

Head Reading the American Psycho:

The Role of Phrenology in the
Medical Construction of Insanity
in the United States, 1830-1850

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Midway through the nineteenth century, a shift occurred in the clinical perception of madness and insanity. Once viewed as a strange and disturbed state of mind with innumerable possible causes, insanity came to be seen as a curable psychiatric condition that could be treated effectively by medical professionals. As Andrew Scull eloquently describes, 'the Victorian age saw the transformation of the madhouse into the asylum into the mental hospital; of the mad-doctor into the alienist into the psychiatrist, and of the madman (and madwoman) into the mental patient.'¹ This paper will examine the role that the popular 'science' of phrenology played in this movement towards the medical construction of madness as a curable mental illness.

Phrenology brought into being the idea that the human mind is the result of a complicated series of mental functions arising from specialised parts of the brain working together. If these individual parts failed to fulfil their particular functions and communicate with the rest of the brain, the individual mind would not be able to function properly, causing a descent into madness. The focus in this paper is on the reception of phrenology in the early medical community in the United States and its influence upon understandings of madness and insanity in America. While similar phrenological influences took hold to various extents in Britain and Europe, the intellectual climate of the United States in the early part of the nineteenth century was uniquely positioned to embrace phrenological ideas in psychiatry and the treatment of insanity.

Doctors and Disciples: Phrenology in the United States

Phrenology came to America in the 1820s with the transatlantic publication of phrenological treatises by the German, Franz Joseph Gall, and his student, Johann Gasper Spurzheim. Gall and

¹ Andrew T. Scull, 'The Social History of Psychiatry in the Victorian Era,' *Madhouses, Mad-doctors and Madmen: The Social History of Psychiatry in the Victorian Era*, ed. Andrew T. Scull, (London: The Athlone Press, 1981), 6.

Spurzheim had previously popularised phrenology in Europe and Britain, where brothers George and Andrew Combe had become devotees of the practice after George attended one of Spurzheim's lectures in Edinburgh. As he had across the Atlantic, Spurzheim held lectures on phrenology in the United States, disseminating his ideas among the American public.²

Spurzheim drew large crowds of Americans to his lecture circuits. He unintentionally generated even more publicity when his rigorous schedule of lectures in the United States in 1832 took a toll on his health and he died during the tour. Six years later, George Combe continued the task of popularising phrenology in America with his own highly successful series of lectures. More significantly, Combe's brand of phrenology appealed to American intellectuals and members of the medical profession, perhaps through the influence of his brother Andrew, who was a physician. Combe lectured at Yale and Harvard, as well as intellectual and cultural centres such as Philadelphia and New York. The extent of his influence is evident by his election to the American Philosophical Society and the National Academy of Natural Sciences. The Central Phrenological Society was formed in Philadelphia in 1828 and was followed by other phrenological societies and the publication of journals devoted to discussion of phrenological topics, such as the *American Phrenological Journal* and the *Annals of Phrenology*.³ This latter journal demonstrates the enormous variety of subjects to which phrenology was thought to have an application, including articles on topics from 'the Phrenological Causes of the different Degrees of Liberty enjoyed by Different Nations' to a phrenological analysis of Macbeth's behaviour in the Shakespearean play.⁴

Charting the Brain: The Mind According to Phrenology

The central concept of phrenology, as Andrew Combe described in his *Observations on Mental Derangement*, was that the mind was composed of a number of 'innate faculties',⁵ each of which was manifested in a specialised organ of the brain. Phrenological treatises detailed the effect of the faculties on a person's behaviour, including such attributes as Amativeness (desire for sexual love), Adhesiveness (desire for friendship or companionship), Cautiousness, Benevolence, Self-Esteem and Secretiveness. The exact number, position and order of the faculties in the brain varied from practitioner to practitioner. However, there was general agreement regarding the nature of most of the faculties, even if the exact location of a particular faculty was a subject of debate.

The level of detail and relationships between the faculties also varied between practitioners, producing a variety of different phrenological models of the brain. For instance, George Combe divided his faculties into different orders in a kind of Great Chain of Thinking. The bottom rung consisted of the Propensities (those traits shared by humans and animals), such as Amativeness, Combativeness and Appetite for Food. Above these were the Sentiments, again sub-divided into those shared by humans and some animals, such as Cautiousness and Benevolence, and those thought uniquely human, such as Hope and Wonder. At the top of the ladder were the Intellectual

² John D. Davies, *Phrenology, Fad and Science: A 19th-Century American Crusade*, (New Haven: Yale University Press, 1955), 5-10.

