Giants of medicine in pioneer Kentucky : a study of influences for greatness / [William Allen Pusey].

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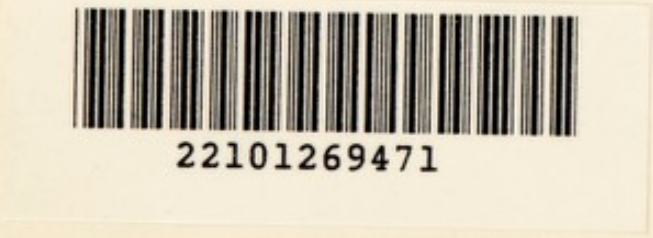
WM. ALLEN PUSEY



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By

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GIANTS OF MEDICINE IN PIONEER KENTUCKY

A Study of Influences for Greatness

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Chicago

The early history of medicine in Kentucky is signalized by a group of great physicians. They are not unsung Miltons, for they have been sung a great deal in the last fifty years. Nor were they simply great, considering their surroundings, a group of faithful and unselfish physicians doing the traditional service of the country doctor. They were notable for brilliant achievements, and were in their day eminent leaders of the medical profession in their own right. Some of them are among the famous names in medicine—McDowell, Brashear, Drake, Dudley. Two of these, McDowell and Drake, are among the large figures in the whole history of medicine. Ephraim McDowell was the first successful surgeon of the great cavities of the body, a field of surgery that had not before been successfully entered. Daniel Drake was the world's first and ablest student and recorder in modern times of geographical pathology—to use a phrase that Dr. D. J. Davis gave me; of physiography in relation to disease.

The production of two such men in medicine or in any field in a century would be an achievement for a State. Yet they were contemporaries in pioneer Kentucky when the population hardly passed a quarter of a million people. Try to name the ten Americans of greatest achievements in medicine who have been dead long enough to be seen in proper perspective, and whom would you select? Beaumont—also a product of pioneer conditions—McDowell, Drake, the demonstrator of the practical application of anesthesia (you can take your pick between Wells, Morton and Long), Walter Reed. Who would be the others? There would be little agreement: John Morgan, Benjamin Rush, Philip Physick, Nathan Smith, John C. Warren, Jacob Bigelow, Valentine Mott, Marion Simms, Samuel D. Gross, John S. Billings, Austin Flint, S. Weir Mitchell, William C. Gorgas. These are men of high rank, but they belong in a lesser group, in a group with Dudley and some of the other Kentuckians. But no great fields of medicine trace their beginnings to them, as they do to Beaumont, McDowell and Drake.

The appearance of McDowell and Drake (and of Beaumont also) on the frontier of the United States in the first third of the 19th century is an amazing phenomenon. The development at that time of a profession in Kentucky that was able to produce men like Brashear and McCreery and the Transylvania group, and to develop an institution like Transylvania Medical School, was almost as remarkable. How did it come about? One is inclined to rush to that interesting topic at once. But let us delay and consider first the institution and some of the men themselves.

TRANSYLVANIA UNIVERSITY

The Kentucky pioneers were not long in showing their realization of the importance of higher education. In 1780 the State of Virginia placed 8,000 acres of land in the hands of 13 trustees "for the purposes of a public school or seminary of learning." (Peter 2)* This was only four years after the first settlements of a few log huts had been made, and while the Kentuckians were in the midst of their dangers from the surrounding Indians.

In 1783 Virginia added 12,000 acres more of land to the endowment of this "public school," which was now given the name Transylvania Seminary, and endowed with "all the privileges, powers and immunities of any college or university" in the State of Virginia. (Peter 3)

In 1793 the Transylvania Land Company gave land at Lexington for the location of the Seminary.

In 1798 the trustees obtained a charter from the State of Kentucky for Transylvania University, and in 1799 the University was established.

With its establishment a medical school was provided for, and two medical teachers were elected, Dr. Samuel Brown and Dr. Frederick Ridgely. Wonder of wonders, they were made salaried teachers. Dr. Brown was authorized to buy books and other means of instruction to the amount of $500. (Peter 5/6) (About five times that much now). At the same time $600 was provided for the law department. Later entries show that fifty pounds, and still later two hundred seventy-eight pounds, were appropriated for the library.

As early as 1784 John Todd of Virginia had "presented to the seminary a library and philosophical apparatus for the encour-

* For Bibliography and abbreviations see end of this paper.

agement of science in the institution," (Transylvania College, Bulletin XI, 3, 38), and private subscription furnished the sum necessary for the transportation of this gift to Kentucky.

In 1816, $1,000 was appropriated for the purchase of chemical apparatus.

In 1821 Professor Charles Caldwell went to Paris to buy books for the medical library, and he carried with him $17,000 which the citizens of Lexington had raised for the purchase of them.

In 1839 the citizens of Lexington built the handsome Medical Hall. (Peter 55)

Again in 1839, $11,000 was provided for the purchase in Europe of books and apparatus for the medical school by Dr. J. M. Bush and Dr. Robert Peter.

In 1823, Col. James Morrison left the Institution $70,000 for an endowment. (History of Kentucky, Thomas D. Clarke, 1937. p-329)

As a result of these efforts to equip Transylvania, President Robert Davidson could fairly say, in 1840, that the medical department had "costly and complete apparatus superior to any in the Valley of the Mississippi, and not surpassed, if equalled. by any on the continent." (Peter 157)

I have enumerated these items in the material history of Transylvania in order to emphasize the spirit of its promoters. Transylvania University is, I believe, the best commentary on the spirit, the enlightenment and the prosperity of early Kentucky. It received what in those days was generous support from the State and from individuals. The raising of $28,000 for books, for example, from private citizens was, in that time, a large amount. I emphasize in this connection the properity of these people, for prosperity is essential for the thriving of culture, and Kentucky quickly acquired that prosperity.

Evidently Transylvania was not simply a gesture of appreciation of education; it was a serious effort of an intelligent community for the promotion of culture by men who knew culture and the efforts necessary for its attainment. Their aim was not an elementary school, but a University—a center of culture. Their enlightenment is shown by the faculty they gathered. They were able to gather teachers from all over the land, from Massachusetts and Rhode Island, from Virginia and the Carolinas—scholars that gave the institution a wide recogni-

tion. They had the academic, the law and the medical faculties, and all of them gave a good account of themselves. Their alumni included men of note in their fields, and many of them in their day were leaders in Kentucky and in the nation.

