

Keen (W. W.)

THE HISTORY
OF THE
PHILADELPHIA SCHOOL OF ANATOMY
AND
Its Relations to Medical Teaching.

A LECTURE,

DELIVERED MARCH 1, 1875, AT ITS DISSOLUTION,

BY

WILLIAM W. KEEN, M.D.,

Lecturer on Anatomy and Operative Surgery in the Philadelphia School of Anatomy.

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THE HISTORY
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RELATIONS TO MEDICAL TEACHING.

MEN and institutions alike are to be judged by two standards: first, by the work they do themselves, and secondly, by the work they train others to do, and thus prolong indefinitely their influence. Some are great in the one,—solitary students, whose organizing ability and personal influence whether by mental or by actual contact is but little developed. Others live and die, leaving but little, it is true, that men may quote or name, but leaving a precious harvest of remoter influences on even a distant mental posterity. Some few are great in both. Great teachers are apt rather to excel in their personal magnetic influence on others, and the world owes more than it will ever know to their continuing but untraced influences.

Tested by either of these rules, the “Philadelphia School of Anatomy” has accomplished a not ignoble work. Within its walls, earnest, intelligent, laborious men of science have taught, experimented, and investi-

gated, and published the results of their work in many a book and pamphlet and scientific paper, thus fulfilling the first test; while to judge it by the second, it is only necessary to point to the thousands of men who have studied and dissected here, and here begun their scientific lives, and are now spread all over the country, and in fact all over the world, doing the best of work as practitioners, teachers, writers, and original investigators.

Few schools of this sort have existed. Many, very many, dissecting-rooms and private anatomical schools have been established by individuals, to continue so long as they themselves chose to teach, and then to disappear; but this one has not been the creature of any one man. It has outlived not only its founder, but most of its earlier teachers. It has never been a chartered institution, or enjoyed the "*jura, honores et privilegia ad eum gradum pertinentia*," but it has outlasted more than one such in this city alone. In this country I know of no similar school, and the only one in Britain which has outstripped it either in age, in celebrity, or in influence was the great Windmill Street School. Founded in 1770, by William Hunter, it boasted the names of both the Hunters, of Hewson, Cruikshank, Baillie, Wilson, Brodie, Sir Charles Bell, Shaw, Mayo, and Cæsar Hawkins, and came to an end in 1833, having existed for sixty-three years, a period only exceeding that of this school by eight years.

The Philadelphia School of Anatomy was opened in the month of March, 1820, nine years before the lately-destroyed Medical Hall of the University of Pennsylvania was built, as the private anatomical school of Dr. Jason Valentine O'Brien Lawrance, under the name of the "Philadelphia Anatomical Rooms." It began at the upper end of Chant Street (then College Avenue),

on the north side, in the easternmost of the two buildings, since used by the school. About this date, besides the anatomical rooms of the University, there were several private dissecting-rooms in this city, but they were on a different basis from this. In 1818 Dr. Joseph Parrish opened one almost in the rear of Christ Church, and placed Dr. Richard Harlan in charge of it. In 1822 Dr. Thomas T. Hewson opened another over his stable in Library Street, next the present Custom House, and afterwards, in 1829, in Blackberry Alley, in the rear of his house on Walnut Street above Ninth. Dr. George McClellan had another on Sansom Street above Sixth, and a fourth existed on the west side of Eighth Street above Jayne (then Lodge Alley), but under whose care I have not been able to discover. But, so far as I can learn, all of these were, mainly at least, for the office students of their proprietors, and they were all ephemeral. Lawrance, however, who was a great favorite with the students, at their request opened his school for all who might come, and so founded a school which has existed for fifty-five years, and has educated thousands of students and scores of teachers for their work. Lawrance was born in New Orleans in 1791, and graduated at the University of Pennsylvania in 1815, after six years of study, at the age of twenty-four. He returned at once to his native city, and began the practice of medicine with his step-father, Dr. Flood. But he thirsted for the scientific advantages he had found in this city during his student-life, and at the end of three years he sacrificed all his unusually brilliant prospects at home, and came to Philadelphia in 1818, when he at once renewed his scientific labors. At that time the University (then our only medical school) closed its doors in April, and they remained unopened till November, for our present admirable summer courses were

begun only about ten years ago. To fill out this long hiatus Lawrance opened his school and gave a course on Anatomy and Surgery, which began in March, had a recess in August, and ended in November. He gave six lectures in the week, and his personal qualities, as well as the ease and perspicuity of his style as a lecturer, made his school a decided success. In the fall of the same year he became the assistant to Dr. Gibson, the Professor of Surgery in the University, and in 1822 he was also made the assistant to Dr. Horner, then Adjunct Professor of Anatomy. These positions, together with that of Surgeon to the Philadelphia Hospital, would have assured him in time a remunerative practice, but, like many another who has lived "the scientific life," he had to struggle on with but a scanty income in the earlier days of his practice, and he died, before the reward had come, a victim to his zeal and devotion. While attending the poor in the Ridge Road District, during an epidemic of typhus fever, in the summer of 1823, he who had lived among cadavera unharmed was attacked by the disease, and died in August after a short illness.*

Like most of his followers in the school, not satisfied with teaching, he was also a frequent writer, as well as active in original investigations and experiments. In 1821 the "Academy of Medicine" was formed "for the improvement of the science of medicine," and he entered into its work with alacrity. The discovery of the absorbent vessels had led to the belief that they were the only channels of absorption until Magendie had then recently re-asserted absorption by other channels, especially the veins. Dr. Chapman, then Professor of Practice and Physiology in the University, utterly rejected

* Obituary Notice, by Dr. Coates, *Philada. Jour. Med. and Phys. Sci.*, 1823, p. 171, and Eulogium by Prof. Jackson, *do.*, p. 376.

these views, and at his instance, and with his generous pecuniary assistance in the summer of 1822, Dr. Lawrence, assisted by Drs. Harlan and Coates, a committee of the Academy of Medicine, performed upwards of ninety experiments on living animals. Not satisfied with these, with Dr. Coates, in the succeeding summer, he repeated and varied them in a second series of over one hundred experiments, and he had begun also a third to determine absorption by the brain, which was only cut short by his untimely death. The results were published in Dr. Chapman's journal, "*The Philadelphia Journal of the Medical and Physical Sciences*" (iii. 273, and v. 108 and 327), and they not only verified but extended Magendie's views.