³ *Ibid.*, 14-28.

⁴ 'Essay on the Phrenological Causes of the different Degrees of Liberty enjoyed by Different Nations', in *Annals of Phrenology*, Vol. 1, No. 2, (September 1834), 168-188. 'Application of Phrenology to Criticism', in *Annals of Phrenology*, Vol. 1, No. 2, (September 1834), 200-223.

⁵ Andrew Combe, *Observations on Mental Derangement: Being an Application of the Principles of Phrenology to the Elucidation of the Causes, Symptoms, Nature and Treatment of Insanity*, (Boston: James B. Dow, 1833), 40, Medical Heritage Library, University of Massachusetts Medical School, <http://archive.org/details/observationsonme00comb>, accessed 8 September 2010.

Faculties, varying from the five senses to faculties concerned with the ability to discern size and weight, make mathematical calculations, perceive temporal progression and understand cause and effect relationships.⁶ However, these categories could be further sub-divided or merged with other faculties to express a different model of the mind. While Combe described one faculty for the Appetite for Food, Lorenzo Niles Fowler split this faculty in two, reserving Alimentiveness for the appetite for food specifically and Bibativeness or Aquativeness for the appetite for drink.⁷

The strength of a particular faculty in an individual was thought to have a relationship to the size of the corresponding organ, such that the stronger the development of a particular faculty, the larger the corresponding organ would be in the brain. As it was thought the skull was ‘ossified over the shape of the brain,’⁸ the relative size of the organs could be determined through an examination of the shape of the skull.⁹ For instance, in an individual possessing a high degree of Cautiousness, the part of the skull overlaying the organ assigned to Cautiousness should be raised in relation to other parts of the skull. Furthermore, the influence of the dominant faculties in an individual should be observable in the person’s behaviour. In this instance, someone with a natural bias towards Cautiousness in the structure of his or her brain would be likely to display Cautiousness as a dominant trait in behaviour, for example by avoiding potentially dangerous situations and expressing fear at loud thunder or flashes of lightning.¹⁰

Selling Self-Understanding: The Fowlers

Despite the popularity of Spurzheim and Combe in the United States, phrenology largely appealed to the intellectual classes; a subject to be discussed in journal articles and society meetings. However, America was in the midst of the Jacksonian age of popular democracy and many Americans experienced a yearning for self-improvement. In a nation seething with solutions for a better way of life, whether through health spas and special diets, the temperance movement and abolitionism, or creating utopian societies such as the Oneida Community and Brook Farm, phrenology had a special appeal for its potential in shaping the human mind. America’s answer to the Combe brothers was the Fowler brothers, Orson Squire Fowler and Lorenzo Niles Fowler.

The Fowlers took phrenology from the pages of academic journals and the halls of East Coast universities to the average American in the heartland. They, along with many other popular phrenologists who followed their example, touted phrenology as a new science for understanding and improving the mind. They gave public lectures on phrenology to massive crowds of people, followed by head readings for a small fee, in which the Fowlers would examine the contours of a person’s skull to reveal the workings of his or her personality and advise ways in which a person could improve desirable traits and inhibit undesirable ones. Attendees could also purchase helpful self-instructors for a more detailed phrenological analysis.¹¹

6 George Combe, *The Constitution of Man in Relation to the Natural Laws*, (London: Cassell and Company, 1893), 32-35.

7 Lorenzo N. Fowler, *New Illustrated Self-Instructor in Phrenology and Physiology*, (London: L. N. Fowler, 1870), 97-100.

8 Roger Cooter, ‘Phrenology and British Alienists, ca. 1825-1845’, in Andrew T. Scull, *Madhouses, Mad-doctors and Madmen*, 71.

9 Combe, *Observations on Mental Derangement*, 40.

10 *Ibid.*, 150.