Transylvania University may fairly trace back to 1780, when the State of Virginia donated 8,000 acres of land for a "public school or seminary of learning," but it was only in 1798 that divergent interests—theological interests—were reconciled and the University began its career as Transylvania University under a State charter. In 1819 Transylvania's great period began with the installation as President of Rev. Horace Holley of Boston, a Unitarian minister and an overseer of Harvard College, of whom Edward Everett said in a letter of introduction to Sir Walter Scott: "As a philosopher, a scholar, and a gentleman he has no superior in America." (Peter 46) 4

Its medical department began with Dr. Samuel Brown and Dr. Frederick Ridgely, in 1799, but had an interrupted existence. Brown soon left for the South, but Ridgely continued to teach private students, and that he gave good instruction is shown by such physicians as Brashear and Dudley, who were among his students.

The revival of the school really began in the winter of 1815/6, when Dudley, recently home from Europe, gave, on invitation, a course of lectures on anatomy and surgery to a group of twenty-five students. In 1816/7 he lectured again to sixty students. During these two years Dr. James Overton and Rev. Dr. James Blythe (on chemistry and natural science) also lectured. (Peter 29/31) And in 1816 the Trustees of Transylvania appropriated $1,000 for purchasing chemical apparatus.

In 1817 the medical faculty was enlarged to include Drs. Dudley, Overton, Blythe, Drake, Wm. H. Richardson, and Dr. Samuel Brown who was recalled from Mississippi; Dr. Charles Caldwell was brought from the University of Pennsylvania to join the faculty in 1819. When Horace Holley became President of the University it had a medical faculty which was hardly excelled in the country. Apparatus for teaching was bought and the University showed its scholarly ideals by purchasing a great medical library. The medical department grew rapidly in influence and number of students. From 1819 to 1833 it had a total of 2810 students, a little more than 200 yearly, and it

graduated 699. (Peter 55) The total number of students during the whole period of its existence Peter estimates was 6456, and its graduates 1851. Basing the comparison on the statement of Garrison (History of Medicine, fourth edition, page 761), during many years Transylvania was the largest or second largest medical school in the country.

Let me indicate the quality of the medical faculty at Transylvania by sketching briefly a few of its members:

FREDERICK RIDGELY, educated in the University of Pennsylvania, surgeon through the Revolutionary War, surgeon-general of Gen. Anthony Wayne's army in the successful conquest of the North-west in 1794; preceptor of Brashear and Dudley.

SAMUEL BROWN, a son of a distinguished Virginia family, a graduate of Carlisle College, Pennsylvania, a student of Dr. Alexander Humphreys of Virginia, a graduate of Edinburgh. Brown was said to have "birth, education, family influence, personal appearance, manners," all in his favor.

CHARLES CALDWELL, called from the faculty of the University of Pennsylvania through the influence of Drake, a brilliant writer and teacher and medical leader in his time. His monument is the Transylvania medical library which he selected in Paris in 1821, and which, with the addition of the books purchased by Bush in 1839, remains today one of the best collections of medical books of that time, and of the medical classics of the 16th, 17th and 18th centuries in this country. It still contains 18,000 volumes.

JOHN ESTEN COOKE, called from Virginia to Transylvania in 1827, founder of "The Transylvania Journal of Medicine and the Associated Sciences," 1828; author of the famous "Treatise on Pathology and Therapeutics," a leader in medicine for thirty years.

ELISHA BARTLETT, graduate in medicine of Brown University in 1826, student in Paris, called to Transylvania in 1841 where he taught for eight years, after 1852 distinguished professor of medicine in the College of Physicians and Surgeons, New York.

JAMES M. BUSH, graduate of Transylvania, Dudley's pupil and successor in surgery at Transylvania. After Dudley the greatest operator for stone of his day, with a record of 210 lithoplaxies with 4 deaths, and 97 lithotomies with 2 deaths. (Barkley 122)

And these are only a few of them. Other able men in the group were Constantine Samuel Rafinesque, John Eberle, Wm. H. Richardson, Thomas D. Mitchell, Charles Wilkin Short, Lunsford P. Yandell, Robert Peter, Nathan R. Smith; they were men of education and achievement, brought from all over the country, men of light and leading.

Transylvania was the center of general and medical culture in the state at that time, and it is an index of the high standard which medicine attained. That is my reason for sketching the history of the institution in this paper. But when we consider the men of greatest achievement in Kentucky, we find on the faculty of Transylvania only Dudley and Drake. McDowell was not in Transylvania, nor were some of the others of great ability; and one cannot get an appreciation of the state of surgery without reference to a few of them.

One of these was WALTER BRASHEAR, who, in 1806, at Bardstown, Kentucky, did the first successful amputation at the hip-joint in the history of medicine. Baron Larrey and others had attempted the operation before, but Brashear was the first surgeon to carry a patient through the bloody valley of death of that operation and have him live—live in fact a long life. This was eighteen years before the famous repetition of the same operation by Valentine Mott. In 1799, seven years before his hip-joint operation, we find Brashear a ship surgeon in Chinese waters, where he did what is said to be the first removal of a breast in that part of the Orient. The operation was for carcinoma in the wife of a Chinese dignitary, and according to tradition, perhaps fiction, the operation was done under the nerve wracking conditions of a large reward if the patient recovered; execution if she died. Brashear attended the academic department of Transylvania, was a pupil of Ridgely, and attended the medical school of the University of Pennsylvania. He was later United States Senator from Louisiana.

Less well known was CHARLES MCCREERY of Hartford. He, like McDowell, was a Scotch-Irishman from a family which had many eminent members. He did not have a medical degree, but was trained under an able preceptor. In 1813 he removed an entire scrofulous clavicle at Hartford. The "patient made a complete recovery with perfect use of the arm and lived past middle life." (Kelly 734) This was fifteen years before Valentine

Mott's incomplete removal of the clavicle, which was so famous a case.

Surgery in Kentucky, as represented by Brashear and McCreery and McDowell, seems indeed at this time to have been leading New York surgery by about fifteen years as it was represented by its most famous exponent, Valentine Mott.

It is of some interest to note that the first major surgery in Kentucky was not confined to McDowell. Brashear did his amputation at the hip-joint three years before McDowell's ovariotomy, and McCreery his excision of the clavicle four years after.

We now come to the three giants who especially gave renown to Kentucky pioneer medicine; McDowell, Drake and Dudley, to list them in chronological order. But let me disregard chronology and consider Dudley first.

BANJAMIN WINSLOW DUDLEY

Dudley made no great original contributions to surgery, but his name became a part of American medical history because he was a great teacher, a superb exponent of surgery, and the greatest lithotomist of his day. Born in Virginia in 1785—the same year as Drake—his family came to central Kentucky when he was a year old, and thereafter, except during his period of training, he lived out his life in or near Lexington. He came of a family of standing. His father was a Baptist minister—ministers, doctors and teachers have always seemed to me to produce more than their share of notable descendants—and was a respected and influential man. While Dudley had to depend in part upon his own efforts for an education, he was able to enjoy the opportunities that Lexington afforded. At fifteen he became the pupil of Dr. Ridgely, and during four years with Ridgely he spent part of his time in general education at Transylvania. Then, in 1804, he went to the University of Pennsylvania, and graduated in 1806.