In New Orleans he had recklessly exposed himself to yellow fever in making autopsies on putrid bodies. He investigated the subject still further in the epidemic of 1820, and left the most complete record of autopsies in this disease then extant. So diligent a writer was he that he left behind him over three thousand pages of manuscript, much of it for use in a projected work on *Pathological Anatomy*, a subject then strangely neglected in America.

At Dr. Lawrence's death the school passed into the hands of Dr. John D. Godman. He was born in 1794,* in Annapolis. He began life as a printer, but at the age of fifteen he studied medicine with Dr. Davidge, Professor of Anatomy in the University of Maryland. While still a student he lectured for his preceptor for some weeks with such enthusiasm and eloquence as to gain universal applause. Soon after his graduation, in 1821, he was appointed Professor of Anatomy in the Medical College of Ohio, a recently-established institution, in which he only stayed a year. Returning to Philadelphia, he re-

* Dr. Sewall states, 1798. Dr. S. Austin Allibone, 1794.

tired from practice in 1823, when he began teaching in the anatomical school. The very first winter he had a class of seventy students. As was the custom for many years afterwards, he gave three courses a year, viz. : the autumn course, twice a week from September to November; the winter, four times a week from November to March; and the spring, twice a day (with a view to graduation) from March 1 to April 1; the remainder of the year being a vacation in teaching, but devoted to work. The fee for each course was ten dollars, the same as at present, though but two annual courses are now delivered, from October till March and April till October, with a recess in July and August.

Dr. Godman's style as a lecturer was characterized by simplicity of language, directness of statement, and fertility of illustration. His lecture-table was peculiar in its construction, being arranged with ratchets and screws, so that the whole subject, or any part of it, could be lifted or lowered at will. Another peculiarity, also, in which he prided himself, was his invariable habit of dissecting before the class while he lectured, no previous dissection, however incomplete, having been made,—a method which was only practicable to such an expert dissector as he, and before the introduction of the chloride of zinc which hardens the tissues so much, but which would again be possible if chloral be used. Dissecting wounds were then frequent. During his first winter several of his class suffered; his janitor, from a scratch on his thumb nearly lost his life, and Dr. Godman himself was poisoned three times, once so severely that his arm was useless for some weeks. All the means then in use, salt and saltpetre, corrosive sublimate, pyroligneous acid, etc., were poor preservatives, for he speaks of repeatedly "dissecting bodies in various states of putrefaction," and he made

the great improvement of using whisky—an impure form of alcohol—for injection. Since that time chloride of zinc (which was introduced in this city, in 1846, by Professor Ellerslie Wallace, then Demonstrator of Anatomy in the Jefferson Medical College), alcohol, and more lately chloral (which I was the first to use eighteen months ago*), have banished dissecting wounds proper, and in an experience as student and teacher of fifteen years, in intimate acquaintance with several thousand students, I have never known a single instance of such a wound.

About 1824 he established, in connection with the school, a reading-room and library, supplied with textbooks and journals, and not long after, he desired to enlarge the sphere of the school by additional associated lecturers. Accordingly, he invited Dr. R. E. Griffiths (afterwards of the University of Virginia) to lecture on Practice and Materia Medica, and Dr. Isaac Hays on Surgery and the Eye, he himself lecturing on Anatomy and Surgery,—a scheme which was, however, frustrated by his removal. Dr. Hays was appointed to deliver the introductory, an unfinished production still lying in the drawer of the accomplished editor of the "*American Journal of the Medical Sciences.*" In 1826 his widely-spread fame had attracted attention to him so prominently that he was called from College Avenue to the chair of Anatomy in Rutgers Medical College, recently established in New York City, and it was no slight compliment that he should be thus selected as a member of the faculty in a school which had to struggle for existence in the midst of bitter rivalries with far older institutions. Unfortunately, his health broke down in the midst of his second course, and, after vainly traveling in search of health, he

* See my paper in the "*Philadelphia Medical Times,*" March 21, 1874.

settled in Germantown, where he died in 1830, in the serene hope of a blissful immortality. The closing scenes in his life were so remarkable for Christian faith, that his *Memoir*, by Prof. Sewall, has been published by the American Tract Society, and is also appended to Newman Hall's narrative of the death of Dr. William Gordon.

Dr. Godman's early education had been very defective; but by his industry he mastered Latin, Greek, French, German, Danish, Italian, and Spanish, and, as Robert Walsh remarks, "he finally became one of the most accomplished general scholars and linguists, acute and erudite naturalists, ready, pleasing, and instructive lecturers and writers of his country and era." He was ever ready with his pen, as well as his scalpel. In 1825 he became one of the editors of the "*Philadelphia Journal of the Medical and Physical Sciences*." In 1827, largely through his influence, the profession in New York agreed to support this journal if it dropped its local name, and from this sprang our representative quarterly, "*The American Journal of the Medical Sciences*." Among the extensive works he planned, while in College Avenue, none saw the light save the "*Natural History of American Quadrupeds*," in three volumes. His laborious and ardent pursuit of knowledge is well shown by the fact that, in investigating the habits of the shrew mole he walked many hundred miles. He edited also the "*Journal of Foreign Medical Science and Literature*," and Sir Astley Cooper on *Dislocations and Fractures*. He translated from the Latin, in 1824, Scarpa on the Bones. He published two books, "*Anatomical Investigations, comprehending Descriptions of the Various Fasciæ of the Human Body, the Discovery of the Manner in which the Pericardium is formed from the Superficial Fascia, the Capsular Ligament of the Shoulder-Joint from the Brachial Fascia, and*

