Students.

But more is required of us in this late settled World, where new Diseases often occur, and others common to many Parts of Europe visit us too frequently, which it behoves the Guardians of Health, to be very watchful of, that they may know them well, and by an hearty Union & Brotherly communication of observations investigate their causes & check their progress. The Task is arduous, but 'tis a Debt we owe to our Friends and our Country. The Atmosphere that Surrounds us is fine, and the Air we breathe, free, pure, and Naturally healthy, & I am fully persuaded we shall find on strict enquiry, when it becomes otherwise, 'tis mostly from Contagion imported, or neglected Sources of Putrefaction, amongst ourselves, and therefore whenever we are able to demonstrate the Causes, they may be removed and the Effects prevented.

Our Fathers after insuring to us the full enjoyment of the inestimable blessing of Religious & Civil Liberty, have settled us in a Country that affords all the real comforts of life, and given us the prospect of becoming one day, a great and happy People, and I know only one Objection to a prudent Man's giving North America the preference to any other part of the British dominions for the place of his residence, which is, that the climate is sometimes productive of severe Epidemic Diseases in the Summer & Fall; the Country is otherwise free from those tedious & dangerous Fevers which frequently infest most parts of Europe. The last wet Summer and a short space of hot dry Weather in Autumn, caused so many Intermittents from the Southern suburbs of this City all the way to Georgia, that I may venture to assert two thirds of the inhabitants were not able to do the least Business for many weeks, and some families & even Townships were so distress'd that they had not well persons sufficient to attend the Sick, during which Time this City was unusually I healthy, how respectable then would be the Characters of those Men, who shoul'd wipe this Stain out of the American Escutcheon and rescue their Country from such frequent calamities.

Sufficient encouragement to make the attempt, is found both in History, the Books of Physic, and our own Experience. Several instances were recorded of places that were so sickly, as to be uninhabitable until Princes have ordered their Physicians to search into the causes of this Unhealthiness, and having discover'd and removed them, made thereby valuable additions to their Kingdoms. Was not our Ancient & Great Master, Hippocrates, so knowing in

the cause of Pestilential Contagion, as to foresee an approaching Plague, and send his Pupils into the Cities to take care of the Sick, & has not He, and Sydenham the English Hippocrates, done infinite Service to the healing Art, and gained immortal Honors to themselves, by their Essays on Epidemics in which they not only accurately describe the Diseases of their Respective Countries, but show the depraved constitution of the Air which produced each of them. Our own Experience also affords much Encouragement; when I first came into this City the Dock was the Common Sewer of Filth, & was such a Nuisance to the inhabitants about it, every Fall, that they were obliged to use more pounds of Bark, than they have Ounces since it has been raised and levell'd. Another striking instance of the Advantage of Cleanliness for the preservation of Health, affords me an Opportunity of paying a Tribute, justly due, to the Wisdom of the Legislature of this Province, in framing the Salutary Laws for paving & regulating the streets of this City, & to the indefatigable industry & Skill of the Commissioners in executing them, whereby they have contributed so much to the Healthfulness of the Inhabitants, that I am confident the whole Expencc will be repair'd in ten years, by lessening the Physic Bills alone. A Farm within a few miles of this City was remarkably healthy for Fifty Years, whilst the Tide overflow's the Low Lands, near the Dwelling House, but after they were Bank'd by Ditches so ill contrived that they often did not discharge the Water that fell into them for a considerable time, & Until it became putrid, and thereby rendered the place as remarkably Sickly, as it had before been healthy, I was told by a Gentleman of Veracity that he saw the Corps of One of Nine Tenants that had been carried from it in a few years.

The Yellow Fever, which I take to be exactly the same distemper as the Plague of Athens, described by Thucydides, has been five different times in this City since my residence in it; the causes of three of them I was luckily able to Trace, & am certain they were the same, which produced a Gaol Fever in other Places, & am of opinion the difference betwixt the appearance of these Fevers, arises from the climate, & the different state the Bodies are in when they Imbibe the Contagion; if so, the same methods which are taken to prevent Gaol Fever, will equally prevent a Yellow Fever; 'Twas in the Year Forty one, I first saw that horrid Disease which was then imported by a Number of Convicts from the Dublin Gaol. The second time it prevailed it was indigenous from Evident causes, & was principally confined to One Square of the City. The third time it was generated on Board of Crowded Ships in the Port, which brought in their Passengers in Health, but soon after became very Sickly. I here saw the appearance of Contagion like a Dim Sparkle which gradually encreased to a Blaze, & soon after burst out into a terrible Flame, carrying Devastation with it, and after continuing two Months was extinguished by the profuse Sweats of Tertian Fevers, but this is not the ordinary course of contagion, 'tis usually checked by the Cool Evenings in Septem'r and dies on the appearance of an October Frost.

I lately visited an Irish Passenger Vessel, which brought the People perfectly healthy until they came in our River. I found five of them Ill, and others Unwell, & saw that the Fomes of infection was spreading among them. I therefore ordered the Ship to lay at Quarantine, to be well purified with the Streams of Sulphur, & with Vinegar, directed the Bedding and Cloathing of the People to be well wash'd & Air'd before any person should be permitted to land out of her, after which I advised separating the Sick from the Healthy. This was done by putting twelve in different Rooms in one House, & fourteen in another, out of the City, the conveniences of the two Houses were much the same, in one of them little care was taken of the sick, who were laid upon the

same foul beds, they (contrary to orders) brought on shore with them; the consequence was, that all the Family catch'd the distemper, & the Landlord Died. In the other my directions were Strictly observed, the Sick had clean Clothes, & clean Bedding, were well attended, and soon Recovered, without doing the least Injury to any person that visited them; which confirms observations I had often made before, that the Contagion of Malignant Fevers lies in the Air confined & Corrupted by a neglect of Rags & other filth about the Helpless Sick, & not from their Bodies. As each of these heads shall be a Subject of a future Lecture, I shall at present only mention to you further, a few of those Methods which have preserved Individuals from prevailing diseases.

The inhabitants of Hispaniola have found the wearing Flannel shirts to be a preventive against Intermittent Fevers in that sickly Island, & as that Disease is known to arise principally from inhaling a great Quantity of the Humidity of the Air, I make no doubt 'twould also be of use in preventing them in our low moist, level countries.

We know that the Bark of Sassafras contains many Excellent Medicinal Virtues, my Worthy Friend Mr. Peter Franklin says that he being in the Fall of the Year in the River Nantikoke in Maryland, & on seeing the People on Shore much afflicted with intermitting Fevers, advised the Marriners of the Ships to drink freely, by way of prevention, of that Aromatic and Anti-septic Medicine, but coul'd not prevail on more than half the company to do it, & that he & all the others who took it, enjoy'd perfect Health, whilst not a single Person of the rest escaped a severe attack of Epidemic Disease. I have Known other similar Instances, which 'tis needless to mention, since his is remarkably pertinent.

But I have many reasons to expect that a more agreeable & equally certain preventive against our Autumnal Fevers, will be found in Sulphur Chalybeate Waters, which may readily be procured in most parts of America, especially where those Diseases are most prevalent. A spring of this Kind at Gloucester within a few Miles of this Place has been much used of late, and has been so very serviceable to Invalids, it has the appearance of being a valuable Conveniency to the City. Persons under various Diseases took Lodgings in the Village the last Season, for the advantage of drinking the Waters at the Fountain head, & though the Fall was more sickly than has ever been known in the Memory of Man, not one, who went there for health, nor any one of the Inhabitants near the Spaw, who drank freely, had a touch of the prevailing Disease, whilst a Major part of those that did not, had more the appearance of Ghosts than living Creatures. There were two other Houses the Habitations of Father & Son, within twenty feet of each other, the Family of the father had suffered greatly from Intermittent Fevers the preceding Fall, & some of them continued Invalids 'till the middle of Summer, when they were prevailed on, to take the Waters, after which they daily recovered Health, Bloom & Vigour; & passed the sickly Season without a Complaint, whilst scarcely a person in that of the Son, who did not take them, escaped a severe Illness. 'Tis well known from experience that Mineral Waters are not only the most Palatable, but the most Salutory parts of the Materia Medica, & that the effect of those which are pure & properly impregnated with Chalybeate Principles, strengthen digestion brace & counteract the Summers Sun, dilute a thick putrid Bile (the instrument of mischief in all climates) and immediately wash away putrefaction through the Emunctories of the Bowels, Skin, or kidneys and therefore appear to be natural preservatives against the effect of an hot, moist & putrid Atmosphere. Whether these Waters will answer my sanguine expectations or not, must be left to the Decision of Time. If they

should be found wanting, that ought not to discourage our further pursuit, for since providence has furnished every country with defences for the Human Bodies, against the inclemencies of Heat & Cold, why shou'd we Question whether infinite Wisdom & Goodness has made equal Provision against all other natural injuries of our Constitutions; Experience and Reason, encourages us to believe it has, & that the means might be discovered by diligent investigation were our researches equal to the Task, the above instances are therefore related to convince you, that the prevention of some of the Epidemic diseases of America is not only a laudable & rational Pursuit, but is more within the limits of human precaution than has generally been imagined, and to excite your particular attention to the improvement of this Humane and interesting part of your profession, in which, & all other useful undertakings I most sincerely wish you success.

