JOSEPH RODES BUCHANAN AND "THE SCIENCE OF MAN"

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In the medical profession, as in politics and society, early nineteenth century America was a scene of controversy and confusion. Medical practitioners of the era were no exception to the general rule that every period of history finds men thinking themselves more advanced than their predecessors, and to a limited degree they were correct. A few gifted men were beginning to cut their way through the wilderness of pseudo-medical beliefs and practices toward a truly modern medical science; but the wilderness was vast and densely tangled with the underbrush of superstition, false ideas, and quackery.

The situation was particularly complex on the frontier, where a severe shortage of trained physicians and the rigors and superstitions of a primitive society created a fertile field for experimentation and innovation. Phrenology, mesmerism, homeopathy, eclecticism, and many other unorthodox systems found dozens of willing practitioners and hundreds of hopeful converts. By the middle of the century at least seventeen different varieties of doctors were practicing in the middle west—ranging from ultra-conservative physicians, who believed that medical science had achieved perfection, to pure and unadulterated quacks, who preyed upon the ignorance and credulity of the pioneers.[1] Between the two extremes were others who dedicated their lives to the task of bringing progress and order out of the stagnation and chaos. Some of these—Daniel Drake, for example—made notable contributions, while others got sidetracked on one or another of the numerous byways of the medical labyrinth and succeeded only in increasing the confusion and intensifying professional controversy.

Upon this scene there appeared in 1842 a man possessed of a brilliant intellect, the zeal of a crusader, and a burning determination to revolutionize the medical profession. Arming himself first with the respectability of a medical degree, he proceeded to combine elements of phrenology, mesmerism, homeopathy, and eclecticism, add a host of original ideas of his own, and emerge with a system of moral philosophy and medical science which anticipated parts of modern psychology and psychiatry, and which contained some theories now recognized as valid by the medical profession. But his ideas were exceptionally strange even for that age of unorthodoxy, and he was destined to a lifetime of ridicule, rejection, and disappointment.

Joseph Rodes Buchanan was well qualified for the task which he set himself. The son of a middle western itinerant physician, teacher, writer, printer, inventor, and philosopher, he grew up on the frontiers of Ohio and Kentucky. Details of his early life and education are lacking, but apparently he was a precocious child who began the study of geometry, astronomy, history, and French at age seven, read the works of Robert Dale Owen by the time he was eleven, and, under the tutelage of his father, studied Blackstone's *Commentaries* when he was thirteen. But when plans for him to continue his legal training were disrupted by the death of his father, young Buchanan yielded to the fascination of the printer's trade. Maintaining his intellectual interests by study and some teaching, he worked as a printer until, five years later, poor health forced him to seek a different profession. It was at this point that he decided to pursue another of his father's former interests by taking up the study of medicine.[3]

Entering Transylvania University, at Lexington, Kentucky, in 1834, Buchanan began his medical work under the direction of Professor Charles Caldwell. Just how long he studied there, or why he left, is uncertain, but a few years later he appeared as a student at the Louisville Medical Institute, where he received the M.D. degree in 1841.[3] Both the medical department at Transylvania and the Louisville Medical Institute were respectable establishments, and Buchanan might well have been on the way to a quiet and successful, it not sensational, career in the profession. But such was not to be the case, for at some point during his medical training he had become fascinated by phrenology; and by 1836 he had determined to devote himself "exclusively to the phrenological study of man."[4]

Based upon the theory that each action of the individual is controlled by a specific cerebral organ, phrenology sought to determine mental faculties and character by examining the contour of the brain as revealed by the shape of the skull. Originating in Europe, where Franz Joseph Gall of Vienna was the first to systematize it, the phrenological study of the brain was introduced to the new world by John Kaspar Spurzheim, who arrived in the United States in 1832 to launch a series of lectures on the subject. In the eastern states Spurzheim attracted large crowds of eager listeners, and soon it had become fashionable to have one's head examined.[5] In due time Professor Caldwell introduced phrenology to the middle west, where it flourished for more than twenty years;[6] and it probably was through his contact with Caldwell at Transylvania University that Buchanan became interested in the subject.