the Capsular Ligament of the Hip-Joint from the Fascia Lata, etc." (Phila., 1824), and "Contributions to Physiological and Pathological Anatomy" (Philada., 1825), and papers on "The Propriety of Explaining the Actions of the Animal Economy by the Assistance of the Physical Sciences" (Phila. Jl., iii. 46), "On the Doctrine of Sympathy as Based on Anatomy" (do., vi. 337), "On Arterial and other Irregularities" (do., xii. 201) and other papers on the Fasciæ (do., vi. 261, and viii. 87). Before he published his alleged discoveries as to the Fasciæ, he invited the anatomists and surgeons of the city to a demonstration by actual dissection before them.

When Dr. Godman went to Rutgers College, in 1826, he was succeeded by Dr. James Webster. He retained the school for four years, until, in 1830, he was called to the chair of Anatomy in the Geneva Medical College. Though not so polished and industrious as Godman, he was a good teacher and an excellent anatomist. He was thoroughly devoted to the interests of his class, and at one time, when there was greater difficulty than usual in getting subjects,—a chronic ailment of dissecting-rooms,—he sat up night after night, watching that neither the University nor any private room should obtain them till he was supplied, and he gained his point. His literary labors while here were limited to editing the "American Medical Recorder," from 1827 to 1829, when it also merged into the "American Journal of the Medical Sciences," and, I believe, also another rather pugilistic journal, which, however, was short lived.

This brings us down to living persons; and my account must now deal rather with narrative than criticism. After Dr. Webster left, the rooms were vacant for a year,—the only hiatus in their history.

In 1831, three years after his graduation from the Uni-

versity, Dr. Joseph Pancoast re-opened the rooms, and in the seven years he lectured here he laid the foundation for his subsequent brilliant career both as anatomist and surgeon. He gave the usual three annual courses which Godman had established. No other lectures were given in the building during his administration. In 1838 he was elected Professor of Anatomy in the Jefferson Medical College, in which position his fame has not been limited even by the wide bounds of the Republic. His pen also was not idle during these years. In his opening year he translated Lobstein on the Sympathetic Nerve, from the Latin; later, he published Manec on the Sympathetic and on the Cerebro-Spinal System in Man, edited Quain's Anatomical Plates in quarto, and fitly closed his career in the Avenue by preparing a new edition of Horner's Anatomy, in two volumes.

On the promotion of Dr. Pancoast to the Jefferson, in 1838, Dr. Justus Dunott succeeded him, and lectured about three years, when Dr. Joshua M. Allen became his associate. Up to 1839 the Philadelphia Anatomical Rooms consisted solely of the east building, the other being a store-house. Now, the two buildings become sometimes rival schools, but for the most part united under one head. In 1838 Dr. James McClintock fitted up a dissecting-room at the south-east corner of Eighth and Walnut Streets, and called it the "Philadelphia School of Anatomy." In the spring of 1839, his next-door neighbor, the late Hon. William M. Meredith, vigorously remonstrated with him on account of the stench from his rooms, the cause being a lion's carcass, of which it could not be said, as of Samson's lion, "Out of the *strong* cometh forth sweetness." Dr. McClintock then rented and fitted up the western building, threw the second and third stories together as the lecture-room, in which we are

now assembled, but very different from its present arrangement, which was made by Allen at a later date. The lecturer stood at the south, or Chant Street, end, and under the rising seats slept the janitor and his family, the first floor, afterwards the Museum, and now the dead-room, serving for parlor, dining-room, and kitchen. Moreover, at the Chant Street end, both in the second and third stories, was a small room, so that the lecture-room was much smaller than it is at present. Dr. McClintock gathered here a very large class by his brilliant demonstrations, until, in 1841, he was elected Professor of Anatomy in the Vermont Academy of Medicine (afterwards Castleton Medical College), and also in the Berkshire Medical Institution, Pittsfield, Massachusetts. Dunott and Allen (who had been McClintock's student and demonstrator) then occupied both buildings, under the name of the Philadelphia School of Anatomy. Soon after this (precisely when I have been unable to discover), Dr. Allen was left in sole charge, and from this date until 1852 he conducted a most successful school. While he was lacking in scholarship and cultivation, he insisted strenuously on neat dissection, and was clear and practical as a teacher, and many men still recall his instruction with great vividness and pleasure. While here, he published his *Dissector's Manual*. One incident demands notice as an innovation up to that time unheard of. On a hot July day, about 1843 or '44, one of our distinguished physiologists informs me, being himself then a student here, he entered the room adjoining the lecture-room, and was surprised to see in that place a bonnet and pair of gloves, and in a moment to hear the rustling of a lady's dress. Not that the presence of females was so rare in the school, but they scarcely needed so elaborate a toilet. Peering cautiously into the

lecture-room, as he then well might, he saw a lady at work at the table dissecting a negro subject. She afterwards dissected in the room above with the ordinary medical classes. "It was probably," says her sister, "the first time that a woman had dissected as a medical student." She had read with the late Prof. S. H. Dickson, of the Jefferson, then in Charleston, South Carolina, was residing in the family of Dr. William Elder, afterwards studied and graduated in medicine at Geneva, and is now practising her profession successfully in the city of New York. Two ladies have dissected here (privately, however) under my own supervision, one, Frau Hirschfeldt, who is now practising dentistry with great success in Berlin; the other, a young lady who desired to perfect herself as an anatomical artist, and who made many of my drawings. In the last two winter sessions, also, very many ladies were members of my classes in Artistic Anatomy, and were greatly interested in the dissection of the muscles.

