PHRENOLOGY

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Figure 1: Set of sixty miniature heads used in phrenology, Manchester. Science Museum, London. Attribution 4.0 International (CC BY 4.0).

Phrenology, the nineteenth-century practice of interpreting mental qualities and potential based on the external appearance of the skull, is a science with a complex and rich history and historiography. In the present day, phrenology is often referred to as a "pseudoscience," but this epithet masks essential qualities of the origins, practice, and legacy of the field that both shaped nineteenth-century science and culture and which continues to inform ways of knowing the world today. Phrenology can and should be taken seriously as a science within its historical context. In so doing, we gain not only a better understanding of this strange science itself, but also can uncover the contours through which new scientific theories were introduced, assessed, popularized, and fell from prominence.

Phrenology was many sciences, adopted by many practitioners for many uses in many sites and settings and in pursuit of various goals, not all of which were purely "scientific." The history of phrenology thus comprises many important themes and dynamics in the history of science writ large. As the story of a so-called "failed" science, its study encapsulates methods within the history of science, as it allows the historian to explore the development, efflorescence, and popularization of a science, as well as the process by which one science

might appear to be replaced by new scientific theories and practices, even as some essential aspects live on.

ORIGINS AND MOVEMENT

Originally named "*Schädellehre*" (doctrine of the skull) and "*Organologie"* by Franz Joseph Gall (1758-1828), the science would come to be called by various names, including craniology, cranioscopy, and eventually phrenology, a term coined by Benjamin Rush but applied to this set of practices by Johann Gaspar Spurzheim (1776-1832).[1] Gall, born in Tiefenbronn in what would later become part of the German Grand Duchy of Baden, Germany, was a physician and anatomist who developed his theories of mind in the 1790s, when he began publishing and lecturing on the subject.[2] Emperor Franz II banned Gall's lectures in 1801, initially a set-back, but ultimately a boon to the new science. Gall embarked on a lecture tour throughout Europe between 1805 and 1807, joined by the young Spurzheim, a German physician and anatomist who served as Gall's assistant and dissectionist.[3] At the end of this tour, Gall settled in Paris, where he would spend the remainder of his life. In 1813, Spurzheim set off on a tour of his own, this time through the United Kingdom, which helped the science spread further.

Phrenology received an uneven reception in the United Kingdom. Spurzheim embarked on a lecture tour in 1814 in London, giving lectures in English for both a scholarly, especially a medical audience, and for a broader public.[4] Spurzheim's lectures and his English-language publications, particularly *The Physiognomical System of Drs. Gall and Spurzheim* (1815), set off a new chapter in what Geoffrey Cantor has referred to as the "Edinburgh phrenology debate," which he dates to an 1803 attack on phrenology in the *Edinburgh Review.* But this debate reignited in earnest in 1815, when John Gordon published a highly critical review of Gall and Spurzheim's publications in the same journal.[5] Following this, Spurzheim traveled from London to Edinburgh to engage with his critics via public lectures.

One of these public lectures and dissections was attended by George Combe, who would become one of phrenology's most stalwart adherents and popularizers.[6] Combe and some like-minded colleagues established the Edinburgh Phrenological Society, the world's first

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[1] van Wyhe, "The Authority of Human Nature," 22. On the origin of "phrenology," see: Walsh, "Phrenology and the Boston Medical Community," 261; Noel and Carlson, "Origins of the Word 'Phrenology,'" 694-697.

[2] van Wyhe, "The Authority of Human Nature," 24. On the life of Gall, see also: Finger and Eling, *Franz Joseph Gall*.

[3] van Wyhe, "The Authority of Human Nature," 25-26.

[4] Finger and Eling, *Franz Joseph Gall*, 421-422.

[5] Cantor, "Edinburgh Phrenology Debate," 198-199.

[6] Stack, *Queen Victoria's Skull*, 33-35.

phrenological society, in 1820, which published the first phrenological periodicals, *The Phrenological Journal* and the *Phrenological Transactions.*[7] Through these and other publications, Combe and his colleagues would fight the critics of phrenology and promote their science. Thus the United Kingdom, and especially Edinburgh, became the center not just of controversy over the science, but also a site for the dissemination and promotion of the science in the 1820s.