I am now to inform you, Gentlemen, that the Managers & Physicians of the Pennsylvania Hospital, on seeing the great number of you attending the School of Physic in this City, are of opinion, this excellent institution likewise affords a favourable opportunity of further improvement to you in the practical part of your Profession, and being desirous it should answer all the good purposes intended by the generous contributors to it, have allotted to me the Task of giving a course of Clinical & Meterological Observations in it; which I cheerfully undertake (though the season of my Life points out relaxation and retirement rather than new Incumbrances), in hopes, that remarks on the many curious cases that must daily occur, amongst an Hundred & thirty sick persons, collected together at one time, may be very instructive to you. I therefore propose to meet you at stated times here, & give you the best information in my Power of the nature & treatment of Chronical Diseases, and of the proper management of Ulcers, Wounds and Fractures, I shall show you all the Operations of Surgery, & endeavour, from the Experience of Thirty Years to introduce you to a Familiar acquaintance with the acute diseases of your own country, in order to which, I shall put up a compleat Meteorological Apparatus, & endeavour to inform you of all the known Properties of the atmosphere which surrounds us, & the effects its frequent variations produce on Animal Bodies, and confirm the Doctrine, by an Exact register of the Weather, of the prevailing Diseases, both here, & in the Neighbouring Provinces, to which I shall add, all the interesting observations which may occur in private practice, and sincerely wish it may be in my power to do them to your satisfaction.

APPENDIX C

SURGEON GENERALS OF THE UNITED STATES ARMY
FROM THE ORGANIZATION OF THE MEDICAL DEPARTMENT IN
1818 TO 1931

Joseph Lovell	1818-1836
Thomas Lawson	1836-1861
Clement L. Finley	1861-1862
William A. Hammond	1862-1863
Joseph K. Barnes	1863-1882

Charles H. Crane	1882-1883
Robert Murray	1883-1886
John Moore	1886-1890
Jedidiah H. Baxter	1890-Died in December 1890
Charles Sutherland	1890-1893
George M. Sternberg	1893-1902
William H. Forwood	1902-Retired for age 1902
Robert M. O'Reilly	1902-1909
George H. Torney	1909-1913
William C. Gorgas	1913-1918
Merritte W. Ireland	1918-1931
Robert U. Patterson	1931-

APPENDIX D

THE HUMANE SOCIETY OF PHILADELPHIA

This useful organization came into existence in 1780, in the midst of the turmoil incident to the Revolutionary War.

Its objects were the "recovery of drowned persons, and of those whose animation may be suspended from other causes, as breathing air contaminated by burning charcoal, hanging, exposure to the choke damp of wells, drinking cold water while warm in summer, strokes of the sun, lightning, swallowing laudanum."

The Society served in reality all the purposes of a first-aid or emergency organization.

It offered prizes at one time for the best dissertations on the means of restoring life to persons apparently dead by drowning. These theses were to be written in English, French, or Latin, and the prizes were to be awarded by the "Medical Professors of the University of Pennsylvania."

APPENDIX E

THE ETHER CONTROVERSY

Mrs. Frances Long Taylor in "Crawford W. Long, and the Discovery of Ether Anaesthesia" gives the following additional proofs regarding Long's first use of ether. The first letter is from Dr. Groves, who was Long's first medical student, followed by an extract of a letter written by Groves to Dr. Hugh H. Young, of Baltimore.

Cohutta, Ga., Dec. 13, 1894.

Mrs. Frances Long Taylor.

Dear Madam:

In 1884, soon after I attained my majority, I decided to adopt medicine as my profession and began to think where and under whom I should begin the preparatory study. My father asked me to choose from among the number of physicians I knew the one I preferred to act as preceptor to me. Knowing Dr. Long so well and believing him to be a man of no ordinary ability, I at once fixed upon him as my choice. I entered Dr. Long's office in May, 1884, as the first student ever under his care. As I progressed with my studies he saw fit to make known to me his discovery by the use of which he could perform surgical operations without giving any pain to his patient. [Here follows a description of the first cases, but as he was not a witness to these, I do not quote him.]

Not satisfied, however, that there was not more to learn about this great discovery, he proposed that we test it further, personally, which we did in his office, where with closed doors we administered it to each other to prove its perfect anaesthetic effect, also to discover any bad effect to the subject etherized. Owing to the prejudice and ignorance of the populace, Dr. Long was prevented from using ether in as many cases as he might have. Thus in the two years preceding my entering Dr. Long's office he had only about six cases in which to try the anesthetic effects of ether.

The first case that came under his care where its use was applicable after my going into his office was not until January 8, 1845, which was the case of a negro boy having two fingers to amputate, caused by neglected burn. I, as the only student still with the doctor, he had me to accompany him to see the operation and assist in the administration of the ether. The first finger was removed without pain, the second without ether, the child suffered extremely. This was done to prove that insensibility to pain was due to the agent used.

Soon after this in January, Dr. J. D. Long [a cousin] came into the office as a fellow student; later toward spring came P. A. Wilhite and in August came Dr. Long's brother, H. R. J. Long. We four remained there at Dr. Long's office as students until the opening of the fall term of the medical colleges.

(Signed) J. F. Groves, M.D.

Sworn and subscribed to and before me, Dec. 15, 1894.

Wm. H. Wilson, N.P.

In a letter written to Dr. Hugh H. Young of Baltimore, January 15, 1897, describing the operation performed upon the negro boy, Dr. Groves says the patient was placed in a recumbent position, on a bed, with the hand to be operated on to the front for convenience to the surgeon.

Dr. Long poured ether on a towel and held it to the patient's nose and mouth too, to get the benefit of inhalation from both sources. Dr. Long determined when the patient was sufficiently etherized to begin the operation by pinching or pricking him with a pin. Believing that no harm would come of its use for a reasonable length of time he profoundly anesthetized the patient, then gave me the towel and I kept up the influence by holding it still to the patient's nose. The patient was entirely unconscious—no struggling—patient passive in the hands of the operator. After a lapse of fifty years you would hardly sup-

pose that a man could remember every minute detail but I have clearly in mind all the facts I have given you.

Your obedient servant,
J. F. Groves, M.D.

APPENDIX F

ITEMS OF INFORMATION ON THE ORGANIZATION OF MEDICAL EDUCATION COMPILED FROM VARIOUS SOURCES

N. S. Davis¹ gives a long list of the medical schools established in the United States during the thirties and forties. Many of them had but an ephemeral existence, some have survived and emerged triumphant. Writing in 1850 he states that to that date there had been forty-three medical colleges established, of which seven had ceased to exist, and many had changed their names or locations, leaving thirty-six in active existence. Of these but sixteen were located so as to afford their students any opportunities for bedside instruction or hospital attendance; five held their regular courses of lectures less than sixteen weeks, twenty-six from sixteen to eighteen weeks, and but two had lengthened their courses in compliance with the suggestion made by the National Convention in 1847. Davis adds that the newly organized medical department of the University of Michigan is to continue its regular term seven months and that the University of Virginia extended its to ten months. Davis was one of a small group who were ardently working to improve the standards of medical education and practice. The first step in this direction was the organization of the American Medical Association. Through it Davis and his associates sought to lengthen and strengthen the college courses necessary to obtain the degree of doctor of medicine and to obtain medical examining boards in the various states which should be entirely severed from any of the teaching institutions. It was an uphill fight and lasted many years before the necessary reforms were brought about. From his valuable book I have taken the following notes of interest concerning some of these colleges and also on medical legislation.

In 1826 the State of Georgia created a board of examining physicians and imposed a penalty of five hundred dollars on any person practicing medicine in Georgia without its license. In 1835 this law was repealed, probably because of the growing influence of the "botanic" physicians because, in 1839 another act created a

¹History of Medical Education 1855.

board of medical examiners but with the clause: "Provided nothing in the said revised act be so construed as to operate against the Thompsonian or Botanic practice, or any other practitioners of medicine in the State."

The Legislature of South Carolina passed a law in 1817 creating two boards of medical examiners, one at Charleston, the other at Columbia: All persons practicing medicine in the State were required to receive a license from them except such as possessed a diploma from a medical college. In 1838 the Legislature passed another act abolishing the boards of examiners and removing all restrictions on the practice of medicine in South Carolina.

In 1825 according to Davis the medical school of Columbian College was founded in the District of Columbia. I have been unable to find any details of its history.

The medical school of the University of Virginia was organized in 1825, at Charlottesville, Va.

Washington Medical College, established in Baltimore in 1827, had degrees conferred on its graduates by Washington College in Pennsylvania until 1833, when it procured an independent charter.

The Medical College of Georgia was organized at Atlanta in 1830, but no lecture courses were given until 1832.

In Alabama an act was passed in 1823 creating five medical examining boards, the members of which were elected by the State Legislature. A penalty of a fine not to exceed five hundred dollars was imposed on anyone practicing in the State without a license from one of the boards or a diploma from a medical college.