In 1842 Dr. William R. Grant, who had been Demonstrator of Anatomy at the Jefferson, held the western building for a year, when, on his becoming Professor of Anatomy and Physiology in the Pennsylvania College, he relinquished it to Dr. McClintock, and from 1843 to 1847 the two buildings were again under separate control, the eastern being occupied by Allen, the western by McClintock. In 1844 Dr. McClintock enlarged the school, having lectures on Practice by Dr. James X. McCloskey, and on *Materia Medica* by Dr. Jackson Van Stavern. With more mature plans, in the spring of 1847 he secured the charter of the Philadelphia Medical College, and during that summer their lectures were given partly in this building, partly in the School of Pharmacy, then in Filbert Street above Seventh. Its Faculty consisted of

Dr. McClintock, on Anatomy, Physiology, and Surgery; Jesse R. Burden, on *Materia Medica*; Thomas D. Mitchell, afterwards of the Jefferson, on Practice and Obstetrics; and William H. Allen, now President of Girard College, on Chemistry. In the fall of 1847 the Philadelphia College removed to Fifth Street below Walnut, and both the buildings again came under Dr. Allen's control until 1852, when he was elected Professor of Anatomy in the Pennsylvania Medical College.

A name familiar to all present then follows,—Dr. D. Hayes Agnew. He assumed the responsibilities of the school in 1852, and held it for ten years. During this period, beginning with but nine students, such was the prosperity of the school that he threw the small room in the third story into the lecture-room, to accommodate the crowds of students who gathered almost nightly to hear his lucid demonstrations. I well remember many a dyspeptic supper hastily swallowed that I might be early in attendance and so secure a good seat, and much of my own success is due to his example and training. Dr. Agnew also altered the second story of the eastern building for his Operative Surgery courses, in which his classes were large. While teaching here he published his "*Dissector's Manual*," his lecture on the career of Baron Larrey, a valuable and prolonged series of papers in the "*Medical and Surgical Reporter*," on Anatomy in its Relations to Medicine and Surgery, and prepared a work on the Fasciæ of the human body, which, however, he never published.

Although not a part of the proper history of the Philadelphia School of Anatomy, yet, as connected with the teaching done in the Avenue, it gives me pleasure to allude to the successful school established on the opposite side of the street by Dr. William S. Forbes. In 1856, while

Dr. Agnew was teaching, Dr. Forbes opened his school, which was designed largely to give facilities for dissection to the students of the dental colleges, in one of which he was Professor of Anatomy. He continued to teach for twelve years, a period longer than any other teacher in the Avenue.

In 1862 Dr. Agnew relinquished the anatomical department to Dr. James E. Garretson, who had been his Demonstrator for five years. Dr. Agnew retained the course in Operative Surgery for a year, when he became Demonstrator of Anatomy, and afterwards Professor of Surgery in the University. He was succeeded in the department of Operative Surgery from 1864-67 by Dr. J. M. Boisnot. After two years of successful teaching of Anatomy Dr. Garretson withdrew, on his election to the chair of Surgery in the Philadelphia Dental College. During his connection with the school, though he published nothing, his pen was not idle, for he has since given us his large work on "Oral Surgery," and who does not know the genial and philosophic "John Darby"?

In the summer of 1865 Dr. James P. Andrews, now of Lancaster County, assumed the duties of lecturer, but his health failing, he was succeeded in the fall by Dr. R. S. Sutton. After a year's teaching, Dr. Sutton removed to Pittsburg, and on October 22, 1866, I gave the first lecture of my life to a class of seven students, of whom two were "capita mortua." With the present lecture, after nine years of unceasing labor, my connection with the school, and the school itself, ceases, since the property will be occupied by the new Post-office, and science will yield to at least one form of literature.

It ill becomes one to speak of himself, but I may perhaps be permitted to state the following facts: I have lectured here longer than any of my predecessors, Allen

and Agnew only excepted ; I have given nine winter and five summer courses on Descriptive and Surgical Anatomy, three summer courses on Clinical or Surface Anatomy, two courses on Artistic Anatomy, and thirteen courses on Operative Surgery, besides private courses to numerous individual students and graduates. I have had nearly fifteen hundred students, of whom at least five are already professors in medical colleges, and one has opened the first dissecting-room ever established in Japan. They have come from the District of Columbia, and every State in the Union, except New Mexico and Nebraska, and from fourteen foreign countries, as follows : Canada, Nova Scotia, Prince Edward's Island, New Brunswick, Cuba, Porto Rico, Mexico, Costa Rica, Nicaragua, Denmark, Norway, Prussia, Switzerland, and England.

From 1866 to 1870 I occupied only the western building, Dr. Richardson having the lower story of the other for his Quiz Class, and Dr. H. Lenox Hodge, from 1868 to 1870, the upper story for his courses in Operative Surgery, but in order to accommodate my increasing classes I was obliged, in 1870, to obtain the use of both buildings, and later still further to enlarge the lecture-room by placing the gallery over my head, while many, even then, were unable to obtain seats. During this time, also, I have published a series of Clinical Charts of the Human Body, a sketch of the Early History of Practical Anatomy, and a pamphlet on the Anatomical, Pathological, and Surgical Uses of Chloral (which I deem my most important contribution to practical anatomy).* I have edited, also, Flower's Diagrams of the Nerves, and Heath's Practical Anatomy, and have published anatomi-

* At the close of the lecture, a subject injected six weeks before with one-quarter of a pound of chloral in six pints of water was shown, and its advantages fully illustrated.

cal and surgical papers on a new diagnostic sign of Fracture of the Fibula, on the Anatomy of the Optic Chiasm (with Dr. William Thomson), on the Ossification of the Atlas Vertebra, on a case of Asymmetry of the Skull, on a Malformation of the Brain, on the Physiology of the Inferior Laryngeal Nerves and the Intercostal Muscles, in a case of judicial hanging, and numerous other general medical articles, besides gathering the materials for several other papers and perhaps more extended publications.