George Combe, significantly, was not a physician or anatomist like Gall and Spurzheim. He was trained as a lawyer, and this professional identity influenced how he used and adapted phrenology.[8] Combe was primarily interested in the concept of natural law, and focused less on anatomy than on phrenology's implications for moral philosophy.[9] His best-selling book, *The Constitution of Man* (1828), centered on Combe's theory of "natural laws"—a set of purportedly independent, universal principles set by Providence[10]—as it acted on the brain and hence the mind, so the mind could be explained through scientific theory, with implications for morality and behavior.[11]

A key aspect to the transition from Gall's *Schädellehre* to Spurzheim and Combe's "phrenology" was a transmutation of its guiding ethos. Gall believed that phrenology could be used by elites to govern the masses, whereas Spurzheim and Combe conceived of phrenology as a less coercive means to perfect or reform—but not govern—humanity.[12] As phrenology was transmitted throughout the Anglo-American world and beyond, it was this utopian and even reformist vision of phrenology that dominated. Even so, phrenology, in its attempt to compartmentalize, identify, define, and predict character and aptitude through the study of the skull, had a great deal of potential for larger, social, philosophical, political, and religious meanings. This expansiveness made the discipline malleable and useful for a range of political goals.[13]

While phrenology would ultimately become a global science, one of its strongest footholds was in the young United States. Accounts of Gall's science reached American newspapers as early as 1805, but phrenology did not gain traction until the 1820s. Phrenology took hold in

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[7] Cantor, "Edinburgh Phrenology Debate," 201.

[8] Stack, *Queen Victoria's Skull*, 20; Lyons, *Species, Serpents, Spirits, and Skulls*, 78-80.

[9] Stack, *Queen Victoria's Skull*, 80-83.

[10] Stack, *Queen Victoria's Skull*, 80-82.

[11] Poskett, *Materials of the Mind*, 80. On the Constitution, see van Wyhe, *Origins of Victorian Scientific Naturalism*, 96-164.

[12] Davies, *Phrenology, Fad and Science*, 8-9.

[13] Cooter, *Cultural Meaning of Popular Science*, 40.

the United States when physicians like Charles Caldwell, one of the earliest American promoters of the science, brought it back with them from their studies in Europe. More important for the growth of phrenology in America was the 1832 trip of Spurzheim himself through the United States.[14] He landed in New York City, and began a trek up the east coast. Spurzheim was a medical celebrity, welcomed by physicians and local politicians wherever he went. For example, when he passed through New Haven, the president of Yale, Benjamin Silliman, welcomed him personally, inviting him to participate in the commencement and alumni activities. Spurzheim ended up in Boston, where he gave a series of very popular lectures for medical students and professionals in the city. Spurzheim became ill that fall and died before his tour ended. But his death spurred the establishment of the Boston Phrenological Society, which became a major force in the popularization of phrenology in America.[15] A few years later, in 1840, George Combe also made a two-year tour through the United States. During this time, he similarly gave many popular lectures, met with politicians, judges, professors, and medical men, further spreading the gospel and contributing to the popularity of phrenology.[16]

American phrenology in the 1820s and 1830s was primarily an elite affair, not a popular science.[17] The individuals who were founding phrenological societies, writing phrenological treatises, and participating in the popularization of phrenology in the United States and in Europe were primarily highly educated, white, male intellectuals, especially physicians but also professors at institutions like Harvard and Yale, as well as lawyers, judges, and political figures. Phrenology was certainly taken quite seriously by this group, and its intended audience was explicitly academic and elite.[18] Phrenology was cutting-edge science with the potential to open up a whole new way of looking at the world. Professors taught their medical students phrenology alongside anatomy, and students at medical schools could receive their medical degrees by completing phrenology-based theses.[19] However, these elite phrenologists (or "phrenological enthusiasts") didn't think that phrenology should be for the masses —they disdained "popular" phrenology and itinerant lecturing on the subject.[20]

This period during which elite phrenology flourished did not last. While its effects can be seen in the continued use of phrenological language and ideas in law, medicine, psychiatry,

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[14] Davies, *Phrenology, Fad and Science,* 17; Walsh, "American Tour of Dr. Spurzheim," 187–205.