In 1810 his ambition called him to Europe. I like to dwell upon the resourcefulness of Dudley in attaining his ambition; I know no episode more illuminating of a young man's mettle than the manner in which he solved his problem. During the four years after his graduation he was striving to accumulate the money for further medical education. He made part of it in medical practice and part in trading. He then utilized his ability

as a trader to get the funds for education in Europe. (Parenthetically, there is evidence that he later never had any commercial interest, but was completely absorbed in medicine.) The Peninsular campaign was raging in Spain, and foodstuffs were in great demand. Dudley bought a flat boat and a load of provisions, "sundries"—chiefly bacon and lard, I have always understood—and floated his cargo to New Orleans. At New Orleans he exchanged his boat and goods for a cargo of flour, and sailed for Gibraltar. He disposed of this cargo at Gibraltar and Lisbon; and found himself with sufficient funds to provide comfortably for him in Europe for four and a half years!

He spent almost three years in Paris and then went to London for another year. After London he spent half a year in travelling on the Continent, and returned to Lexington in 1814. In Paris he was a student of Baron Larrey, Dupuytren and the other brilliant men there. In the London hospitals he followed especially Abernethy and Sir Astley Cooper, both of whom greatly impressed him.

Thus Dudley had a long European training. It is said that he returned from abroad French in manners but in practice English; at any rate he returned thoroughly acquainted with French and English surgery. Dudley seems to have been singularly fortunate either in having good introductions or in being able to make associations for himself, for he had unusual opportunities both in Paris and London. Through the good offices of Caulaincourt, one of Napoleon's ministers, he and John Howard Paine were present in the Chamber of Deputies on the momentous occasion when Napoleon announced the annihilation of the Grand Army of the Empire in the Russian campaign. He attained such a standing in England that he returned to America a fellow of the Royal College of Surgeons.

In spite of his cosmopolitan experience, New York or Philadelphia did not offer him more attractions than central Kentucky. He reached Lexington in 1814, and, as we have seen, almost immediately began to teach. Thereafter, and until 1850, he was a dominant influence and the greatest teacher in Transylvania Medical Department. For the first ten years his reputation and practice rapidly grew, and after McDowell's retirement in 1825, there was no one to contest his place at the head of surgery in the West or South, and few to contest it in the country.

Dudley's most original contribution to medicine was his demonstration that certain cases of epilepsy are due to pressure of old unrecognized skull fractures (the Jacksonian epilepsy of a later date) and were relievable by operation. This he did by trapanning in five cases, with three known successes and two in which the end result he could not trace. A report of them was made in 1828, only under the urging of his colleagues, for, like McDowell, he did not like to write, (Mumford 270) and this work gave him wide recognition. But his great renown came from his work in lithotomy. He had a record of 225 lithotomies with but three deaths, the first 100 cases without a death. (Barkley 79/80) He was the greatest expert of his day in that field, not excepting Physick, and his fame in it has remained. Mumford said of him, where the context compares him with John C. Warren and Valentine Mott:

"Though less known to foreign readers than the other eminent surgeons of whom we have heard, and though leaving behind him a name less enduring in our surgical literature, his power and his immediate personal influence were spread over a wider region than were those of all his distinguished American contemporaries combined. * * *

"He was not only a great operating surgeon, but a great teacher." (Mumford 263)

DANIEL DRAKE

Drake's claims to one of the highest places in American medicine lie in his Principal Diseases of the Interior Valley of North America. His career without it would have made him one of America's notables; the Diseases of the Interior Valley made him a world figure.

Drake, like Abraham Lincoln, another Kentuckian whom he resembled in many respects, came from the less favored class in Kentucky—the class we whiningly call now the underprivileged. He was born in New Jersey in 1785, and in 1788, when he was two and a half years old, his parents brought him to Kentucky. They came down the Ohio River, the more dangerous of the two routes from the East at that time, and until after the battle of Fallen Timbers, in 1794, removed the danger of Indians from the Ohio. They left their flatboat at the "mouth of Limestone," later Maysville, the chief point of entry then to immi-

grants coming by the Ohio, and settled at Mayslick, twelve miles from the Ohio, a few months before Cincinnati and Marieta were founded, the first settlements north of the Ohio. Their home was on the very fringe of the Kentucky frontier and Drake in childhood saw more of the earliest pioneer life than any other of our group.

In his Pioneer Life he speaks of the family's living conditions as follows:

> "For the next six years (after their arrival, W.A.P.) my father continued to reside at the same place, in the same original log cabin, which in due course of time acquired a roof, a puncheon floor below and a clapboard roof above, a small square window without glass, and a chimney, carried up with 'cats and clay' to the height of the ridge-pole. These 'cats and clay' were pieces of small poles, well imbedded in mortar. The rifle, indispensable both for hunting and defense, lay on two pegs driven into one of the logs; the axe and scythe—no Jerseyman emigrated without these implements—were kept at night under the bed as weapons of defense, in case the Indians should make an attack. In the morning the first duty was to ascend, by a ladder which always stood leaning behind the door, to the loft, and look out through the cracks for Indians, lest they might have planted themselves near the door, to rush in when the strong cross-bar should be removed, and the heavy latch raised from its resting place." (Drake, Memoirs, 20)

Drake described the condition of his family as one of abject poverty, but he has given a delightful account of the family life in these early days, one that suggests the wholesome happiness that Burns describes in "A Cotter's Saturday Night." The living conditions were probably no worse than those in the beginning of any settlers who came to Kentucky before 1790; certainly no worse than those of innumerable fine, but penniless, families who were struggling to make a place for themselves in this new country. His father was a practical man of intelligence and capacity, ambitious, at least for his son Daniel. That the family did not remain in abject poverty is indicated by the fact that it was early planned that Daniel should study medicine. And when he went to Dr. Gorforth in Cincinnati, to carry out that plan,

his father was able to pay Dr. Goforth $400 for his four years preceptorship. Also five years later, when Daniel wanted to go to Philadelphia to finish his education with a formal degree, his father was able to help him in this. The poverty-stricken pioneer family could assume no such burden.

Drake's home for several years was on the main road from the Ohio to central Kentucky, and he has given a description of the numbers and quality of emigrants that passed along that, the great road to Kentucky, after 1794, when he was a boy.