But no history of this school would be complete did it not include a fitting notice of the teachers who have been associated with it. It has held a peculiar relation to medical teaching in this city, and a very large part of its usefulness has consisted in the fact that it has afforded a field in which any eager aspirant for medical honors might enter without much risk as a "free lance." Medical teaching on other subjects is rarely directly remunerative. The expenses of rooms properly cared for, and of the means of illustration, so far outstrip the income, especially at the outset, when the lecturer is unknown, that few can afford the pecuniary risk of failure, and those few scarcely ever care to try. But a successful anatomist, since his classes are large, can readily meet the expenses of such a school, and thus afford to furnish accommodations for private teachers at a moderate sum, which is often merely nominal. It has always, therefore, been my own policy to encourage all such private teaching by charging a sum barely sufficient to cover my expenses, feeling that thereby I gave generous aid to the cause of medical teaching and to the teacher himself, and yet indirectly benefitted myself by making the school by so much the more a medical centre. Moreover, if one began and succeeded, he made a reputation, and the rewards that are sure to follow faithful and successful teach-

ing came in due time ; while if he failed here, he was but little the loser whether in pocket or in fame. But if one tries his "prentice hand" as an official "Lecturer" in one of our medical schools and publicly fails, it damages him almost beyond recovery. In this way the Philadelphia School of Anatomy has been a fertile foster-mother of youthful teachers, of whom many are now among the brightest ornaments of our profession.

It has always been the habit in the medical profession, as in the legal, for the student to enter the office of a preceptor, formerly as an "articled pupil," more recently as an "office student," and by the payment of an annual sum—for many years one hundred dollars—he obtained more or less instruction according to his preceptor's ability, zeal, and conscientiousness. The more distinguished men gathered many such pupils, and when the labor of personal instruction became too onerous, they associated others with them in the duties of office instruction. Gradually the habit of lecturing grew up among them, and thus arose the numerous associations for medical instruction by lectures and by a daily "Quiz," which have been so prominent and have done such good work in our Philadelphia medical teaching.

Dr. Nathaniel Chapman, so far as I can learn, was the first in this city thus to enlarge the facilities for his office-students. In 1817 he associated with himself Dr. Horner (on Anatomy), and they occupied a room over his stable (a rather favorite place, it would seem, for anatomists), in the rear of his house, on the south side of Walnut Street, the second door below Eighth. In 1819-20 Dr. Dewees joined them, and soon after, Drs. Hodge, Bell, Jackson, J. K. Mitchell, and for some time Dr. T. P. Harris. This afterwards became the "Medical Institute," obtained a charter, and erected a building in

Locust Street above Eleventh, afterwards occupied, from 1846 to 1848, by the "Franklin Medical College."

In 1818 Dr. Joseph Parrish began a similar association with Dr. George B. Wood, and afterwards also Drs. Richard Harlan and Shoemaker. From this, in 1830, arose the "Philadelphia Association for Medical Instruction," consisting of Drs. Parrish, Wood, Samuel George Morton, John Rhea Barton, and Franklin Bache, who were joined at various times by Jacob Randolph, W. W. Gerhard, Joseph Pancoast, and William Rush. For six years the association continued its labors; but, then, as some grew in years and practice, and others were absorbed by the colleges, it was dissolved. The "School of Medicine" was a third similar organization formed about the same time, in which were Drs. William Gibson, Jacob Randolph, B. H. Coates, René La Roche, John Hopkinson, and Charles D. Meigs. Meigs and Bache held a peculiar relation, for Bache, of the "Philadelphia Association," admitted the students of the "School of Medicine" to his lectures on Chemistry, and Meigs, of the rival school, in return, admitted the students of both to his lectures on Obstetrics. Nearly all of those I have named became professors in the University or the Jefferson, and of them all, alas, only George B. Wood, Joseph Pancoast, and B. H. Coates survive!

In 1842, while Dr. Joshua M. Allen was at the head of the Philadelphia School of Anatomy, the second "Philadelphia Association for Medical Instruction," generally known as the "Summer Association," was formed, for the purpose of giving lectures during the long recess in the colleges from March to November. It consisted, originally, of Drs. John F. Meigs, on Obstetrics; Joshua M. Wallace (the brother of Prof. Eilerslie Wallace), on Surgery; Robert Bridges, on Chemistry; Francis Gurney

Smith, Jr., on Physiology; and Joshua M. Allen, on Anatomy. The lectures were given in the eastern building till about 1847, when they changed to the western one, and in 1854 to Butler's Avenue, in the rear of the Jefferson Medical College. Here they continued till 1860, when they disbanded. In 1845, when Dr. Meigs began to lecture on Diseases of Children, Dr. D. H. Tucker followed on Obstetrics, and, in 1850, on his removal to the Richmond Medical College, as Professor of Obstetrics, he was followed by Dr. William V. Keating. At Dr. J. M. Wallace's death, the surgical lectureship was filled by the appointment of Dr. J. H. B. McClellan in 1851, Dr. Addinell Hewson in 1853, and Dr. John H. Brinton in 1860. Dr. Bridges, though elected to the College of Pharmacy meantime, retained his lectureship on Chemistry from 1842 to 1860,—the only constituent member of the Association who remained to its close. In Anatomy, when Dr. Allen became Professor of Anatomy in the Pennsylvania College, in 1852, Dr. Ellerslie Wallace, then also Demonstrator of Anatomy, and since Professor of Obstetrics, in the Jefferson, became his successor. Dr. F. G. Smith continued to lecture on Physiology till 1852, when he was elected to the Professorship of Physiology in the Pennsylvania College, and was succeeded by Dr. S. Weir Mitchell till 1860. The first lecturer on Practice was Dr. Alfred Stillé, who joined the Association in 1844, and resigned in 1850, on account of ill health. In 1854 he became Professor of Practice in Pennsylvania College, and now fills so admirably the same chair in the University. He was succeeded by Dr. John F. Meigs from 1850 to 1854, and he, again, in 1855, by Dr. Moreton Stillé, the brother of Alfred Stillé, and already widely known as the joint author of "Wharton & Stillé's Medical Jurisprudence." A career of great