Of Mississippi Davis says that the "medical laws of the state of Mississippi are coeval with the existence of the state." The State was divided into three districts, each with a board of examiners. Fines and imprisonment were proscribed as penalties for attempts to practice without a license. In 1829 an act of Legislature authorized the establishment of the Medical Society of the State of Mississippi. When the State's constitution was revised in 1834 the boards of examiners were omitted and hence no legal provision made to regulate practice in the State.

In Louisiana laws regulating the practice of medicine were passed, according to Davis, as early as 1808, and were revised and amended in 1816-17 and 1829.

In 1818 the Vermont Academy of Medicine was organized at Castleton, Vt. Its graduates received their degrees from Middlebury College until 1828, after which the Castleton institution acquired an independent charter and conferred them itself. Davis says the number of students ranged from twenty-four in 1818 to one hundred and thirty in 1836.

J. S. Billings¹ compiled a list of the regularly chartered medical schools in the United States which is here reproduced. He states that a few minor schools may have been overlooked because of the short duration of their existence, and that no note is made of any change in name which some of the schools have made in the course of time:

Name	Year of First Graduation	Date of Cessation
Alabama		
Medical College of Alabama (Mobile).....	1860	
California		
Medical College of the Pacific, Med. Dept. of University (City) College (San Francisco).....	1859	
University of California, Med. Dept. of (Toland Hall) (San Francisco).....	1865	
Connecticut		
Yale College, Med. Dept. of (New Haven).....	1814	
District of Columbia		
National Medical College, Med. Dept. of Columbian University, (Washington).....	1852	
Georgetown University, Med. Dept. of (Washington)	1852	
Howard University, Med. Dept. of (Washington)....	1871	
Georgia		
Medical College of Georgia (Augusta).....	1833	
Savannah Medical College (Savannah).....	1854	
Atlanta Medical College (Atlanta).....	1855	
Oglethorpe Medical College (Savannah).....	1856	1861
Illinois		
Rush Medical College, Med. Dept. of University of Chicago (Chicago).....	1844	
Illinois College, Med. Dept. of (Jacksonville).....	1848	1848
Rock Island Medical School (Rock Island).....	1849	1849
Chicago Medical College, Med. Dept. of Northwestern University (Chicago).....	1860	
Indiana		
Indiana Medical College, Med. Depart. of La Porte University (La Porte).....	1842	1851
Medical College of Evansville (Evansville).....	1850	
Indiana Medical College (Indianapolis)....	1870	
Indiana College of Physicians and Surgeons (Indianapolis).....	1876	
Iowa		
College of Physicians and Surgeons (Keokuk).....	1850	
Iowa State University, Med. Dept. of (Iowa City)....	1871	

¹ A Century of American Medicine 1776-1876, Phila., 1876.

Name	Year of First Graduation	Date of Cessation
Kentucky		
Transylvania University, Med. Dept. of (Lexington)	1798	1859
University of Louisville, Med. Dept. of (Louisville)	1838	
Kentucky School of Medicine (Louisville)	1851	
Louisville Medical College (Louisville)	1870	
Hospital College of Medicine, Med. Dept. of Central University (Louisville)	1875	
Louisiana		
University of Louisiana, Med. Dept. of (New Orleans)	1835	1870
New Orleans School of Medicine (New Orleans)	1857	
Charity Hospital Medical College of New Orleans, (New Orleans)	1876	
Maine		
Bowdoin College and Med. School of Maine (Brunswick)	1821	
Maryland		
University of Maryland, Med. Dept. of (Baltimore)	1811	
Washington University, School of Medicine (Baltimore)	1828	
College of Physicians and Surgeons (Baltimore)	1873	
Massachusetts		
Harvard University, Med. Dept. of (Boston)	1785	
Berkshire Medical College, (Pittsfield)	1823	1867
Michigan		
University of Michigan, Med. Dept. of (Ann Arbor)	1851	
Detroit Medical College (Detroit)	1869	
Missouri		
Missouri Medical College (St. Louis)	1841	
St. Louis Medical College (St. Louis)	1843	
Humboldt Medical College (St. Louis)	1867	1869
Kansas City College of Physicians and Surgeons	1870	
St. Louis College of Physicians and Surgeons	1870	1870
New Hampshire		
Dartmouth College, Medical School of (Hanover)	1798	
New York		
College of Physicians and Surgeons of the City of New York, Med. Dept. of Columbia College (N. Y. City)	1769	
College of Physicians and Surgeons of the Western District of New York (Fairfield)	1816	1840
Geneva College (Rutgers Med. Faculty) (N. Y. City)	1827	1830
Geneva Medical College (Geneva)	1835	1872
Albany Medical College (Albany)	1839	
University of the City of New York, Medical Dept. of (N. Y. City)	1842	
University of Buffalo, Med. Dept. of (Buffalo)	1847	
New York Medical College and Charity Hospital (N. Y. City)	1851	1864

Name	Year of First Graduation	Date of Cessation
Long Island College Hospital (Brooklyn).....	1860	
Bellevue Hospital Medical College (N. Y. City).....	1862	
College of Medicine of Syracuse University (Syracuse)...	1873	
Ohio		
Medical College of Ohio (Cincinnati).....	1821	
Cincinnati College, Med. Dept. of (Cincinnati).....	1836	1839
Stirling Medical College (Columbus).....	1836	
Cleveland Medical College, Med. Dept. of Western		
Reserve College at Hudson (Cleveland).....	1844	
Cincinnati College of Med. and Surgery (Cincinnati)...	1852	
Miami Medical College (Cincinnati).....	1853	
University of Wooster, Med. Dept. of (Cleveland).....	1865	
Oregon		
Williamette University, Med. Dept. of (Salem).....	1867	
Pennsylvania		
University of Pennsylvania, Med. Dept. of (Philadel-		
phia).....	1765	
College of Philadelphia (Philadelphia).....	1790	1791
Jefferson Medical College (Philadelphia).....	1826	
Pennsylvania College at Gettysburg, Med. Dept. of		
(Philadelphia).....	1840	1861
Franklin Med. College of Philadelphia (Philadelphia)...	1847	1849
Philadelphia College of Medicine (Philadelphia).....	1847	1859
Rhode Island		
Brown University, Medical School of (Providence).....	1814	1826
South Carolina		
Medical School of the State of South Carolina (Charles-		
ton).....	1825	
University of South Carolina, Med. Dept. of (Columbia)	1868	
Tennessee		
Memphis Medical College (Memphis).....	1847	1873
University of Nashville, Med. Dept. of (Nashville)....	1852	
Shelby Medical College (Nashville).....	1859	1861
Vanderbilt University, Med. Dept. of (Nashville).....	1875	
Texas		
Galveston Medical College (Galveston).....	1866	
Texas Medical College and Hospital (Galveston).....	1874	
Vermont		
Castleton Medical College (Castleton).....	1820	1861
University of Vermont and State Agricultural College,		
Med. Dept. of (Burlington).....	1823	
Vermont Medical College (Woodstock).....	1830	1860
Virginia		
University of Virginia, Med. Dept. of (Charlottesville).	1828	
Medical College of Virginia (Richmond).....	1839	
Winchester Medical College (Winchester).....	1846	1862

Billings adds: If we take the number of graduates by decades of years during the present century, the result is as follows:

Years	No. of Graduates	Years	No. of Graduates
1760-1799	221	1840-1849	11,828
1800-1809	343	1850-1859	17,213
1810-1819	1,375	1860-1869	16,717
1820-1829	4,338	1870-1876	14,704
1830-1839	6,849		

In 1891 the Illinois State Board of Health issued a report on "Medical Education in the United States and the Regulation of the Practice of Medicine in the United States and Canada, 1763-1891. Medical Education and the Regulation of the Practice of Medicine in Foreign Countries," by John H. Rauch, and in 1900 the University of the State of New York published Bulletin No. 8 of the College Department on "Professional Education in the United States" prepared by Henry L. Taylor under direction of James Russell Parsons, Jr.

These two publications contain the most complete information available regarding the laws governing practice in the several states and the status of the medical colleges of this country. It is impossible to abstract or summarize such information and as the pamphlets are readily accessible the seeker for further information should consult them directly.

Harrington¹ gives the following list of medical schools founded in the United States up to 1873.

1. University of Pennsylvania, Philadelphia, 1765.
2. Medical Faculty of King's College, New York, 1767, later Columbia College.
3. Medical School of Harvard University, Boston, 1782.
4. Medical School of Dartmouth College, New Hampshire, 1797.
5. College of Physicians and Surgeons, New York, 1807.
6. University of Maryland, Medical School, 1807.
7. Medical Institution of Yale College, 1810.
8. College of Physicians and Surgeons, Fairfield, New York, 1812.
9. Vermont Academy of Medicine at Castleton, 1818.
10. Medical School of Transylvania University, Kentucky, 1818.
11. Medical College of Ohio at Cincinnati, 1819.

¹The Harvard Medical School, a history narrative and documentary, New York, 1905.