11 See, for example, Fowler, *New Illustrated Self-Instructor in Phrenology and Physiology*.

However, phrenology supplied the client with more than a mere personality profile. Phrenological principles were also applied to such diverse subjects as career and marriage advice, child rearing, health and religion.¹² For instance, an appendix to one of Fowler's self-instructors advised 'lawyers require the mental-vital temperament, to give them intensity of feeling and clearness of intellect; large Eventuality, to recall law cases and decisions; large Comparison, to compare different parts of the law and evidence.' On the other hand, merchants would be better off possessing such traits as 'good Calculation, to impart rapidity and correctness in casting accounts.' In effect, phrenology was a method of determining one's destiny and potential in life: 'Why is *one* young man a better salesman than another? and why is one better worth a salary twice or thrice the amount than another? Phrenology answers this by pointing out the constitutional differences, and showing who is, and who is not, adapted to mercantile life.'¹³

Born to be Mad: Determinism and Phrenology

In light of sweeping statements such as this, some people dismissed phrenology for being too deterministic. If a person had the faculties beneficial to salespeople and lacked the appropriate faculties for a career as a mechanic, a phrenological analysis implied that such a person was only suited to a sales job, however much he or she might have liked to become a mechanic. While some people were inspired by the promise of phrenology to reveal all that they were capable of becoming, others were discouraged by learning all that they would never be capable of achieving. In his *Self-Instructor*, Lorenzo Fowler described examples of notable individuals who were strong or weak in particular faculties. With suggestions such as Dickens for someone strong in the language faculty, Galileo as the epitome of strong reasoning faculties and Linnaeus as a perfect example of comparison and classification, the reader receives the strong impression that success in a particular field of endeavour is dependent upon the structure of the brain faculties.¹⁴ The structure of one's brain becomes one's destiny.

Even more importantly, the issue of morality entered into phrenological examinations. If someone has a large faculty of Destructiveness and little or no Benevolence or Conscientiousness, is he or she destined to become a murderer? If so, how could someone be held responsible for committing a murder if the structure of his or her brain is wired towards murder? An 1834 article in the *Annals of Phrenology* addressed this objection, arguing that if this were true, it does not explain the existence of some murderers who have been shown through phrenological analysis to have propensities towards murder but did not actually begin murdering until later in life. If a psychological propensity towards murder destined these individuals to become murderers, there is no reason why they should not have committed murders earlier in life. Instead, the anonymous author of the article maintains that the higher faculties such as Conscientiousness and Benevolence exist to counterbalance the darker human instincts and phrenology demonstrates how the exercise of appropriate faculties can overcome the abuse of the faculties in the opposite direction.¹⁵

Spurzheim argued that it would not necessarily be the case that all individuals with an abundance of a particular faculty would be certain to display it to such a great extent, depending on the total

¹² Davies, *Phrenology, Fad and Science*, 31-38.

¹³ Fowler, *New Illustrated Self-Instructor in Phrenology and Physiology*, 176. Emphasis in original.

¹⁴ *Ibid.*, 157-162.

¹⁵ 'Fatalism and Phrenology', in *Annals of Phrenology*, Vol 1, No. 2, (September 1834), 265-68.

makeup of the brain. For instance, a woman with a large propensity towards Philoprogenitiveness may still be a neglectful mother if she also has tendencies towards other traits such as apathy.¹⁶ Following through on the implications of Spurzheim's argument, one's future occupation is not necessarily written in the brain, at least so long as other faculties provide a strong enough counterbalance to allow success in more than one potential occupation. Nevertheless, there is evidence that law courts took a more deterministic view towards the phrenological propensity towards crime, as Matthew Varley demonstrated in a thesis on the insanity defence in the murder trial of Daniel McNaughtan. Varley examined the influence of phrenology on the defence's argument for insanity, making the case that phrenological principles underlaid the justification of McNaughtan's actions by virtue of partial insanity.¹⁷

Insane in the Membrane: Phrenology and Madness

Phrenology was easily applied to the study of mental illness as an explanation for the behaviour of the insane. For example, a person with a high degree of sexual desire would be more likely to become a nymphomaniac.¹⁸ Even seemingly desirable or at least neutral traits could lead to insanity if the faculty became too dominant in the brain. If the faculty of Cautiousness were to be too strong in relation to the other faculties, a person could potentially be driven mad with constant fear at mildly frightening but essentially harmless events such as thunderstorms.¹⁹ In some cases, the extreme dominance of a particular trait could reach absurd proportions, as in the case of a woman with excessive Philoprogenitiveness (or love of one's children) who believed she was pregnant with six children.²⁰ On the other hand, if a desirable faculty was underdeveloped in the brain this could also result in insanity. For instance, Combe cited a case involving a woman who 'had been struggling against an almost irresistible impulse to destroy' her infant child. As a result of her severe bouts of depression and suicide attempts, her child was taken away from her for its safety.²¹