prominence was then suddenly cut short by a sad accident. A decomposing subject left in the lecture-room from Friday till Monday, in July, so poisoned the air that Stillé and several of the class were made faint and sick. Stillé lectured as long as he could, but finally was compelled to yield, went home, and, after a brief illness, died from pyæmia. The next year the place was filled by Dr. J. M. Da Costa, now Professor of Practice at the Jefferson. Dr. Francis West—who will forget his fine face and courtly manners?—lectured on *Materia Medica* from 1844 till the last year, when Dr. James Darrach succeeded him. On Diseases of Children Dr. John F. Meigs was the only lecturer from 1840 to 1850, and on Medical Jurisprudence, Dr. Edward Hartshorne from 1847 to 1849.

Besides their duties in the association, several of the members gave also independent courses. Thus Dr. Brinton gave private courses on Operative Surgery, and lectured on general surgical subjects from 1853 to 1861, and laid the foundation for his later reputation, both as Clinical Surgeon to the Philadelphia Hospital and Lecturer on Operative Surgery in the Jefferson. He occupied the third story or garret of the eastern building, a room which was destroyed when a new and flat roof was put on the building, about 1864. Many a night did I dissect there as a student till midnight, with no companions save the cadavera and the hungriest of rats. They were scarcely afraid of the living, much less of the dead. When Dr. Mitchell was experimenting here on his snakes, wishing sometimes to work till late into the night, and his stock of candles being low, he would only light a frugal stump when an observation had to be made and recorded. In the intervals of darkness the rats would swarm all over the room and the tables, and scarcely scamper away when weird-ly lighted up by the great bowl of his meerschaum.

So hungry were they that on one occasion, when one of my fellow-office-students fell into an alcoholic sleep on the table, mistaking him for a cadaver (for Dr. Brinton always used alcohol for preserving his subjects), they gnawed through his boots, and only awakened him when they had made slight progress on his toes.

While at work here Dr. Brinton repeated Suchet's experiments on tanning muscles after injecting gelatine, discovered the method of preserving fresh preparations by applying gutta-percha dissolved in benzole, dissected over one hundred sterna for his paper on Dislocations of the Sternum, and discovered the valve in the right spermatic vein, one of the few discoveries recorded in macroscopic human anatomy of late years.

Dr. Da Costa also gave private courses on Physical Diagnosis from 1854 to 1863. Such was his reputation when I attended them, a year before their close, that he was compelled to refuse many anxious applicants, lest the classes should become unwieldy for that method of personal instruction, and such his diligence that here were begun the numerous observations for his unrivaled later work on Diagnosis. Here, also, most of the actual laboratory and experimental work was done for papers on the Pathology of Acute Pneumonia, the Effects of Respiration on the size and the position of the Heart, on Blowing Sounds in the Pulmonary Artery, on the Morbid Anatomy and Symptoms of Cancer of the Pancreas, and on Serous Apoplexy. At the same time, also, he translated Kölliker's *Microscopical Anatomy* from the German.

The front room on the lower floor, and afterwards that in the second story, were occupied by Dr. S. Weir Mitchell as his Physiological Laboratory. Besides his lectures on Physiology in the association, from 1853 to 1860, he gave, in 1856, the first purely experimental

course on Physiology in the city, and also made in these rooms nearly all of his extremely important physiological experiments and discoveries. Here (for sentimental philo-canism was not yet a feminine fashion), dogs, cats, pigeons, goats, guinea-pigs, turtles, rabbits, ducks, geese, mice, rats, and last, but not least, sundry snakes, copper-heads, moccasins, and rattle-snakes were his familiars within, while gaping crowds of swarming children with eyes and ears intent were only too familiar without. Beginning in 1853, his first important paper was the joint work of Dr. William A. Hammond and himself on Corroval and Vao. Then followed his unexpected and valuable discovery of Saccharine or Diabetic Cataract. From 1857 to 1861 he was engaged more or less continuously on his well-known work on Snakes and Snake-venom,—a work which, after a series of years, the English observers have taken up in India with the result of confirming and extending, but in no important particular of reversing his own conclusions. Among them the most brilliant was his discovery of the corroding action of the venom on the blood-vessels. In 1860 and 1861 I was his assistant, and again in 1867 and 1868 in renewed experiments on the same subject. Many are the amusing stories that could be told of such somewhat perilous work; of the rude and insecure boxes in which they were received, sometimes a section from the hollow trunk of a tree battened at each end, with scanty nails; of the suddenly-discovered escape of a snake or two on more than one occasion,—a discovery none the less disquieting from the fact that no antidote had as yet been among the scientific harvest; or of the janitor who, one night, when locking up, being slightly mystified by sundry potatoes, and treading on a headless snake who rattled vigorously and struck him with his stump, ran to a brick pile near by,