12. Medical School of Maine at Bowdoin College, 1820.
13. Medical School of Brown University, Rhode Island, 1821. Discontinued.
14. Medical School of the University of Vermont, Burlington, 1822.
15. Berkshire Medical School, Pittsfield, Massachusetts, 1823.
16. Medical College of South Carolina, Charleston, 1824.
17. Jefferson Medical College, Philadelphia, 1824.
18. Medical School of Columbian College, District of Columbia, 1825.
19. Medical School of University of Virginia, Charlottesville, 1825.
20. Washington Medical College, Baltimore, 1827.
21. Medical College of Georgia, Augusta, 1830.
22. Medical College of the State of South Carolina, Charlottesville, 1825.
23. Willoughby University, Ohio, incorporated in 1834.
24. Medical College of Louisiana, New Orleans, 1835.
25. Medical Institution of Geneva College, New York, 1835.
26. Medical Department of Cincinnati College, Ohio, 1835.
27. Vermont Medical School, Woodstock, 1835.
28. Louisville Medical Institute, Kentucky, 1837.
29. Medical Faculty of the University of the City of New York, 1837.
30. Medical Department, Hampden Sidney College, Richmond, Va., 1838.
31. Albany Medical College, 1839.
32. Medical Department of Pennsylvania College, Philadelphia, 1839.
1842. Cleveland Medical College.
1843. Missouri Medical College, St. Louis.
1843. Rush College at Chicago (received its charter in 1837, but did not organize then).
1846. Medical Department of University of Buffalo.
1847. Stirling Medical College, Columbus, Ohio.
1849. University of Michigan, Ann Arbor.
1850. Medical Department, University of Nashville.
1850. College of Physicians and Surgeons, Keokuk, Iowa.
1850. Woman's Medical College of Pennsylvania, Phila.
1851. Medical College of Virginia, Richmond.
1851. Georgetown Medical College, Washington, D. C.
1851. Cincinnati College of Medicine and Surgery.
1852. Miami Medical College, Cincinnati.
1852. Savannah Medical College.
1855. Atlanta Medical College.
1858. Medical College of Pacific in San Francisco.

1859. Chicago Medical College, Department of Northwestern University.
1860. Medical College, Mobile, Alabama.
1860. Long Island College Hospital, Brooklyn, N. Y.
1861. Bellevue Medical College of New York.
1864. Woman's Medical College, New York Infirmary.
1866. Medical Department of Willamette University at Salem, Oregon.
1868. University of South Carolina Medical Department.
1868. Detroit Medical College.
1869. Medical Department, University of Wooster, Kansas City.
1869. Kansas College of Physicians and Surgeons, Kansas City.
1869. Louisville Medical College, Louisville, Ky.
1869. Medical Department, Iowa State University, Iowa City.
1869. Medical Department Indiana University, Indianapolis.
1870. Woman's Hospital Medical College, Chicago.
1870. Medical Department, Lincoln University, Oxford, Penna.
1871. Free Medical College for Women, N. Y.
1872. Revival of Medical College of Evansville, Indiana (1846).
1872. College of Physicians and Surgeons, Syracuse University.
1872. College of Physicians and Surgeons, Wilmington, N. C.
1872. University of California (previously Tolman Medical College of 1864).
1873. University, State of Missouri.
1873. Texas Medical College, Galveston, Texas.

APPENDIX G

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES

In 1820 Matthew Carey, a well-known publisher of Philadelphia, began the publication of the *Philadelphia Journal of the Medical and Physical Sciences*, with Dr. Nathaniel Chapman, Professor of the Institutes and Practice of Physic and of Clinical Medicine in the University of Pennsylvania, as Editor. In 1824 he associated with him Dr. William P. Dewees and Dr. John Godman. In 1827 Dr. Isaac Hays joined the editorial staff. In 1841 Hays became sole editor and remained so for fifty years. Hays was one of the pioneer ophthalmologists of the United States. In 1827 the name of the publication was changed to the *American Journal of the Medical Sciences*, as which it has continued to the present day. Until 1887 it was published quarterly but ever since has appeared monthly.

APPENDIX H

THE BOSTON MEDICAL AND SURGICAL JOURNAL¹

This periodical first appeared in January, 1812, with the title *The New England Journal of Medicine and Surgery and the Collateral Branches of Science*. It owed its inception to that remarkable pair, John Collins Warren and James Jackson. In 1823 *The Boston Medical Intelligencer*, the first medical weekly in America, was founded by Jerome F. C. Smith. In 1828 Drs. Ware and Channing purchased the *Intelligencer* and combining it with the *New England Journal of Medicine and Surgery*, which they had managed since 1824, brought forth the two periodicals as *The Boston Medical and Surgical Journal*. No weekly medical journal has lived as long or had so honorable a record as this. In 1928 its name was changed to *The New England Journal of Medicine*, to be published henceforth as the official organ of the State Medical Societies of Massachusetts, New Hampshire and Vermont, and of the New England Surgical Society, the Boston Surgical Society, the New England Pediatric Society and the New Hampshire Surgical Club.

APPENDIX I

SOME HOMEOPATHIC MEDICAL COLLEGES

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL OF
PHILADELPHIA²

Chartered and opened in 1848, this is the oldest homeopathic medical college in the world. In 1835, Dr. Constantine Hering started a homeopathic medical school in Allentown, Penna., which was chartered as The North American Academy of the Homeopathic Healing Art, on June 17, 1836. The lectures were delivered in German. After several sessions the institution went out of existence. In 1884 the American Institute of Homeopathy was founded. On April 8, 1848 The Homeopathic Medical College of Pennsylvania was granted its charter and on October 16, 1848, it opened its first session in rooms which had been rented at 229, now 635, Arch Street. These proving inadequate after the first session the College moved to a building at 1105 Filbert Street, which had previously been occupied by the Pennsylvania Medical College.

¹ The history of the *Boston M. & S. J.* was fully written up in the first issue of the *N. England J. Med.*, February 23, 1928, the journal which succeeded it.

² Consult The Founder's Week Memorial Volume, edited by F. P. Henry Phila., 1909.

The first faculty was composed of the following professors: Jacob Jeanes, of Principles and Practice of Medicine; Caleb R. Matthews, of Materia Medica; Walter Williamson, of Midwifery and Diseases of Women and Children; Francis Sims, of Surgery; Samuel Freedley, of Botany; Matthew Semple, of Chemistry; William A. Gardiner, of Anatomy. Shortly afterward Dr. A. E. Small was elected Professor of Physiology.

The circular announcing the opening of the course stated that, "standard works on Homeopathy and such books as are generally used in other schools can be used as textbooks."

Fifteen students were enrolled when the college opened and at the first commencement on March 29, 1849, degrees were conferred on six graduates.

The requirements for graduation were practically identical with those in use at the older medical schools such as the University of Pennsylvania, viz: "The candidate for graduation must be of good moral character; be possessed of sufficient preliminary education; have attained the age of twenty-one; have applied himself to the study of medicine for three years; attended two courses of medical lectures, the last of which must have been in this institution; and have been the private pupil of a respectable practitioner of medicine.

In 1855 the college purchased the building which it had hitherto rented, and in 1864 it got a new charter which was amended so that it could grant not only the degree of doctor of medicine, but also that of doctor of homeopathic medicine. From 1852 to 1856 it published the *Philadelphia Journal of Homeopathy*. In 1863 it was decided to again publish a journal and the *Hahnemannian Monthly* appeared for the first time in August of that year. This has now for many years been the leading homeopathic medical journal in the United States.

In 1866-67 owing to dissensions in the faculty some of the professors seceded and established the Hahnemann Medical College of Philadelphia, having obtained the charter of the Eclectic Medical College, and had the name thereof legally changed. The new institution opened in the autumn of 1867 at 1307 Chestnut Street but in the following year moved into 16 and 18 North Tenth Street. In 1869 those interested in the two schools realized that the rivalry between them was mutually destructive to their interests. They agreed to unite and in 1869 an Act of Legislature was passed by which the Homeopathic Medical College of Pennsylvania was united with the Hahnemann Medical College of Philadelphia, under the latter name. The new institution occupied the building of the Homeopathic Medical College at 1105 Filbert Street.

In 1869-70 announcement was made that henceforth there would be an optional three-year's course.

In 1884 the college began the erection of a new building for hospital and teaching purposes on ground which it had purchased at Broad and Race Streets. This was occupied by it in 1886. In 1886 the three-year's course was made obligatory, and in 1894 this was changed in response to the recommendation of the Intercollegiate Committee of the American Institute of Homeopathy to four years. As early as 1850 an anatomical and pathological museum was begun to serve for teaching purposes. This grew rapidly and is now an extremely valuable collection. A library was commenced in 1866, which contained in 1909 some 15,000 volumes. It contains a fine collection of rare works on anatomy from the library of Dr. A. R. Thomas, and a very complete collection of Paracelsian literature from the library of Dr. Constantine Hering.

Although the College had a small infirmary in its early days no real hospital existed in connection with it until 1852, when one was established at the southeast corner of Twenty-fourth and Chestnut Streets. This was only maintained for about two years. In June, 1862 rooms were fitted up in the rear of the college and a medical staff organized for a military hospital. The offer of its services was refused by the United States government, but some fifty discharged soldiers were given treatment in it before it was closed. In January, 1871, a hospital was opened on a small scale.