There was thought to be a direct link between phrenology and insanity as phrenology was considered 'the science of the healthy functions of the brain, or the physiology of that organ.' On the other hand, insanity was 'the perverted or deranged state of the mental functions, and is embraced in the pathology of the same organ.' Therefore, 'phrenology bears the same relation to insanity, that physiology does to pathology.'²² Accordingly, H. A. Buttolph, in an article published in the *American Journal of Insanity* in 1849, discussed the application of phrenology to four questions of madness: its prevention; diagnosis; prognosis; and treatment. 'A well proportioned healthy brain' being the first essential ingredient of a healthy mind, Buttolph argued for an understanding of general principles of health, hereditary characteristics and the development of the faculties

16 J. G. Spurzheim, *Observations on the Deranged Manifestations of the Mind, or Insanity*, (Boston: Kane & Co, 1833), 108, <http://archive.org/details/observationsonde00spur>, accessed 8 September 2010.

17 Matthew Varley, 'Phrenology and the Insanity Defence: Medical Jurisprudence in the McNaughtan Trial,' (Honours Thesis, University of Sydney, 2008), University of Sydney eScholarship Repository, <http://ses.library.usyd.edu.au/bitstream/2123/5811/1/Varley%20Matthew%20Thesis.pdf>, accessed 19 August 2010.

18 Combe, *Observations on Mental Derangement*, 153.

19 *Ibid.*, 150.

20 *Ibid.*, 155.

21 *Ibid.*, 227.

22 H. A. Buttolph, 'The Relation between Phrenology and Insanity', in *American Journal of Insanity*, Vol. 6, No. 2, (October 1849), 127-28. The original article ran from pages 49-59. The microfilm copy I consulted in the Fryer Library, The University of Queensland, uses continuous pagination and here the article appears on pages 127-36.

to assist in the prevention of insanity. A person who understood the principles of phrenology could apply them to gain an understanding of which faculties were at risk of overdevelopment or underdevelopment. Once forewarned, he or she could ward off the risk of insanity by following a lifestyle that encouraged the development of a healthy mind.²³ Were preventive actions not taken, the onset of mental disease could also be elucidated through phrenological analysis, enabling the diagnosis and prognosis of insanity.²⁴ Finally, Buttolph separated the treatment of insanity into two forms: medical treatment for the physical condition and moral treatment for the mental condition. While medicine supplied the necessary treatments for healing the physical body, phrenology supplied the moral treatment necessary for healing the mind.²⁵

Spurzheim railed against the moral treatments of the era that were practiced in mental institutions, in which the insane were kept tightly packed in unhygienic conditions with little exposure to light or air and forced to undergo 'treatments' such as induced vomiting, ice-cold baths and blood-letting with the use of leeches placed on the body. Instead, he advocated improved conditions in asylums with proper access to space, light, controlled temperatures and cleanliness. He believed that insanity should be treated with proper rest, diet and exercise and, further, that mental patients would even benefit from taking low-skilled jobs in the community as gardeners, carpenters or cleaners.²⁶ Spurzheim's views on the moral treatment of insanity would have appealed to the American medical community at a time when reforms were proposed in a variety of different fields. The medical construction of insanity and the popularity of phrenology in the United States both occurred in the era of energetic campaigns by Sylvester Graham, John Harvey Kellogg and others to solve what they saw as the physical and moral degeneration of the American people. Various health reformers of the time proposed a range of different treatments to improve American health from special diets and exercise to temperance and chastity. In fact, in addition to his work on phrenology, Orson Fowler wrote other books on subjects such as marriage, sexuality, pregnancy, parenthood, anatomy, diet and disease.²⁷