It seems to have been Buchanan's original intention merely to correct and expand the Gallian system of phrenology. But his experi-

ments soon led him to the conclusion that such a course would not achieve the desired results. Buchanan was more than a physician seeking a true science of medicine and therapeutics; he was, in addition, a philosopher searching for answers to the ultimate questions of life which had intrigued man from the dawn of time. He believed that to date there had been no true science of man. Four or five partial ones—metaphysics, phrenology, physiology, natural history, and social history—had revealed many wonderful facts, but without giving any satisfactory explanation for the nature of man. Buchanan felt the need for a broader system, one which would unite the partial sciences into a comprehensive anthropology and explain man's origin, purpose, and destiny. Phrenology he regarded as an avenue toward the development of such a system, and he pursued it with vigor.[7]

To locate the cerebral organs, early phrenologists had relied upon three methods of investigation—vivisection, pathology, and cranioscopy. Buchanan rejected all three and adopted instead the "sensitive mode," which involved noting the sensations that various mental activities produced upon his own cranium. Observing, for example, that a scholarly lecture gave him "a marked sensation" in the upper portion of his forehead, he concluded that this must be the region of intelligence. In the same manner he quickly established the location of dozens of cerebral organs.[8]

Within a few years Buchanan had "acquired possession of numerous sound and comprehensive principles," from which he constructed a system of philosophy and discovered certain mathematical laws to be the basis of the science of man.[9] This system he regarded as being near the true anthropology, but he concluded that with the methods he was using a lifetime would scarcely be sufficient to complete his work. It occurred to him that if some external agent could be found which would stimulate the different portions of the brain "so as to manifest . . . their peculiar functions" both the speed and accuracy of his experiments would be greatly augmented.[10] And he soon convinced himself that such a force existed.

He theorized that the nervous system of every living thing radiates a nervauric fluid, or impulse, strong enough to stimulate to action the cerebral organs of other living things "without the medium of speech, vision, or contact;" and in 1841 he began experimenting with this mysterious force. The big breakthrough occurred in an experiment conducted at Little Rock, Arkansas, where the nervauric power was applied by touch to the head of a highly impressible person with the successful result of exciting every point touched.[11] Buchanan was now confident that he had found the key to the true anthropology.

Apparently this amazing power had been overlooked through the

ages only because of its "very simplicity," and Buchanan immediately set about to make up for the time that had been wasted. Almost immediately he was overwhelmed by the success of his experiments. Triumphantly announcing that within a single month he had been able to learn more of the brain's physiology than had all of his predecessors combined, he boasted that it was within his power "to excite . . . any portion of the brain, either large or small, to put that portion into full and vigorous action as an efficient portion of the character of the [subject] . . . and then, at will, suspend its action, and excite the action of . . . any other organ" that he chose to bring into play.[12] Access to such secrets enabled Buchanan to develop a new system of neurology—the science of nervous matter. Taking the brain as its center, neurology united the various partial sciences into one harmonious system, tracing the relations of man upward to the spiritual world, downward to inorganic matter, inward to his own conscious life, and outward to his fellow beings, thus enabling him "to comprehend his true position and the laws of his life and growth."[13]

For his investigations, Buchanan relied primarily upon two methods. The first, which he termed concentrative excitement, was dependent upon the power to excite the cerebral organs in such a manner as to compel them to manifest their functions. The agent best suited for this stimulation was the nervaura flowing from the hand of the operator. The second method, called sympathetic diagnosis, was simply concentrative excitement in reverse. Using this method the operator, instead of imparting his influence to the subject, perceived the mental activities of the latter. The same stimulation could also be received from inorganic objects which had been in contact with the subject. For example, by touching an unopened letter the operator might perceive "the entire mental and physiological character of the writer." Nor was this all. An impressible person could hold a parcel of medicine in his hand and accurately describe its physiological influence. Not even contact was necessary for the operation of this power of perception; the stimulus could be transferred through a rod, or almost any material object. Such powers Buchanan called psychometry.[14]

In addition to its other possibilities, Buchanan believed that psychometry eventually would cause the study of history to become an exact science. To his own satisfaction he demonstrated that even the oldest manuscripts were easily interpreted by the psychometric power. Thus, for example, biography could no longer be mutilated by unscrupulous writers; for through the psychometric examination of existing documents and relics the entire life of an individual might be reconstructed without chance of error.[15] One wonders if Gamaliel

Bradford, the psychographic biographer of the early twentieth century, was familiar with these ideas.