In 1874 the Homeopathic Hospital of Philadelphia was chartered, with a different board of trustees from those of the college. There was much friction between the two boards, which resulted in a complete severance of relations in 1883. In 1885 this unfortunate breach was overcome. The college and hospital secured a new charter as the Hahnemann Medical College and Hospital of Philadelphia, and in 1887 a handsome well-equipped hospital was opened adjacent to the recently erected buildings of the college. The new institution also absorbed the Pennsylvania Homeopathic Hospital for Children, which had been established in West Philadelphia. With the opening of the new hospital a training school for nurses was founded.

THE NEW YORK HOMEOPATHIC MEDICAL COLLEGE AND FLOWER HOSPITAL¹

Although there were homeopathic physicians who practiced their beliefs in New York after its first introduction by Gram in 1825,

¹ Walsh's "History of Medicine in New York" contains much material on the history of homeopathy in that state and is particularly rich in information concerning homeopathic institutions.

there was no homeopathic college established in the city until 1860. An abortive attempt at such an institution was made in 1849. Somewhat later the Hahnemann Academy of Medicine was organized, chiefly to give instruction in homeopathy to physicians who wished to practice according to its doctrines. It was not until 1860 that a charter was granted to the "Homeopathic Medical College of the State of New York, in New York City." In the autumn of that year the first session of the college opened at 116 East 20th Street. The faculty consisted of the following professors: Jacob Beakley, of Surgery; Isaac M. Ward, of Obstetrics; William E. Payne, of the Principles and Practice of Homeopathic Medicine; Franklin W. Hunt, of Clinical Medicine; Mathew Semple, of Chemistry and Toxicology; Stephen R. Kirby, of Materia Medica and Therapeutics; John D. L. Montagne, of Anatomy; William W. Rodman, of Physiology. Of these Beakley and Semple had previously held chairs in the Homeopathic Medical College of Pennsylvania.

The college opened with fifty-nine students. Candidates for the degree were required to be at least twenty-one years of age, to have studied medicine for at least three years with a legally qualified physician, and to have attended two complete courses in an incorporated medical college, the last of which must have been in the college granting the diploma.

The college was subject to the jurisdiction of the Regents of the University of the State of New York. In spite of the Civil War the college maintained its classes and flourished in the sixties. William Cullen Bryant was elected President of the Board of Trustees in 1862, and served in that capacity for ten years.

In 1867 the Trustees of the New York Ophthalmic Hospital placed that institution under the exclusive charge of homeopathic physicians, and the college removed itself into the building occupied by the Ophthalmic Hospital.

In 1869 an amended charter was obtained from the Legislature, changing the name of the college to "The New York Homeopathic Medical College." It had been discovered that all the diplomas issued during the previous nine years of the existence of the college were invalid, because they had conferred the degree of Doctor of Medicine, instead of Doctor of Homeopathic Medicine. This oversight was corrected and provision made in the new Act whereby the previously issued diplomas were all legalized.

In 1870 charges were made in the New York County Homeopathic Medical Society that the faculty of the college had recommended for degrees students who had failed to attain the required standing of proficiency under the charter and by-laws. After an

investigation the Society adopted resolutions condemning the actions of the college. The trustees of the college immediately demanded the resignations of the entire faculty, and proceeded to appoint new professors as follows: William Tod Helmuth, Surgery; John C. Minor, Clinical Surgery and Surgical Anatomy; C. J. Liebold, Ophthalmic Surgery; A. R. Morgan, John W. Dowling, and F. S. Bradford, Theory and Practice of Medicine; Samuel Lilienthal, Clinical Medicine; H. D. Paine, Institutes and History of Medicine; Carroll Dunham and J. F. Allen, Materia Medica and Therapeutics; H. R. Stiles, Physiology; Samuel A. Jones, Histology; S. P. Burdick, Obstetrics; E. M. Kellogg, Diseases of Women and Children; F. A. Rockwith, Chemistry and Toxicology; William C. Mc Donald, Anatomy; D. B. Penfield, Medical Jurisprudence.

In 1872 a three-year graded course was organized, which while only optional was urged strongly upon students, and in the same year the college and the Ophthalmic Hospital occupied a new building at the corner of Third Avenue and Twenty-third Street.

In 1877 the Charity Hospital on Ward's Island having been placed in the charge of homeopathic physicians was utilized by the college for clinical teaching.

In 1881 the three-year graded course was made compulsory on all students.

In spite of the access which its students had to the clinical facilities of Ward's Island the college was in great need of a hospital under its own control and after many years at last succeeded in achieving its object. Land was purchased on the Eastern Boulevard between 63rd and 64th Streets and the cornerstone was laid on October 20, 1888, for the new college and for a hospital. The latter was erected through the generosity of the Honorable Roswell P. Flower and bore his name. In 1890 both the College and Hospital were installed in the new building. An Act of Legislature passed in 1887 had authorized a change in the title of the college to the "New York Homeopathic Medical College and Hospital," and granted it the authority to establish and conduct a hospital. In 1894 a new hospital was built by the trustees on ground adjoining the Flower Hospital.

In 1894 the college adopted the four-year course as requisite to the degree.

HAHNEMANN MEDICAL COLLEGE OF CHICAGO

This institution was chartered by the Legislature of Illinois in 1855, but no faculty was organized for it until 1860, when the

following were chosen: Alvin E. Small, Dean and Professor of the Theory and Practice of Medicine; Reuben Ludlam, Professor of Physiology and Pathology; George E. Shipman, Professor of *Materia Medica*; H. K. Boardman, Professor of Surgery; Gaylord D. Beebe, Professor of Anatomy; Nicholas F. Cooke, Professor of Chemistry and Toxicology; J. L. Kellogg, Professor of Obstetrics and Gynecology; George Payson Esq., Lecturer on Medical Jurisprudence.

Dr. Reuben Ludlam (1831-1899) after graduating from the medical department of the University of Pennsylvania in 1852, settled in Chicago. It is said that he and David S. Smith drafted the charter for the Hahnemann Medical College of Chicago in the law office of Abraham Lincoln. Later, he became president of the college and exchanged his first professorship for that of gynecology.

Dr. Gaylord D. Beebe (1835-1877) graduated from the Homeopathic Medical College of Pennsylvania in 1857, and settled in Chicago in the same year. When the Civil War broke out he received a commission as brigade surgeon. When he went before the State Medical Board they refused to examine him, but they finally yielded to an order from President Lincoln directing them to do so. Beebe saw much active service in the Union Army and finally became Medical Director of the Fourteenth Army Corps. In 1863 he resigned his commission because of ill-health.

The first home of the college was over Halsey and King's drug-store, 168 South Clark Street. In 1866 it was moved to 1237 State Street. In 1871 to a more suitable building on Cottage Grove Avenue. This was replaced in its turn by a much more elaborate structure on the same site in 1891.

In 1870 Hahnemann College was furnished with a hospital through a generous donation of Mr. J. Young Scammon, after whom the hospital was named.

In 1905 the Hahnemann Medical College united with the Chicago Homeopathic Medical College.

CHICAGO HOMEOPATHIC MEDICAL COLLEGE

In 1876 a number of physicians seceded from the Hahnemann Medical College of Chicago, which had been established in 1870, and founded the Chicago Homeopathic Medical College, with the avowed object of giving "a more thorough training and a much higher standard of requirements, both for entrance, and for graduation."¹ For some years the new college prospered, but in 1881

¹ History of Medicine and Surgery in Chicago, endorsed and published under the supervision of the Council of the Chicago Medical Society.

it was faced with financial failure. Dr. Nicholas B. Delamater (1847-1915), who had been one of the foremost in founding the new institution rescued it. Chiefly through his efforts, a new building was erected. He also managed to secure the introduction of homeopathy into the Cook County Hospital. This brought new life into the college. In 1894 the Chicago Homeopathic Hospital was built on a site next to it. In 1905 it combined with the Hahnemann Medical College of Chicago, under the latter name.

HAHNEMANN HOSPITAL OF CHICAGO

In 1853 Mrs. H. Knight offered Dr. George E. Shipman "\$1000 a year towards the maintenance of a homeopathic hospital." In 1853 the hospital was transferred to the Hahnemann Medical College of Chicago. During the intervening years the hospital has grown into a very large institution possessed of adequate buildings, and most completely equipped.

APPENDIX J

WOMEN IN MEDICINE

Elisabeth Stone Blackwell, who was born in England in 1821 and came to this country with her parents who emigrated when she was a young child, was the first woman to obtain a medical degree in the United States, and had a hard struggle before she got it. She inherited her crusading propensities from her parents. Her father who settled in Cincinnati tried to introduce the cultivation of beet sugar in order to combat the cane sugar industry which was so dependent for its existence on slave labor. Elisabeth began her medical studies with various physicians, among others Dr. Harrison Allen of Philadelphia. She tried to obtain admission to one of the medical colleges in Philadelphia or New York, but they all declined to receive her as a student. After trying in vain a number of the medical colleges throughout the country she at length gained admission to Geneva Medical College, from which she received her medical degree in 1849. Thus an otherwise insignificant institution won for itself the distinction of being the first to bestow the degree of doctor of medicine on a woman, and also the credit of having graduated one who was subsequently, not only by virtue of priority, but because of her genuine ability, to be one of the most distinguished ornaments of her profession. The summer of 1848 she passed in the wards of Blockley Hospital in Philadelphia, where some of her friends secured her the position of looking

after the welfare of the women in the syphilitic wards. Here she saw also many cases of typhus as during that summer Blockley contained many patients with that disease among the Irish emigrants who swarmed to this country because of the famine in their own. She based her graduation thesis on the cases of typhus she observed during that summer.