"Although the country was so newly settled, at the period under review, our locality presented strange people, and novel and curious sights, almost every day. The emigration into Kentucky was at that period immense, and nearly the whole passed through Mayslick. Great quantities of merchandise, moreover, were hauled into the interior. My uncle Abraham, who lived only across the road from father's, kept both a store and a tavern at which many persons stopped; and I saw aspects of things and people, which I should not have seen had we lived off the road, and the sight of which was no doubt intellectually beneficial. It was during this period that I first tasted wine. Some travelers from Virginia had brought it out, and the taste seems still to dwell upon my tongue. Many of the travelers were wealthy; and as the roads did not well admit of carriages, they journeyed on horseback. Thus I often saw ladies and gentlemen riding side by side." (Drake 32-3)

Mayslick was not Lexington or Danville, with their good opportunities for education, and Drake's education, until he was fifteen years old, was gotten from the short schooling that the community afforded. He has outlined his early eductation in these words:

"I had learned to spell all the words in Dilworth, and a good portion of those in Noah Webster, Jr., whose spelling book then seemed to me a greater marvel than does his quarto dictionary, now lying before me. As a reader, I was equal to any, in what I regarded as the highest perfection, a loud and tuneless voice. In chirography I was so-so, in geography obscure, and in history o———! In arithmetic, as far as the double rule of three, practice, tare and tret, interest, and even fractions in decimals. My greatest acquirement, that of which I was rather proud, was some knowledge of surveying, acquired from Love (I mean the name of the author, as well as my taste), but which I have long

since forgotten. Of grammar I knew nothing, and, unfortunately, there was no one, within my reach, to teach it." (Mansfield 38-9)

It was a crude education as he outlined it, but his surveying indicates that in mathematics it went at least to plain geometry. And yet in Drake it produced a man of scholarship and learning with a polish in speaking and writing that is one of the best examples of good literary style that American medicine has to offer. He, like Lincoln and Ben Franklin, demonstrated that the uses of adversity may be sweet when utilized by genius. In Drake's case, too, it may literally be said from his love of nature and his studied capacity for observation, that he found sermons in stones and books in the running brooks. The explanation of Drake's career is that he was nothing less than a genius.

Drake remained an apprentice under Dr. Goforth for four years, making pills, compounding medicine, looking after Dr. Goforth's business affairs; but with all these things, seeing patients all of the time and becoming familiar with the illnesses and injuries and the method of handling them. After four years Dr. Goforth issued him a unique diploma. It was engrossed, and set forth:

"I do certify that Mr. Daniel Drake has pursued under my direction, for four Years, the Study of Physic, Surgery, and Midwifry. From his good Abilities and marked attention to the Prosecution of his Studies, I am fully convinced, that he is well qualified to practice in these Branches.

"Cincinnati, State of Ohio, August 1st, 1805.

"(Signed) Wm. G. Goforth, Surgeon General,
"First Division Ohio Militia."
(The title was a rather empty one, W. A. P.)
(Juettner 24)

That was the first diploma in medicine issued west of the Alleghanies. Of this "diploma" Drake said, "I cherish it as a memorial of olden times, and still more, as the tribute of a heart so generous as to set aside the dictates of judgment on the qualifications of the stripling to whom it was spontaneously given. By its authority I practiced medicine for the next eleven years." (Mansfield 66)

Goforth was an important man in Cincinnati, and in his office

Drake came to know the personage of the community, many of whom, like William Henry Harrison, were destined to become national figures. That they were a part of his education Drake testifies. But they were more than that, they spread his reputation, and many years before he graduated in Philadelphia he had gained a large practice.

Drake's intellectual energy was marvelous. It touched every aspect of his time and places. He was a ferment, always suggesting ideas and subjects that were original, and often far in advance of the thinking of his day. He was resolute and active in urging his new ideas. He was, in a word, a man who led; he engendered antagonism in those who did not like to go fast, but he had the awkward ability to carry the public with him.

Of his place in Cincinnati, Dr. Otto Juettner, a native of Cincinnati, in his entertaining biography of Drake, says:

"The most liberal of all her benefactors, the most brilliant of her gifted sons, the one really great man she has produced, was, without condition or reserve, the young man who, in 1807, took his place among her people and worked for the greater honor and glory of Cincinnati, as no one has ever done before him or after."

(Juettner 25)

Drake, indeed, can well be said to have been, in his public relations, the Ben Franklin of Cincinnati, or the Jacob Bigelow or John C. Warren.

All of his life Drake was writing. Two of his best books were produced in his early period, Notices Concerning Cincinnati, Topography, Climate and Diseases, published in 1810, the forerunner of his great work nearly forty years later, and his Picture of Cincinnati, published in 1815. These established his reputation both in America and abroad. By the time of his graduation he was a marked man, and in 1817 he was invited by Dudley to join the faculty of Transylvania University. From that time he was engaged in medical teaching in Lexington, Cincinnati or Louisville.

His great work, Principal Diseases of the Interior Valley of North America, was projected in 1822, but did not appear until 1850, two years before his death. He had given, after 1835, his summers and all the other time he could find to travel in search of his facts. On the occasion when Dr. Alfred Stille presented

his report upon Drake's book to the American Medical Association in 1850, and upon the occasion of Drake's return from Louisville to Cincinnati to teach in 1849, he received the two most remarkable ovations that I am familiar with in the history of American medicine. In spite of the enemies he is said to have made, these two ovations indicated the position which at that time he held in American medicine, and the warmth of admiration and affection in which he was held.

Indeed the warmth of admiration and affection for Drake among his admirers is one of the striking features of his history. None of Drake's friends or intimates, or those who have studied him carefully, has been able to write about him without seeming extravagance. I find myself in the same situation. In studying him I have gotten a warmth of feeling that makes me want to indulge in superlatives. I think, therefore, the best thing for me to do in describing him further is to use the words of two who have written about him and speak with authority.

Garrison, in his History of Medicine, has given the best summary of Drake:

"The greatest physician of the West, and one of the most picturesque figures in American medicine, was Daniel Drake (1785-1852), who was the first after Hippocrates and Sydenham to do much for medical geography, and has a unique position of his own in relation to the topography of disease. * * * Drake was also founder of the Western Journal of the Medical and Physical Sciences (1827-38), the most important medical periodical of the West in its time. It contains his celebrated essays on Medical Education, which were reprinted in 1832, and are, far and away, the most important contributions ever made to the subject in this country. They are written in a style which, for clarity and beauty is, even today, a perfect model of what such writing should be. In 1841, Drake published one of the first accounts in literature on the local disorder known as 'the trembles' or milk sickness. * * * his crowning achievement was the great work on the Diseases of the Interior Valley of North America (1850-54), the result of thirty years' labor, based largely upon personal observation made during extensive travel. There was nothing like this book in literature, unless it might be Hippocrates on Airs, Waters and Places, and even Hippocrates made no attempt to map out or triangulate the geographic locale of diseases."