and, filling his arms with the bats, let fly at random into the dark room (he had more than St. Patrick's aversion to snakes), and bottles, crucibles, costly thermometers, and two weeks of carefully prepared results were in the morrow's woeful count of cost. Many were the assistants who came, and, not liking the work, quietly disappeared; one of them, however, rather hurriedly, for he sat down all unconscious upon a lighted cigar, and leaning rudely against the snake-box started them to rattling just as the cigar burned through, when, leaping up in affright, he ran away, crying, "I'm bitten! I'm bitten!" and was seen no more. On another occasion, just as the snake was about to strike him, a dog tore himself loose and went flying out Chant Street, dragging a long chain behind, while the experimenters, with their long black gowns flying all abroad, rushed after him in the vain hope of a successful chase. It so happened that they were just raising the statue of Franklin into place in front of the Franklin Market, now the Mercantile Library, and among the lookers on, leaning against the church, was one of Penn's most placid followers. The swaying chain coiled itself like another snake around the leg of the unsuspecting observer, and arrested the dog's rapid flight to the detriment of his friend's centre of gravity. But the sight of his pursuers lending vigor to his struggles, with a yelp and a tug he rasped the cuticle off his groaning victim and flew up Tenth Street. Two weeks afterwards the physiologist and the canine encountered each other on the street. The recognition was mutual, and, as the dog darted away, his owner remarked to a friend alongside, "He's gone on werry queer since he got back!" The speedy disposition of so many uninjected animals in summer, when the work was mainly done, presented many serious obstacles, until, at last, during the régime of one

ingenious assistant (who generally superintended such matters), nothing was heard of them either in the way of trouble or expense. On inquiry, a true stroke of genius was discovered. The baggage trains of the Pennsylvania Railroad used to go out Market Street at night, and he simply tied them by a rope to the tail of the train. Those dogs never needed sepulture.

It can now be easily understood how not so much even as a chip has ever been stolen from me with such occupants in the building, both dead and alive, although the inhabitants of Chant Street, when I first began, consisted largely, as Bret Harte has described them, of "blazing ruins," and though the door has often gone unlocked and the cellar was almost always accessible. Even a former office-boy (of African extraction) could never be induced to put foot inside the building, alleging that "he'd heerd of their layin' for colored boys before now!"

After finishing his investigations on serpents, Dr. Mitchell experimented largely on Woorara, and published a paper on the results. In 1862-63 he investigated the Chelonia, and found that their respiration was mammalian in type, and not batrachian, and, with Dr. George R. Morehouse, he discovered the extraordinary chiasm in their inferior laryngeal nerves, the only chiasm known, save the optic. In 1867-68 he investigated especially the effects of extreme cold on the nerves and nerve-centres, and in 1869 his extended experiments on the cerebellum were made, when he preserved a pigeon without any cerebellum for the before-unexampled period of nine months.

No more brilliant corps of teachers, perhaps, has ever been gathered in this city than this old "Summer Association." Tucker became Professor of Obstetrics first in Franklin College, and then in Richmond; Keating went

to the Jefferson; Bridges to the Franklin College and the College of Pharmacy; Allen, as Professor of Anatomy, to the Pennsylvania College; Eilerslie Wallace, first as Demonstrator of Anatomy, and then Professor of Obstetrics, to the Jefferson; Francis Gurney Smith, to the chair of Physiology in the Pennsylvania College, and then the University of Pennsylvania; Alfred Stillé, to that of Practice in Pennsylvania College, and then to the University; Da Costa, to the chair of Practice in the Jefferson; Mitchell here formed that habit of exact scientific observation and sagacious deduction which has given him a reputation on two continents, while Meigs, McClellan, Hewson, Brinton, Darrach, and Hartshorne have all become well-known hospital teachers and practitioners. As writers, too, during this period, few men have been busier. Besides the books and papers I have already noted among the direct results of their labors here, I mention the following. Dr. Tucker wrote his *Principles and Practice of Midwifery*. Dr. Alfred Stillé published a part of his lectures under the title of *Elements of General Pathology*, while the lectures on Practice most carefully and "elaborately written out have formed the foundation of all those upon the same subject which he has since delivered." He also published his "*Medical Institutions of the United States*" and his "*Report on Medical Literature*," and with Dr. Meigs translated Andral's "*Pathological Hæmatology*." Dr. John F. Meigs published his lectures on the *Diseases of Children*, the well-thumbed book of multitudes of practitioners, now grown to be a most portly volume. Dr. F. G. Smith translated Barth & Roget's *Manual of Auscultation and Percussion*, and edited Carpenter's various physiological works, Kirkes & Paget's *Physiology*, and Churchill on *Obstetrics*. Dr. Keating edited Ramsbotham's *Obstetrics*, and Churchill on *Children*;

Dr. Bridges edited Fowne's Chemistry, and Graham's Chemistry; Dr. Hewson edited Mackenzie on the Eye, and Wilde on the Ear, and all of them wrote numerous papers, reviews, etc., and practiced medicine into the bargain! Truly they were busy men.

In 1855, during Dr. Agnew's administration, another association was started, which, like the one just named, was called after an older one, already noticed, the "Pennsylvania Academy of Medicine." It consisted of Drs. W. W. Gerhard, Henry H. Smith, D. Hayes Agnew, Bernard Henry, R. A. F. Penrose, and Mr. Edward Parrish, the son of Dr. Joseph Parrish, who lectured on Practical Pharmacy, and the next year they were joined also by Dr. Edward Shippen. For two years they continued as an association of lecturers, then Drs. Gerhard, Agnew, Penrose, and Mr. Parrish went on as a Quiz association for a year, when they disbanded. Dr. Agnew went on with his usual courses in the School of Anatomy, and Dr. Penrose continued to lecture here on Obstetrics until called to the University in 1863. They were equally fortunate in promotion with the members of the other association, for four of the seven went to the University as professors: Gerhard on Clinical Medicine, Henry H. Smith and Agnew as Professors of Surgery, and Penrose of Obstetrics. Mr. Parrish, in an Introductory to the course of 1857, "On Summer Medical Teaching in Philadelphia," has given the only brief sketch of the Philadelphia School of Anatomy and some of the associations and teachers I have noticed, that has ever appeared.