After graduating Dr. Blackwell went abroad for further study. While taking an obstetrical course at La Maternité in Paris she got purulent ophthalmia, as a result of which she lost her sight in one eye.

When she returned to New York and tried to enter practice she found that she could not rent offices, landladies no more than landlords desiring to receive such a monstrous object as a tenant. The only one who did consent to rent her an office lost all her other lodgers in consequence. Finally she solved the difficulty by the purchase of a house. Meanwhile her sister, Emily Blackwell, had begun the study of medicine. When she applied for admission to Geneva Medical College, she was refused permission to enter, not because of any discontent occasioned by her sister but because the authorities feared an influx of women students which would cause a falling off of the number of men students. Emily was admitted to Rush Medical College, where she studied for a year. Then, the Illinois State Medical Society having censured the college for admitting her, the college refused to allow her to resume her studies. Emily finally graduated from the Medical College of Western Reserve University, at Cleveland, Ohio, in 1854. She also went abroad, spending a year as a private pupil of Sir James Y. Simpson in Edinburgh, and then studying in London and Paris. Returning to New York Emily started to work with her sister Elisabeth.

In 1853 Dr. Elisabeth Blackwell out of her own resources had started a little dispensary for women and children. In December, 1853, she obtained articles of incorporation for it, and thus founded the first woman's hospital in the United States. Her object in founding it was to provide women with physicians of their own sex, to furnish clinical opportunities to female medical students and physicians, and to constitute a school of instruction in nursing and hygiene. The title of the institution was "The New York Infirmary for Women and Children." Dr. Blackwell succeeded in proving the right of her institution to a share in the annual appropriations to dispensaries in New York, and her institution soon proved its usefulness and grew with amazing rapidity. By 1861 it had its own building in Bleeker Street, and 59 obstetric cases received treatment within its walls, and 123 in their homes.

The Blackwell sisters, without being able to organize a regular training school, taught many women how to care for the sick, particularly obstetric cases. Dr. Elisabeth Blackwell was very active and rendered most valuable services, during the Civil War in securing proper nursing care for soldiers. In 1865 a special charter conferring the privileges of a medical college on the infirmary was obtained and until 1899 teaching was carried on in connection with the infirmary. Then it was decided to give up that branch of the work as the doors for medical education for women were so open that it was no longer necessary.

Dr. Elisabeth Blackwell went back to live in England, thinking that there was a larger field for her activities in the cause of women there than in the United States. She was active in the suffrage movement and various activities tending to social reform. Her useful life ended in 1910.

The first medical college in the world devoted solely to the education of women physicians was the Female Medical College of Pennsylvania which was incorporated on March 11, 1850, and in 1867 changed its name to the Woman's Medical College of Pennsylvania.¹ The college opened its first session in some rooms in the rear of 622 Arch Street, on October 7, 1850. A great difficulty from the outset was the lack of hospital facilities. On March 22, 1861 the Woman's Hospital of Philadelphia was chartered and the first patient was admitted to its building on North College Avenue on December 16, 1861. Its objects, according to its charter, were "the establishment in the City of Philadelphia of a hospital for the treatment of diseases of women and for obstetrical cases; furnishing at the same time facilities for clinical instruction to women engaged in the study of medicine, and for the practical training of nurses." The hospital was, however, an entirely distinct institution from the Woman's Medical College; each had its own charter and its independent board of trustees. For some years the two institutions worked in perfect accord. From 1862 until 1875, when the college erected its own building, the hospital allowed the college the use of its building, arranging for it lecture rooms, a laboratory, and a museum. According to Dr. Clara Marshall, "At one time every chair in the College, with the exception of that of Chemistry, of which the occupant was not a physician, was represented on the staff of the Hospital, but gradually, what was at best a moral bond, lost its force until in January 1904, the faculty was without a single representative on the staff of the Woman's Hospital of Philadelphia." The college then saw itself forced to provide a hos-

¹ My information is chiefly drawn from "Woman's Medical College of Pennsylvania, an Historical Outline," by Clara Marshall, M.D., Phila., 1897.

pital of its own. This it proceeded to do, and the new institution, The Woman's Medical College Hospital, was opened in 1904. A great tempest occurred in 1869 on the propriety of admitting the women medical students to the clinical lectures at the Pennsylvania Hospital. These lectures were open to the medical students of the various colleges in the city. In January, 1869, Dr. Alfred Stillé spoke in the amphitheater at his clinic, a few words of welcome to some women who were present. On November 6, 1869, permission having been formally obtained from the managers of the Pennsylvania Hospital some thirty women students availed themselves of the privilege. Their presence nearly precipitated a riot and led to a violent discussion on the part of the public as well as the parties more directly interested.

A meeting was convened on the 15th instant [November] at the University of Pennsylvania to consider the subject of clinical instruction to mixed classes of male and female students of medicine, when a remonstrance was unanimously adopted and signed by the faculties of the University of Pennsylvania, of Jefferson Medical College, by the medical staffs of the various hospitals of Philadelphia, and by members of the profession at large (Marshall).

The agitation continued until in May, 1871, the contributors to the Pennsylvania Hospital at their annual meeting passed a resolution absolutely requiring the staff to give clinical instruction to women students. Dr. D. Hayes Agnew thereupon refused reelection to his position of surgeon to the Hospital. Six years later Dr. Agnew was once more elected surgeon to the Pennsylvania Hospital and by that time had become so reconciled to the new state of affairs that he lectured with equanimity to mixed classes.

In 1882 Dr. Clara Marshall was elected to the obstetrical staff at the Philadelphia Hospital. Dr. Hannah J. Croasdale, was also elected but declined the appointment. This was a great step as Dr. Marshall held public clinics before students from other medical colleges than the Woman's.

In 1883 the first woman interne was appointed at the Philadelphia Hospital, Dr. Pauline Root being elected to the position. In 1867 the Philadelphia County Medical Society had passed a formal resolution expressing their disapproval of the study of medicine by women and stating that they could not consent to meet them in consultation. In 1881 this action was repudiated and women were declared eligible to membership.

NEW YORK MEDICAL COLLEGE AND HOSPITAL FOR WOMEN

In 1863 the New York Medical College for Women was incorporated by Act of Legislature, chiefly through the efforts of Clem-

ence Sophia Lozier (1813-1888), whose maiden name was Harned. She was born at Plainfield, N. J. In 1829 she married Abraham Witton Lozier, an architect and builder of New York. After his death she determined to study medicine and encountered the difficulties usual at that time to persons of her sex. She began her studies in the Eclectic Medical College at Rochester, N. Y., and finally got her degree of M.D. from another institute of the same kind, the Syracuse Eclectic Medical College, in 1853. She began practicing in New York City and also gave private instruction to women on medical subjects at her office. In 1863 she had formulated plans for a women's medical college and succeeded in getting enough financial backing to lease a building at 74 East Twelfth street for its use. Walsh¹ states that the first intention was apparently to make the college a non-sectarian institution, but in the announcement for 1865-66 it was stated that

. . . although the wide-spread and imperative demand for female physicians has been responded to by the organization of two colleges exclusively for women, this is the first and only one in the world where the law of 'similia' is recognized as the only true guide to the administration of drugs, [adding] with homeopathic teachings, in addition to all the branches of medical science taught in other medical schools, this institution presents itself to the public with appeals for patronage such as no other medical school for the education of women can claim.

Walsh points out that this radical change in the plan of the college led to the foundation of another woman's medical college, the Woman's College of Physicians and Surgeons, which became identified with the New York Dispensary and Hospital for Women and Children, and subsequently with Cornell University. The New York Medical College and Hospital for Women began its first session in the autumn of 1863, with eighteen students, with the following professors: Clemence S. Lozier, Diseases of Women and Children; Lydia F. Fowler, Pathology and Principles and Practice of Medicine; Sarah M. Ellis, Anatomy; Huldah Allen, Physiology and Hygiene; Isaac M. Ward, Obstetrics and Medical Jurisprudence; J. V. C. Smith, Clinical and Operative Surgery; Edward P. Fowler, Materia Medica and Diseases of the Chest; A. W. Lozier, Chemistry and Toxicology.

This faculty underwent changes very shortly, Dr. John Ellis becoming Professor of the Theory and Practice of Medicine; Dr. Joel R. Andrews, Professor of the Principles and Practice of Surgery; Dr. James Hyatt, Professor of Chemistry and Therapeutics; Dr. S. R. Kirby, Professor of Therapeutics and Materia Medica. In 1867 the college offered free scholarships to women wishing to

¹ History of Medicine in New York, vol. 2.

become medical missionaries. The number of graduates varied greatly. In 1865 there were fifteen, in 1866 but three, and in 1867 nine. In a few years the institution occupied its own building on Second Avenue near Twelfth Street, and had a dispensary and hospital in connection with it. In 1869-70 the three-years' graded course was adopted. In 1881 the college moved into a new building on Fifty-fourth Street between Broadway and Seventh Avenue, where it remained until 1878 when it was removed to a new home on 101st Street. The hospital was not moved there until 1901.