"Two of his earlier pamphlets are among the rarest of medical Americana. The first, a pamphlet on the Climate and Diseases of Cincinnati (1810), was the germ of the greater work; the second, his Narrative of the Rise and Fall of the Medical College of Ohio (1822), is one of the choicest bits of medical humor in existence."

John S. Billings, who certainly was not of a temperament to be taken off his feet, and who knew medical literature as few have known it, a conservative who weighed his words, said of him:

"Our most valuable contribution to the natural history of malarial disease is the treatise of Dr. Daniel Drake, on the Principal Diseases of the Interior Valley of North America. This work is the 'Magnum Opus,' of a man whose fame, as compared with that of his contemporaries, will probably be greater a century hence than it is today, and whose name, even now, should be among the first on the list of the illustrious dead of the medical profession of the United States." (Billings 312-4)

Our own J. Christian Bay, Librarian of the Crerar Library, says of his "Discourses" (reminiscences published just before Drake's death): "Drake's little 'Discourses' are among the most illuminating documents of cultural history in America." (Bay 15)

Both Billings and Garrison refer to the clarity and beauty of the style of Drake's medical writings, Garrison also to his humor, and Bay refers to his culture. To get an idea of Drake's style in lighter writing one should read his "Pioneer Life," the letters to his children. It is full of passages like this, taken almost at random:

"Even while before my class (he says), engaged in delivering an extemporaneous lecture on pleurisy, they (his contemplated memoirs, W. A. P.) still hovered around; and as soon as I left the university, began to gambol before me as friskily as a troop of fairies in the nectary of a blue violet. I then saw that I had no recourse but to drown them in ink, and lay them out on paper to dry, like butterflies in the cabinet of the entomologist. This I have now undertaken to do: but as drowned fairies are not so fair as the living, nor dead butterflies so beautiful as those which are swarming in the beams of the summer sun, so, I am

quite sure, you will find my delineations very far inferior to the images which memory has recalled into existence." (Drake 19)

It is interesting to speculate how men like Drake or Benjamin Franklin or Abraham Lincoln, with such meagre youthful opportunities, could have acquired a style in writing like each of them had. Of course the essential thing was the man himself. The style is the man, polished as far as he can do it. And in the case of these three men, they all seem to have hit upon the most effective way of polishing their style. Drake has enumerated the Bible and a few other good books that were available in his home, and he, like Franklin and Lincoln, used the good models he could find for improving his own style.

There is one book of Drake's of which not much is said, but of which I want to speak. That is his Pioneer Life in Kentucky, from which I have just quoted. It was not published until eighteen years after his death. It and his Picture of Cincinnati are the most important of Drake's publications outside of medicine. It is in the form of letters to his children. In delicacy of feeling, in humor and lightness of touch, in appreciation of the worth-while things of life, I know no more delightful volume. Some of his vivid descriptions of scenery in the Kentucky of his boyhood are as beautiful as anything that James Lane Allen ever wrote on the same subject. It is the best book on pioneer times and pioneer domestic life in Kentucky that I know. It shows, also, the nobility of Drake's character, his sensitiveness to the beauty of things of the spirit, his love of nature and his native capacity for observation and reflection which subsequently became so remarkable.

There is need for a new life of Drake; the old ones are long out of print. Some one should write it who has imagination and sympathy, but who can hold himself in check better than I can.

EPHRAIM MCDOWELL

The feat that gave Ephraim McDowell immortality and stamped his name as the greatest in American surgical history was not only the first successful performance of ovariotomy, but also the demonstration by the repeated performances of that operation that it was feasible. It was the beginning of the surgery of the closed cavities of the body.

Ephraim McDowell was born in Virginia in 1771. The family was Scotch-Irish, i.e., Scotch in the north of Ireland; they belonged to the gentry and could claim a coat of arms; they were prosperous, respected and influential. The father, Samuel McDowell, was a man of education and active in public affairs. He was an officer in the Colonial and Revolutionary wars and rose to the rank of colonel and commanded a regiment in the Revolution. He was repeatedly a member of the Virginia Assembly. In 1782 he was appointed by the Virginia Assembly a Commissioner to settle land claims in Kentucky. In the following year, when the district of Kentucky was formed, he moved to Kentucky with his family and thereafter played an important part in the State. He was president of the Convention that framed the Constitution of Kentucky in 1792. (Sch. 5)

Ephraim McDowell was twelve years old when the family moved to Kentucky, which was, it may be noted, in the early pioneer days. During his youth in Kentucky McDowell had the best advantages the district afforded for an elementary education (which were not so bad), and when he was eighteen he was sent, to become a medical student under Dr. Alexander Humphreys at Staunton, Va. Samuel Brown, another of the leaders in early medicine in Kentucky, was under the preceptorship of Dr. Humphreys at the same time. After two, or perhaps three years study under Humphreys, McDowell went, without loss of time, to Edinburgh.

He was in Edinburgh in the early winter of 1792, and remained there certainly until the end of the 1793-4 session, and probably until the spring of 1795. There is nothing in the records to indicate anything extraordinary in his Edinburgh career, but one significant fact is that he had the independence and courage to act upon his judgment that he could spend his time better with John Bell as a private student than in the formal university course. Apparently he became a private student of Bell immediately after he got to Edinburgh, and through his life McDowell regarded Bell as his master. There were five other Americans in Edinburgh at the same time, all of whom became well known in American medicine in later life, especially the distinguished David Hosack of Columbia College, New York.

McDowell, as a student of Bell's and in the University, was thrown with a group of men who became distinguished, notably

John Bell's younger brother, the immortal Charles Bell, who was like McDowell in his affection and admiration for his brother John. Not the least of the evidences of John Bell's greatness was the admiration and intense devotion which he inspired in both McDowell and his brother Charles.

There has been much effort made to show that McDowell graduated in Edinburgh, but it is altogether probable that he did not. It was common in those days not to graduate, and a diploma was of no consequence in McDowell's career. It might have been later of interest to Edinburgh.

McDowell evidently got a great sentimental reaction from Scotland. The Scotch spirit was in his blood. The vigorous intellectual society there was to his liking. The chief personal interest he seems to have had in his success in ovariotomy was that it would please his old master Bell. His love of the country is shown by the walking trips he took during vacations in Scotland. Later on, when success had come to him, his sentiment for Scotland persisted, and when he was able to indulge himself in a country estate, he named it Cambuskenneth, after the Scotch district he remembered with affection.

A letter from McDowell's father suggests that it was something of a burden to send him to Edinburgh but the conduct of his life during this absence was such as would indicate that he was not particularly hampered for necessary funds. McDowell was, therefore, an illustration of the fruition of a great character under favorable circumstances. He had uninterrupted opportunity without the necessity of supporting himself.