Of the various works on phrenology, two were specifically devoted to the subject of phrenology and madness. These were Spurzheim's *Observations on the Deranged Manifestations of the Mind, or Insanity* and Andrew Combe's *Observations on Mental Derangement: Being an Application of the Principles of Phrenology to the Elucidation of the Causes, Symptoms, Nature, and Treatment of Insanity*.²⁸ American editions of both books were published in Boston in 1833. Phrenological ideas had a significant impact on the development of psychiatry and the movement from the idea of madness as a disturbed state of mind with no known scientific cause to the medical construction of insanity as a mental illness caused by dysfunction in the brain. While not all medical professionals were convinced of the claims made by phrenologists, phrenological ideas contributed to the developing understanding of the brain as an organ composed of discrete and specialist functions working together. If nothing else, phrenologists were correct in the idea that specific brain functions were performed by different parts of the brain working in conjunction with the rest of the brain. If

23 Ibid., 129-30.

24 Ibid., 130-32.

25 Ibid., 132-35.

26 Spurzheim, *Observations on the Deranged Manifestations of the Mind*, 156-202.

27 Stephen Nissenbaum, *Sex, Diet, and Debility in Jacksonian America: Sylvester Graham and Health Reform*, (Westport, Conn.: Greenwood Press, 1980), 148-49.

28 Eric T. Carlson, 'The Influence of Phrenology on Early American Psychiatric Thought,' *American Journal of Psychiatry*, Vol. 115, (December 1958), 536.

something interfered with these complicated brain functions, the entire brain would not be able to function effectively and subsequently the patient could develop mental illness.²⁹

In this way, phrenology offered a concrete, biologically based explanation of insanity as a scientific alternative to the varied assortment of conditions that were previously thought to cause madness. A huge range of theories had been proposed as causes of insanity, ranging from behavioural excesses, such as excessive eating, drinking or study, to diseases such as small pox and venereal disease, to head injuries, emotional difficulties, stress, jealousy, heredity and vague explanations such as hysteria or an imbalance in the humours.³⁰ In place of these suggestions, there was now a logical explanation that could be understood scientifically, examined and treated medically. In this respect, Roger Cooter argued that the key impact of phrenology upon psychiatry lay in 'relating function to structure' in brain physiology and 'forcing insanity to be seen as a disease of the brain.'³¹ This led to the idea of insanity as a medical condition to be diagnosed and treated within the domain of medicine, while also legitimising the moral treatments then popular among medical professionals. Phrenological ideas also came to dominate the thinking of many early psychiatrists in the United States.³²

In Two Minds: Partial Insanity and the Double Hemispheres

The phrenological compartmentalisation of faculties in the brain was particularly useful as an explanation of partial insanity. As different parts of the brain were wired for different faculties, it was possible that only part of the brain was 'diseased,' such that the person would otherwise be functional in most circumstances.³³ This was particularly found in cases of monomania.³⁴ One particularly interesting case study cited by Andrew Combe is that of Jane Hall, who suffered delusions that she was the Queen of France, that she was at risk of being attacked by rebels surrounding her house and that she had a family of rats living in her forehead. She was accordingly diagnosed with monomania, attributed by Combe to large faculties of Concentrativeness, Destructiveness, Hope, Veneration, Wonder and, most especially, Self-Esteem. However, she was described as otherwise 'generally cheerful and quiet.'³⁵

The idea of partial insanity was generally acknowledged by the medical profession in the examination of cases of mental illness. Many patients were found to present all outward signs of sanity except for one or two specific symptoms that revealed an underlying problem in one or more particular parts of the brain. For instance, one patient, described as a 'respectable and intelligent gentleman,' appeared to possess full mental function, with the exception that he was completely unable to recognise familiar places, including his own home, once he had left them for even a short while.³⁶ Such a condition would suggest that a particular part of his brain relating to space and locality was not functioning properly, though he was perfectly normal in all other respects. Of

29 Cooter, 'Phrenology and British Alienists, ca. 1825-1845,' 60-75.

30 Roy Porter, *Mind-Forg'd Manacles: A history of madness in England from the Restoration to the Regency*, (Cambridge, Mass.: Harvard University Press, 1987), 33-109.

31 Cooter, 'Phrenology and British Alienists, ca. 1825-1845,' 89.

32 Carlson, 'The Influence of Phrenology on Early American Psychiatric Thought,' 535-37.

33 Davies, *Phrenology, Fad and Science*, 91.

34 Combe, *Observations on Mental Derangement*, 226.

35 *Ibid.*, 112.

36 Spurzheim, *Observations on the Deranged Manifestations of the Mind*, 247.

course, one faculty described in phrenological treatises was specifically concerned with locality and a person's ability to recognise places and orientate oneself in space.