In 1893 the four-years' graded course was made compulsory. During the last three decades of the nineteenth century the faculty of the New York Medical College for Women numbered among its members at one time or another most of the prominent homeopathic physicians of New York. Among them may be mentioned William Tod Helmuth, William N. Guernsey, and James A. Carmichael.

APPENDIX K

THE BOTANIC, PHYSIO-MEDICAL AND ECLECTIC SCHOOLS OF MEDICINE IN THE UNITED STATES¹

The chief justification for their existence which the "botanic physicians," who were the originators of the Eclectic School put forth was that in a country such as America there must grow plants suitable for the treatment of every disease encountered within its limits. Wilder gives a list of native plants accompanied by the statement that their virtues had been learned by the early inhabitants, partly by their own observations but largely from the natives who "possessed many important medical secrets," and that "many of the early Botanic physicians of America appear to have obtained their first conception of medical knowledge from intercourse with the natives."² The following is one of his mildest utterances:

¹ By far the fullest information on these schools from the standpoint of an adherent is Alexander Wilder's "History of Medicine, a brief outline of medical history and sects of Physicians, from the earliest historic period, with an extended account of the new schools of the healing art in the nineteenth century, and especially a history of the American Eclectic Practice of Medicine, never before published," which appeared in 1901. The writings of Beach, Thomson and Rafinesque contain much historic information as well as their pseudo-science.

² Wilder is as bitter as Guy Patin in his denunciation of "mineral medicines."

Efforts have been made at a later period to induce physicians to supply themselves with the various products of coal-tar and petroleum, these being made conspicuous by unmeaning and unpronounceable names. Their success is, however, by no means assured. The condition is very general among the "plain people," that medicines, in the preparing of which drugs of a mineral origin have been discarded, are of more certain benefit and safer in administration. The nostrums which are hawked over the country or kept on sale by apothecaries, are far more likely to attract purchasers when certified to be wholly of botanic origin.

He proceeds to trace the origin of the so-called "eclectic schools" to the custom which prevailed during the colonial period of making use of indigenous plants for curative purposes. Culpepper had enunciated the idea that every region of the earth produced indigenous medicinal plants that were ample for the cure of the diseases there prevalent.¹ The experience of the early colonists of America, as has been already shown, appeared to verify the notion. It was known that the native tribes possessed the knowledge of such plants, and that they employed them successfully. White men occasionally, who had been suffering from ailments or injuries that baffled the current medical skill, were successfully treated with their simple concoctions.

It is to such a belief that we may attribute the popular belief in the skill of "Indian Doctors," which still lingers among the ignorant.

Thus native remedies were the chief remedial agents in the colonies. Where it became customary for those who intended to practice medicine to go abroad in order to complete their studies, a change was wrought, Wilder thinks, for the worse: "As, however, the influence of the transatlantic schools and practitioners became more generally prevalent, these fell more and more into disuse, and even somewhat into discredit. Mercury, antimony arsenic, venesection and the fly-blister became the formidable agents." He pictures those who continued to use the botanic remedies as

. . . dependent upon their native tact, intuition and home-acquired knowledge. They very often began their remedial procedure upon themselves and with their near relatives, and were so successful that their neighbors were induced to seek their aid. Thus with humble beginnings they had continued till it had become necessary for them to abandon their manual employments and assume formally the duties of the medical profession . . . Deficient as they may have been in book learning they were endowed, most of them, with a degree of skill, and they had acquired a knowledge of remedies and a cleverness in employing them which amply justified their claims as physicians.

¹ Wilder quotes the following from the title page of Culpepper's "The English Physician—Enlarged," 1704. "A Compleat Method of Physick, whereby a Man may preserve his Body in Health or Cure himself being sick, with such things only as grow in England, they being most fit for English Bodies."

After this touching account of the origin of these irregular physicians we may pass to the establishment of a "system of medicine" based on their methods.

The Botanic physicians claim as their precursor the botanist, Constantine Smaltz Rafinesque (1784-1841), who was the son of a Frenchman residing in Constantinople. He first came to the United States in 1812, but after a brief stay went back to Europe and spent some years in Sicily studying natural science and writing scientific articles. In 1817 he was appointed professor of botany in Transylvania University. After a few years he moved to Philadelphia where he passed the remainder of his life.

Rafinesque journeyed extensively through the length and breadth of the Mississippi Valley studying the flora and coming in close contact with the Indians who were then thick within it. He was a profuse writer on botany and other subjects. His most important work was his "Medical Flora; or Manual of Medical Botany of the United States of North America," published at Philadelphia, 1828-1832. This book became the *vade-mecum* of the Botanic physicians. Wilder quotes two of his statements which figure frequently in all the writings which subsequently emanated from the "Botanics": "the popular belief that every country produces simples suitable to cure all their prevailing diseases is not devoid of truth," and "there are many modes of effecting cures by equivalent remedies, but vegetable substances afford the mildest, most efficient, and most congenial to the human frame."

It would be hard to find an instance of more flagrant perversion of the views of a writer to suit the objects of the abstractor than the method pursued by Wilder to make it appear that Rafinesque wished to destroy the medical sciences of his day as represented by the works of Boerhaave, Cullen and Rush, in order that he might establish a new system solely on a botanic basis. Even the quotations which he gives from the pages in which Rafinesque sets forth his object in writing his "Medical Flora" are not compatible with this view. It must be remembered that medical treatment was at that time largely based on vegetable drugs and what Rafinesque sought was to write a medical botany adapted to the needs of the American physician and pharmacist. He makes no attempt to found a school or a system of treatment. He was an erratic genius and he frequently made rash statements but if one reads his book with an open mind it gives a most favorable impression of his honesty of purpose and even if his views as to the value of certain plants have since been proved exaggerated or wholly erroneous, they are usually in accord with the ideas prevalent in his time.

Wooster Beach (1794-1859) was the founder of the "Eclectic," or as he himself termed it the "Reformed System" of medicine in the United States. He was born at Trumbull, Conn., and received only a common school education before he became a pupil of Jacob Tidd, a German herb doctor. After Tidd's death Beach went to New York and got the degree of M.D. from a medical college.¹

In 1825 he set out on his career as an empiric, loudly proclaiming his independence of all schools of medicine and denouncing all contemporary methods of practice, except that based on vegetable remedies. In 1833 Beach published "The American Practice of Medicine," which became the textbook for the "Reformed School" as his followers called themselves. Wilder gives a list of the various crowned heads who acknowledged the receipt of complimentary copies of the book by conferring medals or decorations on the author; among them the kings of England, France and Prussia; even the Pope sent him a medal. Many foreign medical societies conferred honorary fellowships on him. Beach realized the value of publicity. For some years he published a paper devoted to the spreading of his views, which he called *The Telescope*, and later he issued another which he named the *Isbmaelite*. He was a man of strong but very peculiar religious views which he sought to spread as strenuously as he did those which he held on medical matters.

In 1829 the "Reformed Medical Society of the United States" was organized, with Dr. Beach as its first president. In 1831 the first legally recognized college of the Reformed School was opened at Worthington, Ky., a direct outcome of the Reformed Medical College of New York, which had been operated without legal sanction by Beach. In 1836 the faculty of the school began the publication of the *Western Medical Reformer*. In its columns the Thomsonian system was denounced and no efforts spared to prove that the Reformed School was entirely distinct from the Thomsonian. In 1837 the College at Worthington got into financial difficulties and the journal was abandoned. In 1840 a mob which Wilder intimates was inspired by the members of the regular medical profession attacked the college and pillaged it.

Before dealing with the Eclectic School of modern times which claims as its founder Wooster Beach we must consider a school which arose early in the nineteenth century and which at first fought bitterly with Beach and his followers, but later united with the Reformed School to form the Eclectic.

¹ I have been unable to find from what college or in what year.



FIG. 101. Dr Rafinesque. (From the painting by Jouett, in the "Wisconsin Historical Society Collection.")

Samuel Thomson¹ (1769-1843), was a native of New Hampshire. He states in his own account of his life that he was entirely self taught in medicine. From practicing in his family circle with success, he was led to practice among his neighbors. Finally he set up an office, first in Beverly, Mass., later in Boston, and seems to have acquired a large clientele. Wilder says: "He adopted the dogma of the Ionian or Greek sages, that heat, the calorific force or excitative energy, is the substance of life, and . . . that this primordial principle of life may also be its renovator and the restorer of health." Thomson stated; "that all diseases are the effect of one general cause, and can be removed by one general remedy." He used entirely botanic remedies plus vapor baths. Although illiterate and crude he seems to have made a favorable impression on some men of intelligence with whom he came in contact. Thus queer old Benjamin Waterhouse compared him with John Hunter:

Had John Hunter, whom I well knew, been born and bred where Samuel Thomson was, he would have been just such another man; and had Samuel Thomson been thrown into the same society and associations as John Hunter, he would, in my opinion, have been his equal, with probably a wider range of thought; but both are men of talent and originality of thought.