Immediately upon his return from Edinburgh, McDowell settled in Danville, which remained during his life one of the best places in the State. At thirty he married a daughter of Gov. Isaac Shelby, the first Governor of the State, and then one of its affluent and its most important citizen.

Personally McDowell was evidently a man among men, and with his unusual preparation he soon attained a dominant position in medicine in Kentucky and the South. He drew patients from all accessible parts of the Southwest. When James K. Polk, the future president, was eighteen years old he was brought from his home in Tennessee to be operated on for stone by McDowell. In another of McDowell's famous cases he went to Nashville and operated on Mrs. Overton. His first ovariotomy

patient, Mrs. Jane Todd Crawford, came over the hills and through the forest from Greensburg, sixty miles away, a longer and immeasurably harder journey than from Greenburgh to Chicago or New York now.

McDowell did all of the surgery of the times. He preceded Dudley as a famous lithotomist, and is known to have operated for stone successfully thirty-two times. It is a pleasant evidence of the agreeable relations between McDowell and Dudley that he gave his lithotomy instruments used in operating on Polk to Dudley. (Barkley 40) He was much interested in surgery of hernia, and operated repeatedly for strangulated hernia.

McDowell did his first ovariotomy in December 1809. (*) It was, therefore, after fourteen years of full experience in surgery. When he laid before Mrs. Crawford the "experiment" of trying to remove her ovarian tumor he knew what the operation involved and the responsibility he was facing. He was no rash tyro, rushing in where an experienced surgeon would not have dared to go. He realized the magnitude of the operation. He knew intimately the surgical problem and its difficulties; he knew the possibilities and the risks of the operation in the conditions under which he practiced and with his surgical capacity. And the record is clear, not only that he recognized the responsibilities of the operation he was undertaking, but made them clear to the patient. He and the patient and her family went into the operation with their eyes open.

McDowell was fortunate beyond words in his patient. A person of less intelligence could not have comprehended the situation as she did, and one without her unflinching courage would not have pursued her course.

One cannot overestimate the responsibilities that McDowell assumed in the case. He was not only taking the moral responsibility of doing an operation which had not been done, and whose consideration even was denounced as murderous, but he was assuming all of the social and personal responsibility that came from the unique situation. He was not operating on a human guinea pig, as his detractors in substance intimated in represent-

* To fix the medical period, 1809 was a year before Jacob Bigelow persuaded Boston to found the Massachusetts General Hospital.

ing the patient as a slave. The Crawfords were a family of position, and she was a highly respected woman.*

It is not true that a mob was waiting when McDowell operated, to hang him if she died, but it is true there was strong professional and social feeling against his course, and that had Mrs. Crawford died he would have had to face social and professional consequences that only the independent in a righteous cause would face. McDowell had to be confident in his skill, wise and resolute to the point where he counted no costs to himself, to dare what he attempted.

One can hardly imagine a more dramatic picture than the conference between McDowell and Mrs. Crawford. It was in December 1809. In order to grasp more clearly the time and the location, it was in the year that Lincoln was born, and little more than thirty miles from his birthplace. It was in a rough country but one that had been settled for twenty years. Her home was a comfortable house, probably built of logs, in the hills of Green River. There in a large room with primitive comforts, where there must have been a blazing log fire to overcome the December cold, they had their momentous conference. The grave but kindly surgeon laid the case before her. There was but one alternative to certain death after an agonizing illness; the alternative was operation. The operation had never been performed, it was an "experiment," but he thought it was practicable, and the possibilities of success enough to justify the attempt. He was willing to make the attempt. The stricken woman heard him through; he inspired her confidence. McDowell's report indicates that she weighed the possibilities of the situation, and then quietly told him that she chose the operation.

* The Crawford home was in the "aristocratic" district of Green County, in a neighborhood made up of relatively rich people. The site of the Crawford home, which I visited in 1937, is occupied by what was once a handsome brick residence of a familiar type of Colonial Georgian architecture that was brought by the well-to-do from Virginia. The brick was laid in Flemish bond pattern, the window sills and door sills are cut stone. The openings for ventilation into the basement are covered with screens of closely set wrought iron bars. The interior wood-work is hand carved and of good design. The house indicates taste and refinement and that its builder was not cramped by considerations of minor expense in its construction. After the farm passed into other hands it was the origin of one of the most famous strains of Kentucky saddle horses, the Cabell-Lexington stock.

It is pleasant to think that both McDowell and Mrs. Crawford got the rewards they deserved; McDowell the satisfaction of success, Mrs. Crawford relief from agonizing death and more than thirty years of comfortable life; for her health was restored and she lived until 1842, and died at the good age of seventy-eight.

It is impossible for us to realize fully his achievement under the conditions of those days; forty years before the introduction of anesthesia and three-quarters of a century before medicine had learned how to prevent infections in operation. The best intimation of the heighth of it is the early subsequent history of ovariotomy. McDowell did five ovariotomies with one failure between 1809 and 1819. Before his retirement and his death in 1830, he did eight more, with four successes, three deaths and one operative failure on account of adhesions. During that time he was practically the sole operator for ovarian tumor in the world.

The first successful operation other than McDowell's was by Nathan R. Smith, at one time at Transylvania and later the distinguished professor of surgery at Yale. But that was in 1821, twelve years after McDowell's first operation, and after it had become an established operation with McDowell. The second successful operation was by Alban G. Smith, in 1823, later known as Alban Goldsmith, distinguished lecturer on surgery at the College of Physicians and Surgeons in New York. Goldsmith was McDowell's disciple, and had been his assistant and partner. The third success was that of Dr. David L. Rogers of New York in 1829. The fourth was that of Dr. J. Billinger of Charleston, S. C., in 1835. There had been five or six failures or failures in attempts at the operation. Thus McDowell, in the years between 1809 and the time of his retirement in 1825 or 1826, did eight successful ovariotomies, twice the number that were done by all other surgeons combined before 1835. (Sch. 159)

It gives some idea of how far ahead of his time McDowell's work was to remember that in surgery of the chest it was only in 1850 that Morrill Wyman and H. I. Bowditch put the operation for empyema upon a practical basis. (Clarke 27)

The general attitude toward ovariotomy for forty years after its first performance by McDowell was one of skepticism and even active hostility.

Washington Atlee, in an address before the Philadelphia

County Medical Society in 1875, described the professional hostility he had to meet because of his ovariotomies. A physician rarely accepted graciously an invitation to the operation. Some took the invitation as an insult. Those who were bold enough to witness the operations were charged with being "particeps criminis" in committing murder, "notwithstanding (as Atlee remarks) these murder patients recovered." (Sch. 164)

As late as the winter of 1856-7, actually over a quarter of a century after McDowell's death, in a symposium before the French Academy of Medicine, the general attitude is indicated by the following quotations: (Sch. 165)

Malgaigne: "An operation too radical as it seems to me, and of a nature to place patients too absolutely beyond all resource."