The phrenologist's assessment of the gentleman who was unable to recognise his own house would be that his faculty of Locality was underdeveloped, with the suggestion that he should learn landmarks and other notable features of his surroundings in an attempt to develop the faculty more thoroughly.³⁷ Amariah Brigham claimed that 'such cases of partial insanity are better explained by the system of Phrenology than any other,' pointing out that he could find patients in any asylum whose basic faculties were not fully developed according to the principles of phrenology.³⁸ However, while this sounded reasonable in theory, it was not necessarily the case when an actual medical examination of the brain was conducted. Some opponents of phrenology produced evidence of damage to every part of a patient's brain *except* the part that was supposed to be damaged according to a phrenological analysis of the patient's skull.³⁹

Modern historian of science Anne Harrington presents an interesting history of neurology and the development of the idea that the brain consists of two hemispheres. She writes that in his original conception of the mental faculties, Gall considered each faculty to be duplicated in either hemisphere of the brain so that any particular faculty could be located by examining the corresponding region of the skull on either the right side or the left side. Besides the appealing symmetry of the idea, Gall reasoned that such an arrangement would help to compensate for any damage to the brain that disabled one of the faculties. However, this too became problematic in some cases, such as that of a man who had suffered left brain damage which impacted his speech, although his right brain was unaffected. If Gall's theory was correct, the language faculty in the right side of his brain should have been able to take over and compensate for the loss of the language faculty on the left side. The phrenological explanation for such a case was that the damage had disordered the simultaneous functioning of the two language faculties.⁴⁰ Following from this, the possibility arose that some cases of insanity might involve only one half of the brain, such that each hemisphere would be able to function independently of the other. A patient who suffered from such a condition would effectively be half-mad and half-sane, as evidenced by testimonies from a number of patients who felt that one half of their brain was functioning differently to the other half. The general consensus among phrenologists was that insanity could be caused by the inability of the two brain hemispheres to effectively function together.⁴¹

Manifest Insanity: Madness, Phrenology and the American Mind

In his appendix to the American edition of Spurzheim's *Observations on the Deranged Manifestations of the Mind*, Brigham observed that cases of insanity tended to be more prevalent in the United States than in Europe and, in particular, were more concentrated on the east coast of the United States. Using the example of cases in Connecticut alone, he estimated that the total cases of insanity in the American population 'cannot be less than *fifty thousand*, or *one to two hundred and*

³⁷ Fowler, *New Illustrated Self-Instructor in Phrenology and Physiology*, 151-52.

³⁸ Amariah Brigham, Appendix to Spurzheim, *Observations on the Deranged Manifestations of the Mind*, 246.

³⁹ Anne Harrington, *Medicine, Mind, and the Double Brain: A Study in Nineteenth-Century Thought*, (Princeton: Princeton University Press, 1987), 14.

⁴⁰ *Ibid.*, 11-15.

⁴¹ *Ibid.*, 17-22. On phrenology and cerebral localisation, see also Robert M. Young, *Mind, Brain and Adaptation in the Nineteenth Century: Cerebral Localization and its Biological Context from Gall to Ferrier*, (Oxford: Clarendon Press, 1970).

sixty two of the population.⁴² He attributed such widespread madness to several causes, including: the overexcitement of the American mind with religion, wealth and status; the failure to encourage children to develop a balanced physical and mental condition; the overpowering tendency of women to value feeling more than thinking, and overindulgence in vices such as drinking.⁴³ Here the medically sanctioned physical and moral treatment of insanity can be viewed in the context of the American health crusades of the nineteenth century.

Bearing this history in mind, Davies noted that phrenology in the United States cannot be divorced from the cultural context in which it thrived. Americans have always believed in the values of democracy, individualism and the ability to improve oneself through hard work and determination. With these values already deeply rooted in the American mind, phrenology offered to America 'a "scientific" rationalization, of which Americans were already convinced, of the infinite improvability and perfectibility of man.'⁴⁴ Although the system of phrenology could uncover the origins of madness and show people at their worst, it also provided ways to uncover the shortcomings of the human mind and offered hope for the future of the republic.

42 Brigham, Appendix to Spurzheim, *Observations on the Deranged Manifestations of the Mind*, 233. Emphasis in original.

43 Ibid., 235-36.

44 Davies, *Phrenology, Fad and Science*, 168.