It should be recalled, however, that Waterhouse (then in his old age) had become an enthusiastic advocate of Thomson, even justifying the latter in taking out patents for remedies he claimed to have discovered. Thomson had got patents in 1813 but their legality was brought into question ten years later, and it is curious to find Samuel Latham Mitchill aiding him to procure revised ones in 1823. Thomson visited Philadelphia in 1813 and called on Rush and Barton. Wilder says that both of these gentlemen received him courteously but unfortunately both died not long afterwards without having given forth any opinion on the virtue of his remedies or system.

In 1813 Thomson obtained a patent from the United States for his "System," and at once began to advertise in the newspapers and by handbills. Soon he issued a little booklet which was given to each purchaser of the right to practice his "System." He complains that so many people infringed his patent rights that in 1823 he was obliged to take out a second patent. "Thomsonianism" spread like wildfire and became a popular fad especially in the Southern and Western States.

¹ Consult "Samuel Thomson (1769-1843), and his patented System of Medicine," by James Moores Ball, M.D., *Ann. M. Hist.*, 7: 144, 1925, for a most interesting sketch of the man and his system.

In 1822 Thomson published his "New Guide to Health, or Botanic Family Physician" and the "Narrative of His Life," both of which went through many subsequent editions.

In 1832 Dr. Thomas Hersey began the publication of a periodical *The Thomsonian Recorder*, and a national convention of delegates from the "Friendly Botanic Societies," which Thomson had organized throughout the country, was held at Columbus, Ohio. Many infirmaries were opened in all parts of the United States by Thomsonian practitioners and apparently the new sect was getting itself firmly established as many states had recognized the legal right of its followers to practice within their borders. Unfortunately for Thomson he was of a dictatorial temper, jealous of any interference in what he considered his rights as founder of the sect, and because of his own lack of education, profoundly distrustful of educated men and educational institutions, suspecting, according to Wilder, that they were "certain to complicate and transform his system." These factors led to the disruption of the Thomsonians. The last convention of the body founded by Thomson was held in 1838, after which it split into two sections which held separate conventions and hated one another bitterly. The adherents of Thomson formed themselves into the "United States Thomsonian Society." His opponents led by Alva Curtis, of Ohio, organized the "Independent Thomsonian Botanic Society." Thomson's last years were greatly embittered by controversies not only with the members of the regular medical profession but with his former followers. His own sons who practiced in their father's footsteps became numbered among his opponents. Thomson would not agree to unite with the other sects of "Botanic" and "Reformed" practitioners, and they in turn consigned his "System" to oblivion when they united to form the "Eclectic" school.

Several colleges had been founded by the "Reformed" and "Botanic" schools. That at Worthington has already been mentioned. After the destruction of its buildings the institution was reopened in Cincinnati, and chartered in 1845 as the Eclectic Medical Institute. There was already in Cincinnati the Botanico-Medical College of Ohio, chartered in 1838, which did not pass out of existence until 1880. In 1839 the Southern Botanico-Medical College was organized. In 1846 it was removed to Macon, Ga., and in 1854 became the Reformed Medical College of Georgia. Twenty years later it became the College of American Medicine and Surgery, of Atlanta, Ga., and in 1884 was merged into the Georgia College of Eclectic Medicine and Surgery. The chief periodical of the Reformed Medical Society was the *Western Medical Reformer*



FIG. 102. Dr. Samuel Thomson, aged seventy.
(From "The Thomsonian Materia Medica," 1841).

NEW
GUIDE TO HEALTH;
OR
BOTANIC FAMILY PHYSICIAN.
CONTAINING
A COMPLETE SYSTEM OF PRACTICE,
ON A PLAN ENTIRELY NEW:
WITH A DESCRIPTION OF THE VEGETABLES MADE
USE OF, AND DIRECTIONS FOR PREPARING AND
ADMINISTERING THEM, TO CURE DISEASE
TO WHICH IS PREFIXED,
A NARRATIVE
OF THE
LIFE AND MEDICAL DISCOVERIES
OF THE AUTHOR.

BY SAMUEL THOMSON.

BOSTON:

Printed for the Author, and sold by his General Agent, at
the Office of the Boston Investigator.

J. Q. ADAMS, Printer.

1835.

FIG. 103. Title page of Thomson's book, Boston, 1835.

established by Thomas Vaughan Morrow in 1836. Its columns were filled with vituperations not only of the regular medical profession but of the Thomsonians as well.

A book was written during these years which became a textbook for the "Botanics." In 1837 Morris Mattson published "The American Vegetable Practice, or a New and Improved Guide to Health." Mattson practiced in Boston and did not agree with Thomson and speaks slightly of his self-claimed discoveries in therapeutics.

One of the prominent figures in the early days of Thomsonianism was Alva Curtis (1797-1881). He was originally a school teacher and seems to have received practically no medical education. In 1835 he became editor of the *Thomsonian Recorder*. Soon after he got a charter for a university which he opened in 1839 at Columbus, Ohio, as the "Literary and Botanico-Medical Institute of Ohio." The medical department was called "The College of Physicians and Surgeons" and Wilder says it has "thus the distinction of being the Parent School of Botanic Medicine."

Curtis published several journals, the *Journal of Education*, and the *Botanico-Medical Recorder*, as well as a number of books. He was a great controversialist and continually in rows with his colleagues and with the medical profession. He was the chief factor in organizing and became the first president of the "Independent Thomsonians." In 1841 Curtis moved his Botanico-Medical College to Cincinnati. The institution underwent many subsequent changes of title. In 1851 by a new charter it was separated into the "Scientific and Literary Institute" and the "Physiopathic College" of Ohio. In 1859 the latter became the "Physio-Medical Institute."

There were many other colleges and institutes founded which enjoyed only an ephemeral existence and whose grandiloquent names are not worthy of record. Finally some of the more intelligent among the various sects saw that the only chance for their continuance lay in their uniting with one another. The leader in the movement was Thomas Cooke, a botanic physician of Philadelphia. In association with a few others he established a periodical called *The Botanic Medical Reformer and Home Physician*, with the avowed object of uniting the Botanic physicians. Cooke deliberately adopted the name "Eclectic" to designate his school and his adherents. In 1840 the "Eclectic Botanic Medical Association of Pennsylvania" was organized. As the Eclectic Medical Association it remained in existence about thirty years. The new movement was hailed with acclaim by Wooster Beach and Thomas Vaughan Morrow, but also encountered considerable opposition. It is very

curious to find the controversies and bitterness in which these so-called liberals indulged and the way they sought to thwart one another in the exercise of their various cults. Thus the Thomsonians, the Medico-Physicists, the Botanics and the Reformed Physicians, rejected the attempt of the Eclectics to hold a national convention of all the medical sects in order that they might get together to combat the tyranny of the regular profession.

The proposition for a national convention emanated from Morrow, and the leader of the opposition was Lanier Bankston, who was the founder of the Southern Botanico-Medical College of Georgia.

Morrow had organized the "Reformed Medical School of Cincinnati" in 1840, and in 1845 he got it incorporated as "The Eclectic Medical Institute of Cincinnati." In 1845 Wooster Beach joined forces with him as Professor of Clinical Surgery and Medicine in the new college. Thus was the Eclectic school of medicine formally established in the United States. The idea spread rapidly, and eclectic colleges soon grew up like mushrooms. In 1848 the American Eclectic Medical Association was organized at a convention held in Cincinnati. In the following year the title was changed to the National Eclectic Medical Association. After holding eight annual meetings the Association ceased to function until 1870 when it was revived and has continued to meet annually ever since.

It would be impossible to enumerate all the Eclectic medical colleges and societies which have come into existence and passed away in the last fifty years of the nineteenth century. A few have survived but only to sustain a severe contest with the newer fads which have arisen to take the place of the old Botanics, Medico-Physicists and Reformed practitioners.

The Eclectics according to Wilder early welcomed women to their fold. In 1848 two brothers, Samuel and George Gregory, instituted the Female Medical Education Society in Boston. Two years later it was incorporated, and in 1852, took the name of the "New England Female Medical College." In 1874 it was merged with the Boston University School of Medicine, a homeopathic institution.

The Central Medical College of New York, an Eclectic institution which was founded by S. H. Potter at Syracuse in 1849, invited Elisabeth Blackwell to come there to study after she had been rejected as a student by a member of the regular medical schools. She did not accept, having succeeded in entering the medical college at Geneva, New York.

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The following list of books, articles, etc. only lists such as have been found of value in writing this work. It is by no means a complete bibliography of American medical history. For such a bibliography the reader is referred to the magnificent "Index Catalogue of the Library of the Surgeon-General," a work which renders unnecessary any attempt at compiling another. Besides the sources of a strictly medical nature much use has been made of the proceedings or publications of various historical societies, such as those of Massachusetts and Pennsylvania, and much information has also been obtained from memoirs and biographies of persons who were not physicians, and from local histories.

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