Cruveilhier: "I do not think that this daring operation should be allowed a citizenship in France."

Velpeau: "The extirpation of diseased ovaries is a frightful operation which ought to be proscribed."

Moreau: "For myself I think this operation should be placed among the prerogatives of the executioner."

Caseaux, alone in the discussion, defended it and stated well the case for it. He said, "Finally, is there nothing better to be done in these unfortunate cases than to abandon patients to a certain death? I will only touch upon this question, for I know that my answer will meet with but little sympathy in this circle, and that, to justify it, I should be obliged to speak too much at length. But I will not leave this stand without protesting against the anathema hurled by several speakers against extirpation of the ovaries. . . . I believe that, before proscribing it, we should examine, and that a sufficiently serious examination has not yet been made. Reserved for multicolor and areolar cysts, for those whose fluid is albuminous or gelatinous, I do not hesitate to declare my conviction that the operation is fully justifiable."

And a few other men were willing to admit the practical importance of McDowell's work and to see its great significance.

It was, however, only in the third quarter of the Nineteenth century, seventy-five years after McDowell began his marvelous work, that the feasibility of this operation became generally recognized and only after the introduction of methods for the prevention of pus did the operation become the first practical achievement of modern major surgery.

The significance of McDowell's work is, of course, vastly more than that he showed that ovarian tumors could be removed. It was the beginning of the surgery of the cavities of the body. Men could trepan the skull and tap collections of fluid in the body, but when McDowell deliberately went into the abdominal cavity and removed, surgically, a large tumor, he planted the first milestone in the history of successful reparative surgery of the interior of the body.

I object to the title usually given McDowell, "The Father of Ovariotomy." He was more than that, he was certainly the father of abdominal surgery, and that was the first successful surgery of the closed cavities of the body—the important work that is chiefly in mind when we speak today of major surgery. What we call major surgery traces back to him.

McDowell is one of the favorite topics in American medical history, and, fortunately, August Schachner has given him a notable biography. I shall, therefore, say only a few words about the man.

He was a personable man. He has been described by some of his enthusiasts as having all of the beauty of Jove. He seems at least to have been a tall fine figure of a man with an attractive but serious appearance. Of course he was original, determined and resourceful, and everyone agrees that he was studious and thoughtful to an extraordinary degree.

He was the intimate of the important men of the West of the time. James K. Polk was his friend for life. Andrew Jackson got to know him when he went to Nashville, and remained always his friend. He was in his day one of the most respected and prominent citizens of Danville and Kentucky.

His fees are of some interest. Of course he treated every one, and, as usual, much is made of that fact. He probably was not worth $100,000 when he died, perhaps not more than half that much, but in the coin of his day, that was affluence. And all the evidence is that he got good fees from people who could pay. In the famous case of Mrs. Overton of Nashville, the tradition seems to be authentic that his fee was $500, but that her husband insisted on paying him $1,500, and expressed his regrets that he could not pay him more. Gross refers to this (p-187) as "the largest fee ever paid in this country for a surgical operation." (Times have, happily, improved!) And considering the circum-

stances he regarded it as equal to the celebrated fee of 1,000 guineas paid by Mr. Hyatt to Sir Astly Cooper. All of which I think has some bearing upon the attractions which Kentucky had for able physicians and other intellectuals in the first half of the Nineteenth Century.

McDowell's work in ovariotomy must remain one of the marvelous feats of medicine. When one remembers the state of the art of surgery in 1809, the comprehension of the anatomical and pathological problems and the surgical skill that successful ovariotomy required, and, not only this, but the resoluteness and courage, the willingness to accept personal responsibility, and the spirit that was willing to follow its judgment into the unknown, given a prospect of success and conditions warranting it—when one remembers these things it must be agreed that McDowell had the qualities of greatness, and that, with these qualities combined with preparation, it is not surprising that he trod the lonely path of superlative achievement.

The work of all of these men belongs within the first half of the Nineteenth Century; most of it in the first quarter. Brashear did his hip-joint operation in 1806; McDowell his first ovariotomy in 1809; McCreery his excision of the clavicle in 1813; Drake and Dudley's careers were between 1815 and 1850. McDowell and Brashear preceded Drake and Dudley about fifteen years, but they all belong in the short period from 1800 to 1850. They compressed into a remarkably short time the brilliant period of Kentucky medicine.

How did it happen? How are we to account for the appearance in Kentucky of this remarkable group of physicians at the beginning of the Nineteenth Century, when Kentucky was a frontier state on the very fringe of American civilization, a State surrounded by a wilderness? Was it one of those sports of nature for which there is supposed to be no accounting? I think not. The explanation, I believe, is found in a peculiar combination of fortunate circumstances.

Kentucky in the last fifteen years of the Eighteenth Century was the land of opportunity. During the period exactly corresponding to the Revolution most of Kentucky was occupied by struggling settlers who, by the time of Cornwallis' surrender, had achieved certain possession of that region. By the beginning of 1783 the ground had been plowed for the rapid settlement of

the State that then began. The attractions of the region had become widely known, and there was a multitude of Revolutionary soldiers and others in Virginia and neighboring regions who were looking for a place to found homes. The emigration to Kentucky in the next fifteen years was phenomenal. Drake has described the great number of travellers over the north road to Kentucky, by which he lived, between 1795 and 1800.

The special reason for the very rapid taking up of the lands of central Kentucky was the fertile soil of the Blue Grass region. The frontiersmen found here a larger region of rich and desirable land than they had anywhere along the Atlantic border. Professor N. S. Shaler has called it "the marvelously fertile region about Lexington." It was not only fertile but it was park land, forest without underbrush. It was a rolling country, well drained, with no marshes and very little stagnant water, and it was therefore, except in the bottoms, a healthy country, a very much easier country to occupy than, for example, the flat lands north of the Ohio River, where the settlers later were plagued with malaria and intestinal infections. It was a "God's Country" and it is no wonder that it was quickly populated. Men with property and without property, found here better land than they could possess in the East. Drake again has mentioned the many "wealthy" people he saw coming into the State.

This blue grass country is an area only about a hundred miles square, and the immigration into the State quickly spread beyond it to the surrounding lands that were much less uniformly fertile, but had many rich areas. But the blue grass region established the social and intellectual standards of the State, and the rise of the Kentucky society to the cultural state of the older Colonies was remarkably quick. Many of the settlers brought with them the appurtenances of the civilization of the time, and others attained quickly the propserity to enable them to command these from the East. They brought their slaves and had slave labor, and quickly formed an opulent planter class who lived well in comfortable, even handhome homes on fine estates, after the manner of the gentry in Virginia.