By 1842 Buchanan had located and demonstrated 166 independent organs of the brain, and he had no doubt that "as many as two hundred might be shown distinctly."[16] He found that the organs were grouped together in certain regions of the cranium according to their general nature. The upper anterior portion of the cranium was shown to be the seat of intellect, love, ambition, and the like, and was designated as the intellectual region. Similarly, the lower posterior area of the cranium, containing organs of a selfish and vicious nature, was the region of animality.[17]

From these discoveries Buchanan evolved the theory of the antagonism of the organs, which maintained that for every tendency or passion that exists there must be an opposite tendency or passion. Hope was antagonized by desperation, patience by irritability, health by disease, and so on. Every organ in its legitimate exercise was believed to check or regulate its antagonist. Hence, he suggested that an excess of disease might be productive of health.[18] It was also noted that the left hemisphere of the brain controlled the right side of the body, and vice versa; and experimentation convinced Buchanan that by passing his hands rapidly back and forth along the median line of the brain he could upset the unity of the two hemispheres to such an extent that the subject would lose control of his arms, legs, and sensory organs. He also demonstrated that by exciting "relaxation" in the left hemisphere simultaneously with "energy" in the right hemisphere he could weaken the right arm while strengthening the left; thus he "might . . . even convert a right handed into a left handed person. . ."[19]

Buchanan's theory of the cerebral functions was completed in 1842 by the discovery of certain sympathetic relations between the brain and the body. Functional operations of the brain, he declared, which were purely psychic when confined within the cranium, became physiological in their effects when transferred to the body. This phenomenon, which demonstrated an intimate relationship between soul, mind, and body, was called sarcognomy.[20] In Buchanan's words: "The fundamental principle of Sarcognomy is that every faculty of the soul is associated with a special portion of the brain, and that every organ of the brain is in intimate sympathy with a corresponding portion of the body, through which sympathies the body and soul are brought into close connexion." Hence, sarcognomy refuted the doctrine of the medical profession that life is merely the aggregation of properties in the tissues—as though man were but a chemical compound—and demonstrated that life is entirely an influx coming through the nervous system from a source which is not material.[21]

The organs of the body could be stimulated by the same methods used to arouse those of the brain, and through the use of concentrative excitement Buchanan quickly located many of them. Again he found that organs of similar tendencies were arranged in groups, and that the more desirable ones were situated in the upper portion of the body. The chest was the seat of virtue and intelligence, while the abdominal region contained disease and indolence.[22] The limbs, including both the legs and the arms, were the regions of animality. In the arms were the organs of coarseness, arrogance, love of power, and the like, while the legs appeared to be a copy of the arms "in a lower and less intellectual sphere . . . ." The thighs corresponded to the arms and appeared to be calculated to "execute that which the facilities of the arm may suggest." Below the knees the legs corresponded to "the pre-natal embryonic development," illustrating to Buchanan's satisfaction "the law of evolution and the microcosmal character of the human constitution."[23]

In addition to its philosophical and spiritual implications sarcognomy had a more immediate and materialistic significance in that it could be used therapeutically. Treatment might be administered either by the nervauric method or by the use of electricity or galvanism.[24] In practicing therapeutic sarcognomy the operator, using his hands, made a series of passes over the body of the patient in such a manner as to diffuse the morbid parts, charge the system of the patient with the healthy nervaura of the operator, stimulate the health-producing organs, and change "the vital balance of functions by dispersing from one spot to accumulate at another."[25] For those individuals who were sufficiently impressible drug treatment might be almost entirely replaced by manual manipulation; and if the patient was extremely sensitive "mental contact alone" might suffice to transfer the vigor of the operator to the subject. Indeed, a cure might be effected simply by having the operator impart his influence to some material object from which the patient, in turn, would receive the desired stimulus.[26] By these various devices Buchanan obtained some truly amazing results. Among other things, he demonstrated his ability to promote mental soundness and vigor, overcome pneumonia, rouse the diaphragm, dispel insanity, relieve hysteria, cure inflammation of the heart, treat stomach diseases, and arrest chills.[27]

The completion of Buchanan's science of man was achieved by the development of his system of pathognomy. Based on the law that "every organ manifests itself by action in the direction of its own organic development," it proposed to apply mathematical principles to mental science. The fibers of the various organs, Buchanan explained, project themselves in specific directions, and the direction of

projection determines the type of manifestation of the organ.[28] Application of this law made it possible to analyze all movements, gestures, attitudes, and facial expressions and to refer them to their proper cerebral sources. Hence, it would be possible not only to gain a philosophical understanding of all the manifestations of human nature, but also to learn the "true foundation of any organ from its position, and all the nature and degree of the relations between different organs."[29]