Besides these distinct associations for lecturing, numerous other independent experimenters and lecturers have availed themselves of the facilities it afforded, scanty as they have often been, for their work. Before my own day I have been able to learn the names of only a few;

but these are of interest. In 1849 Dr. Brown-Séquard gave his first lecture in America in this room to Dr. Francis Gurney Smith's class in physiology in the "Summer Association." It was on the Physiology of the Nervous System; and during the lecture, with that extraordinary manual dexterity for which he is noted, he cut the anterior and posterior roots of the spinal nerves in some frogs, and demonstrated the cross-sensibility of the spinal marrow by sections of its lateral halves in the guinea-pig. This was followed by a course to the physicians of the city. His next course was given in the Franklin Institute. About this time, also, Dr. John Hastings of the Navy gave some lectures on yellow fever, apropos of the then-existing epidemic, based on his personal observations during the Mexican War. In 1859, Dr. S. W. Gross, while one of Dr. Agnew's demonstrators, gave courses on Operative Surgery and Surgical Anatomy, and again in 1866-67. In 1860, and for some time afterwards, Dr. John W. Lodge gave courses in Experimental Physiology in the summer, and on Urinary Pathology in the winter. In Obstetrics, Dr. J. M. Corse also lectured here. In 1864-67 Dr. J. M. Boisnot, and also, in 1865-66, Dr. J. Bernard Brinton, each gave courses in Operative Surgery.

Since I have had charge of the school, Dr. Isaac Ott has experimented on cocaine and other poisons, and Dr. H. C. Wood, Jr., on the physiological action of the alkaloids of *veratrum viride*, until my landlord complained of the barking dogs with such energy that I was fearful of summary ejection. I well remember, too, among other odors, the persistent, and it seemed almost imperishable, smell from a seal which Dr. Harrison Allen dissected here some years ago. Besides these, the following regular courses of lectures have been given here,—on Obstetrics, Dr. F. H. Getchell and W. F. Jenks; on the Microscope,

Dr. James Tyson ; on Operative Surgery, Dr. Hodge gave independent courses, from 1868 to 1870, in the eastern building ; on Bandaging and Fractures, Drs. J. Ewing Mears and O. H. Allis ; on Physical Diagnosis, Drs. John S. Parry, O. P. Rex, Stanley Smith, and Hamilton Osgood ; on Venereal Diseases, Dr. William G. Porter ; on Ophthalmology, Drs. George C. Harlan, George Strawbridge, and W. W. McClure ; and on Laryngoscopy, Dr. J. Solis Cohen. For a number of years, also, the Naval Examining Board examined all their candidates for admission and promotion here. Of the various quiz associations I have been able to learn but little beyond my personal knowledge. That which followed the Academy of Medicine I have already named. In 1837, Dr. E. G. Davis quizzed on all the branches himself, as I learn from an old circular, as also, at first, was Dr. D. D. Richardson's habit. Dr. Richardson's quiz lasted from 1860 to 1871, and in the last few years he was assisted by Drs. Boisnot, Cohen, and Witmer. He had as many as eighty pupils. From 1866-68, I quizzed with Drs. Duer, Dungleison, and Maury ; 1868-69, with Drs. Warder, McArthur, Leaman, and Mears ; and from 1869 to 1872 with Drs. Hutchins, Allis, Rex, Getchell, Leffman, and Loughlin. This winter Drs. Wilson, West, Greene, and Osgood occupied this room. From 1869 to 1871, also, the eastern building was occupied by the quiz of Drs. Willard, Curtin, Cheston, Jenks, Wilson, and Githens.

Of these numerous medical men many have already attained distinction ; the rest deserve it, and with years no doubt will win it.

The Janitors deserve a passing word. They have been mostly apostolic in name (as well as somewhat over-obedient to the apostolic injunction to Timothy), for two Johns and two Jameses have occupied the post for some

forty years of its history. One, whom most of the older graduates will remember, was here for about twenty-five years. Crabbed and cross, yet a favorite withal, versed in all subject-lore beyond his fellows, he was only once baffled. When the two buildings were rivals and subjects unusually scarce, a fresh cadaver was stolen from this building at night and conveyed across the roof to the other. Being too closely guarded for another Stygian journey back, and the offense not being indictable at law, even he was foiled. He alternated from being a whisky-barrel in the morning to a barrel of whisky in the evening, and it was always supposed that he died of spontaneous combustion, like old Krooks in "Bleak House," till I learned lately that he stuck to his colors to the last, and died from drinking the alcohol from specimens.

Such, in brief, is the history of this now somewhat venerable school, and of the many teachers associated with it.* I can count eighty-five teachers who have won their spurs in its lecture-rooms, formed here their habits of thought, style of lecturing, methods of scientific research, and gained their early fame as writers and teachers, so that twenty-seven have become professors in sixteen medical colleges, here and elsewhere, and fifty-one hospital and clinical physicians, surgeons, obstetricians, etc., of distinction. Thirty-two books have been written or edited, eleven pamphlets, and not less than thirty papers of value have been published by its various teachers. Its Assistant Demonstrators are too numerous for me even to mention. Its students I cannot trace. Most of them are personally unknown to me. But this I know, that, spread all over the world, doing faithfully

* Mr. F. Gutekunst, 712 Arch Street, has photographed the building for any who may desire to obtain such a memento.

their daily work, in relieving the suffering, soothing the dying, helping the poor, assuaging the pestilence that walketh in darkness, improving the public health, advancing the domain of pure and applied science, teaching earnestly its results to thousands of eager students, who, in turn, will swell their noble ranks, promoting in general the moral and material welfare of mankind, some in lofty, some in lowly station, they will confess that here they first developed their scientific tastes and aspirations ; here they were taught to look beyond the lower to the highest and noblest aims of our profession ; here they first caught the inspiration that has made them what they are ; and that they will think kindly of the dear old school and its faithful teachers, and it may be even drop a tear of regret when they learn that the Philadelphia School of Anatomy is only a thing of the vanished past.