All over Kentucky are found today, scattered through the more desirable regions, handsome old brick mansions of Colonial style that were the homes of rich farmers until the Civil War compelled them to live in simpler farmer style. Before the intro-

duction of the steamboat on the Ohio River in 1811, Kentucky had developed a self contained civilization, which was as finished as that of the Colonies, and had the prosperity to enable it to indulge its tastes for the refinements of life. It was, in a way, the soundest sort of a society, one in which there was widespread prosperity, but rarely riches to the point of relieving its possessors from the necessity of effort. That, as President Eliot has said, is the economic state which is the most fortunate for sons and daughters.

The next and most important factor in the production of Kentucky civilization was the quality of its pioneers. The frontier of Kentucky had its vagrant adventurers, its ruffians and outlaws and other undesirables; it had also its hunters and trappers and adventurers who did not fall into the undesirable class. It had its illiterates, its half educated and its cultured. But in whatever class they belonged, they all resembled each other in those qualities which attract men to the frontier and which are strengthened by it—initiative and daring, self reliance, readiness to accept danger and pit their prowess against it, the quality of taking emergencies in their stride and meeting them as they demanded. They were educated like the sailors who went out of the New England ports in their period of greatness, of whom an old ship owner said, "their best training came from the knowledge of men and life learned during their voyages, a training which brightened their wits and kept their minds active and receptive." (Atlantic Monthly, Sept. 1937, p-329). They were a self reliant lot.

The Kentucky pioneers exemplified these qualities in a high degree because they contained a high proportion of the desirable class of pioneers. They were Virginians or came from neighboring regions where Virginia characteristics prevailed. They were in very high proportion of Anglo-Saxon blood. Large numbers of them were Revolutionary soldiers who were already trained to danger and hardships. They came to Kentucky, not primarily for adventure—they accepted adventure as part of the day's work; they came with their families and with their household goods to cast their fortunes in the new State and bent upon building permanent homes there. There were many illiterates among these desirables, but the letters and diaries of both literates and illiterates, and much other evidence, show that they

were not only a sturdy lot, but had intelligence, refinement (native and acquired) and an appreciation of and ambition for the better things of life. They were Virginians of the period when Virginia reached the peak of her greatness. They were, in the Kentucky vernacular, good stock; the stock that produced the Virginia Bill of Rights, the Declaration of Independence, the speeches of Patrick Henry, the statesmanship of George Mason, James Madison, John Marshall and Henry Clay, the vision and the able daring of George Rogers Clark, and the comprehensive greatness of George Washington and Abraham Lincoln. Samuel McDowell, the father of Ephraim, was a member of the Virginia Convention of 1776 that declared for freedom of the Colonies from Great Britain. (Sch. 4)

And the fibre of these people was strengthened by the experience of the frontier. That gave some strength to weaklings; it is not surprising that it should have produced some giants, and resulted in an extraordinarily virile civilization for half a century.

Kentucky's greatness in medicine was not the sole manifestation of its intellectual strength. When our physicians were in their brilliant careers, Matthew H. Jouett, a native, was painting portraits of the State's worthies that need ask no concessions in comparison with the best of the times. Joel T. Hart, another Kentuckian, after a successful career in sculpture in Kentucky, was doing in Florence the work that, with Hiram Powers', gave America its first European standing in sculpture. John J. Audubon, a Frenchman born in Haiti, but a Kentuckian by adoption, was doing in Kentucky his studies of birds that made him one of the greatest ornithologists and the greatest painter of birds of all times. Henry Clay was writing his name in American statesmanship, not to mention lesser able men in public affairs in the State. And its leaders were not mere able but narrow provincials. It was a cosmopolitan society. It included citizens of the world like Rafinesque and Audubon and able teachers and leaders in all fields of intellectual life from all parts of the country. As we have seen, its medical leaders were not untutored rustics who became great in their profession through untrained native wit; they were men of the better training of the times, some of them men of the best training that the world offered.

And with these advantages these men had others that came from the exacting demands of the frontier. They were themselves frontiersmen or the immediate descendants of frontiersmen, whose lives were steeped in the experiences and traditions of the frontier, with the hard experiences that had given self reliance and self sufficiency. They had the virtues that come from a training in one of the most exacting schools of life. It is a social law that difficulties, overcome, make strong men, and too long continuance of luxury weakens them. The Kentuckians we are considering had the strong qualities that the frontier develops, and had, what was unusual in frontier experience, the quick prosperity that gave opportunity for intellectual greatness before luxury produced its enervating influence.

Professor Nathaniel S. Shaler has expressed his opinion of the quality of these early Kentuckians. It is more glowing than I would dare to express, but his knowledge of them was intimate, and he speaks with a wide experience of men. A native Kentuckian, he was State Geologist of Kentucky and came to have an intimate knowledge of its people; later he was for many years Professor of Geology at Harvard and a highly respected associate of the ablest men in the world. He says:

"The impression made on me by the better people of Kentucky, as I saw them in the gatherings at Frankfort, an impression not lessened by later and wide intercourse with men, such as came soon thereafter, was that there was a singular development of power, one of those great openings of thought that is now and then, though rarely, offered to the world—in this case vainly. * * * I question if in the history of our race there was ever a better presentation of varied power than in the generation that was matured and maturing at the outset of the Civil War in Kentucky. * * * To see the meaning of this interesting social history, we must first note that the population of Kentucky, or at least of the central district which has given character to its society, was made up, in a measure not exhibited by the other secondary settlements for their vigor and capacity. So far as the whites are concerned, it may be doubted whether any plantation of men of a greater average of physical and mental vigor has been established in this country. This is shown by what is of record concerning the origin of the colonists, and is well attested by the history of the people in the first two generations of their life

in this field. By the middle of the last century, the trials of those who found a state in the wilderness were well by, the settlers were prosperous, the burden of life was light, the climate admirable, so that they were ideally placed for further and high development in the intellectual field. Just such a flowering of strength and capacity as I saw in my youth was the natural, we may say the inevitable, outcome of such a history. * * *

"* * * there was an eager reaching out for better things; men and women were seeking through history, literature, the fine arts, and in some measure through science, for a share in the higher life. * * * In 1855 there were few communities holding more of promise for our race than that of the now commonwealth; in 1865 few that were less hopeful." (Shaler 75/7)

It is, I believe, in this favorable combination of circumstances that we find the explanation of the noble group of physicians that Kentucky produced in the first third of the Nineteenth Century: a particularly rich and desirable region that quickly yielded an abundant prosperity; a prosperity that allowed opportunity for cultural development; a vigorous breed of men trained to its highest efficiency by the exactions of frontier life.

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