Thus Buchanan completed what constituted his conception of a unified and comprehensive science of man, a true anthropology. It rested upon the theory that nervous matter is the source of all man's physical, intellectual, and spiritual powers. Upon this foundation Buchanan built his system of phrenology, which maintained that there is in the brain a specific organ for every emotion, impulse, and action of the human machine; to this he added sarcognomy, which extended to the body the same principles that phrenology applied to the brain, demonstrated the relationship between soul, mind, and body, and provided a unique and effective system of therapeutics; he then capped the system with his theory of pathognomy, which embraced the study of character as revealed by the organic development and muscular action of the individual. It was, indeed, a comprehensive system, one which provided an explanation for all of man's physical, mental, and spiritual characteristics and a solution for all his problems.

But Buchanan did not confine himself solely to the creation of a new science of man. He was an individual of wide interests, and at one time or another he gave his attention to almost every realm of human affairs. He found much to criticize, and his publications abound in his visionary ideas for reforming the world. Among other things, he proposed a system of education that would delight the most progressive educators of the present age;[30] suggested the improvement of the human race by selective breeding;[31] formulated remedies for the "deplorable state" of Christianity;[32] demanded nationalization of the land;[33] advocated the establishment of a department of productive labor in the federal government; and pointed to the inevitability of inheritance, income, and excess profits taxes.[34] And long before the turn of the century he warned that if his advice was not heeded the year 1914 would witness the outburst of a world-wide holacaust.[35]

Politics, too, attracted his attention for a time. Returning to Kentucky about 1857, he threw himself into the slavery controversy and political partisanship of that era. He was a Peace Party candidate for the United States Congress in 1863, became chairman of the Democratic Central Committee of Kentucky in 1864, and was chosen as a delegate to the national Democratic convention of that year—only to

be arrested, apparently for political reasons, and spend his time fretting in a federal prison at Louisville while the convention came and went.[36]

What significance, if any, is to be attached to Buchanan's work? Certain it is that much of what he taught sounds like sheer nonsense today, even as it did to many people of his own era. On the other hand, a thorough study of his writing reveals many ideas that are quite compatible with modern psychology, psychiatry, and theories of extra-sensory perception. Furthermore, his work warrants a place in the medical history of the mid-nineteenth century. As noted earlier, this was an era of unusual medical ideas and practices, at least some of which were important to the development of modern medical science. If they served no other purpose, they did frequently stand as warning signals against the impractical; and an occasional one was a beacon light to truth. Few men of his era erected more warning signals than did Buchanan; and some of his theories may even have been beacon lights.

Most of his ideas were, of course, anathema to members of the regular medical profession, and from this group he received only ridicule, opposition, and ostracism. But from the general public he attracted widespread attention and a considerable amount of acclaim. Between 1835 and 1841 his lectures in eleven different states were well attended and they elicited numerous favorable press reports. The Louisville *Public Advertiser,* skeptical at first, soon was speaking enthusiastically of Buchanan's "unquestionable philosophical demonstration, *heard and seen by ourselves.*"[37] In the east the *Democratic Review* declared that as compared to Buchanan's work "the discoveries of Gall and Spurzheim, or Sir Charles Bell, dwindle into insignificance;"[38] and following an appearance at New Harmony, Indiana, he was described by Robert Dale Owen as a "bold, original, philosophical naturalist."[39]

That his ideas attracted the attention, if not the acclaim, of the regular medical profession is indicated by the several investigations to which they were subjected. In 1841 a group from the Louisville Medical Institute surveyed his work, but for reasons known only to themselves they submitted no report. Somewhat later similar inquiries conducted by four other committees, two in Boston and two in New York, produced only one report, and it was noncommittal. The second New York committee, whose membership included William Cullen Bryant, stated only that Buchanan's views had a "rational experimental foundation."[40] In contrast, the faculty of Indiana University in 1843 described the claims of the new anthropology as "a revolution in philosophy," but this opinion seems to have made little impression. A

final investigation in 1850, sponsored by the National Medical Association and conducted by Professor Caldwell, resulted only in silence.[41]

The failure of most of the investigating groups to submit reports is interesting, but its significance is not clear. The committees may have adjudged the ideas unworthy of serious consideration; they may have had insufficient evidence upon which to base useful reports; or, as Buchanan repeatedly charged, they may have regarded his science of man as a potential threat to the security of the regular medical profession.

But if he was anything Buchanan was persistent; and to the end of his life he continued the effort to propagate his science by writing and teaching. Altogether he published four sizable volumes explaining and defending his ideas; and for six years (1849-56) he published, and wrote most of the material for a monthly magazine entitled *Buchanan's Journal of Man.* Several of his articles also were published in more reputable periodicals of the era, including *The Arena.* Meanwhile, his teaching activities took him to the Cincinnati Eclectic Institute for a number of years in the 1840's, to the New York Eclectic Medical College briefly sometime during the 1850's, and eventually to California, where one of his final projects was an unsuccessful attempt to establish a medical college in San Francisco.[42]

Buchanan died at San Jose, California, in 1899, bitterly disappointed that his attempt to present the world with a true and comprehensive science of man had been frustrated by a *"dogmatic and intolerant materialism."*[43] He was variously described by his contemporaries as a versatile scholar of great ability and as an "erratic physician and writer."[44] There is truth in both assertions. He was frequently erratic, and always versatile; he wrote voluminously, and if he was not scholarly in the true sense of the word he certainly tried to be. He was an idealist, and he aspired to be a reformer; but the fame of idealists and reformers hinges upon the success or failure of their cause, and the cause of Joseph Rodes Buchanan failed. Yet, it may have been only his inability to concentrate his efforts upon a single task that saved him from pre-eminence.

FOOTNOTES

[1] Madge Pickard and R. Carlyle Buley, *The Midwest Pioneer: His Ills Cures and Doctors* (Crawfordsville, Indiana, 1945), 169.

[2] *Biographical Encyclopedia of Kentucky* (Cincinnati, 1878), 652; Harvey W. Felter, *History of the Eclectic Medical Institute, Cincinnati, Ohio, 1845-1902* (Cincinnati, 1902), 98; Joseph Rodes Buchanan, *Manual of Psychometry: The Dawn of a New Civilization* (Boston, 1885), Part II, 77, 82-83.

[3] H. A. Kelly and W. L. Burrage, *Dictionary of American Medical Biographies* (New York, 1928), 163; Buchanan, *Manual of Psychometry*, Part II, 77-78.

[4] Buchanan, "Letter VI—Dr. Buchanan to Miss Bremer," *Buchanan's Journal of Man*, III, No. 6 (December, 1851), 33; Buchanan, *Outlines of Lectures on the Neurological System of Anthropology, as Discovered, Demonstrated and Taught in 1841 and 1842* (Cincinnati, 1854), 31.

[5] Alexander Wilder, *History of Medicine* (New Sharon, Maine, 1901), 288-89; George Combe, *Notes on the United States of North America During a Phrenological Visit in 1838-9-40* (2 vols., Philadelphia, 1841), I, 59, 62.

[6] There is some evidence to indicate that as a result of a book-buying trip to Paris Caldwell may have become interested in phrenology as early as 1820. Pickard and Buley, *Midwest Pioneer*, 223.

[7] Buchanan, *System of Anthropology*, 54.

[8] *Ibid.*, 37-38, 50.

[9] *Ibid.*, 33.

[10] Buchanan, *Sketches of Buchanan's Discoveries in Neurology* (Louisville, 1842), 9; Robert Dale Owen, *Neurology: An Account of Some Experiments in Cerebral Physiology* (London, 1856), 3.

[11] Buchanan, *System of Anthropology*, 33, 191.

[12] Buchanan, *Discoveries in Neurology*, 4-5.

[13] Buchanan, *System of Anthropology*, 55.

[14] *Ibid.*, 52.

[15] *"The Past,"* concluded Buchanan, *"is entombed in the Present."* Buchanan, "Psychometry," *Journal of Man*, I, No. 4 (April, 1849), 147. See Buchanan, *System of Anthropology*, 124, and *Manual of Psychometry*, Part II, 120-41, for a full development of this idea.

[16] Buchanan, "Neurology in New York," *Journal of Man*, I, No. 1 (January, 1849), 14. For a list and discussion of most of the organs of the brain as known to Buchanan's system of phrenology see *Journal of Man*, I, No. 8 (October, 1849), and No. 9 (December, 1849), and No. 10 (February, 1850).

[17] Buchanan, *System of Anthropology*, 89.

[18] *Ibid.*, 94-95, 160-63, 167. See also Buchanan, "Brief Outlines of Neurology," *Journal of Man*, I, No. 9 (December, 1849), 407.

[19] Buchanan, *System of Anthropology*, 77.

[20] Buchanan, *Therapeutic Sarcognomy, a Scientific Exposition of the Mysterious Union of Soul, Brain and Body, and a New System of Therapeutic Practice without Medicine, by the Vital Nervaura, Electricity and External Applications, Giving the only Scientific Basis for Therapeutic Magnetism and Electro-Therapeutics* (Boston, 1884), 5-6. The word sarcognomy, coined by Buchanan in 1842, was derived from *sarx* or *sarcos*, meaning flesh, and *gnoma*, an opinion, and means "a knowledge of the flesh, or recognition of its character and relations." *Ibid.*, 38.

[21] Buchanan, *Manual of Psychometry*, Part III, 30-31. See also Buchanan, *Therapeutic Sarcognomy*, 40.

[22] Buchanan, *System of Anthropology*, 360-68.

[23] Buchanan, *Therapeutic Sarcognomy*, 213-14, 368-72.

[24] *Ibid.*, 10.

[25] *Ibid.*, 165.

[26] Buchanan, *System of Anthropology*, 260.

[27] Buchanan, *Therapeutic Sarcognomy*, 252-60.

[28] Buchanan, *System of Anthropology*, 279-80. See *ibid.*, 287 ff., for detailed discussion and diagrams of the lines of action, how they work in cooperation and opposition, and how they vary in different individuals.

[29] *Ibid.*, 287.

[30] Buchanan wrote much on this subject. See for examples: "Education," *Journal of Man*, I, No. 5 (May, 1849); "Development of Genius by Proper Education," *The Arena*,

I, No. 1 (December, 1889); "Full-Orbed Education," *ibid.*, V, No. 28 (March, 1892); and "The New Education and its Practical Application," *ibid.*, VI, No. 36 (November, 1892).

[31] Buchanan, *System of Anthropology*, 272-73.

[32] Among his numerous discussions of this topic are the following: *Manual of Psychometry*, Part I, 157, Part III, 66-67; "Familiar Table Talk," *Journal of Man*, III, No. 8 (February, 1852); "Outrages at Rome and Naples," *ibid.*, No. 4 (October, 1851); and "The Organ of Religion," *ibid.*, No. 9 (March, 1852).

[33] Buchanan, "Nationalization of the Land as First Presented," *The Arena*, III, No. 16 (March, 1891). This article was divided into two parts, the second of which appeared in *ibid.*, No. 17 (April, 1891).

[34] Buchanan, "Revolutionary Measures and Neglected Crimes," *ibid.*, IV, No. 20 (July, 1891).

[35] Buchanan, "The Coming Cataclysm of America and Europe," *ibid.*, II, No. 9 (August, 1890), 292-96.

[36] Kelly and Burrage, *Dictionary of American Medical Biography*, 163; *Dictionary of American Biography*, III, 217; Richard H. Collins, *History of Kentucky* . . . (2 vols., Louisville, 1924), I, 119-20, 137, 139; Buchanan to the Democratic National Convention, in "Official Proceedings of the Democratic National Convention held in 1864 in Chicago," *American Politics*, II, No. 6 (1864), 7-8.

[37] *Biographical Encyclopedia of Kentucky*, 652-53; Louisville *Daily Journal*, May 4, 1841; Buchanan, *Sketches in Neurology*, 67-75.

[38] Quoted in *Biographical Encyclopedia of Kentucky*, 653.

[39] Owen, *Neurology*, 2-4.

[40] Buchanan, *Discoveries in Neurology*, 67-75; Buchanan, *System of Antropology*, Introduction, 4-5; Buchanan, "Neurology in New York," *Journal of Man*, I, No. 1 (January, 1849), 16-17.

[41] *Louisville Past and Present: Its Industrial History* (Louisville, 1875), 173; Buchanan, "Familiar Table Talk," *Journal of Man*, II, No. 1 (July 1850), 29.

[42] Felter, *History of the Eclectic Institute*, 25, 79, 98-99; Buchanan, *Therapeutic Sarcognomy*, 7; *Dictionary of American Biography*, III, 217.

[43] Buchanan, *Therapeutic Sarcognomy*, 39; Felter, *History of the Eclectic Institute*, 63.

[44] Otto Juettner, *Daniel Drake and His Followers* (Cincinnati, 1909), 359; *Dictionary of American Biography*, III, 216.