[15] Davies, *Phrenology, Fad and Science,* 18; Walsh, "Phrenology and the Boston Medical Community."

[16] Stack, *Queen Victoria's Skull*, 125-141.

[17] Riegel, "Introduction of Phrenology to the United States," 73.

[18] Thompson, *An Organ of Murder*, 3-4.

[19] Branson, "Phrenology and the Science of Race," 171; Thompson, *An Organ of Murder,* 44.

[20] Thompson, *An Organ of Murder*, 45.

and criminology, by the 1840s most elites and intellectuals had turned away from phrenology. This is for a few reasons. First, in Europe, a group of French anatomists and physiologists led by Marie-Jean-Pierre Flourens had mobilized against phrenology and the concept of cerebral localization.[21] In this period, American medicine in particular followed the trends in Europe; if the Europeans were actively attacking phrenology, Americans came to turn away from it as well. Second, the promise of phrenology had not yet come to fruition—it was not clear how phrenology might be practically applied to solve social ills. Third, and perhaps most important, phrenology had become popular in America, and intellectuals did not want to be connected to something that had become a non-elite science and pastime.

The popularization of phrenology in America can largely be laid at the feet of two brothers, Orson and Lorenzo Fowler, and their invention of "practical" phrenology.[22] Neither Orson nor Lorenzo were trained as physicians, although both did attend college, at Amherst. While they were widely known in their time as "professors," neither of them ever held such a title. After completing their university studies, the brothers decided almost immediately to embark on phrenological careers. Like many college students, they had been exposed to phrenological theory in university lecture halls and discussions while at Amherst, and they decided that this material was primed for a broader audience.[23] Beginning in the late 1830s, they toured the country extensively, providing popular lectures for non-academic audiences and charging for phrenological readings.

Orson and Lorenzo were not the only popular lecturers in phrenology in this period, but they were the best known. This is due in part to their embrace of print culture and their response to broader political and social movements. In 1838, they took over the editorial duties at Philadelphia's *American Phrenological Journal*, which had originally been published for a medical audience.[24] They moved the offices of the *Journal* to New York City and reframed the publication as one for the public, influenced by reform politics, including abolitionism, the water cure, dress reform, educational reform, criminal reform, and so on.

Throughout the century, the Fowler brothers published many books, pamphlets, and almanacs, along with a few other writers, including Lydia Folger Fowler, the wife of Lorenzo, and the second woman in America, after Elizabeth Blackwell, to receive a medical degree and practice as a physician.[25] Her publications on phrenology, notably, were focused toward

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[21] Finger, *Minds Behind the Brain*, 132-135; Finger, *Origins of Neuroscience*, 34-36.

[22] Stern, *Heads & Headlines*.

[23] Stern, *Heads & Headlines*, 7, 13-21.

[24] Stern, *Heads & Headlines*, 30-33.

[25] Carla Bittel, "Woman, Know Thyself," 112-113.

women and children: this is a far cry from the academically inclined phrenological publications of the early American phrenological community. Some practical phrenologists, like Lydia Folger Fowler, were trained physicians, but for the most part these latter-day phrenologists were not interested in speaking to an elite or academic audience. Instead, they were focused on the public.

The Jacksonian democratic politics of the era and the decentralized nature of scientific study itself led to the unique circumstances that allowed American phrenology to flourish in both elite and popular settings. As Katherine Pandora has explained in some detail, in the United States, "'popular science' emerged in the 1820s and 1830s embedded in a culture in which the scientific leadership lacked the kind of central organization or privileged status that characterized British and European science," to the extent that by midcentury, popular science was "normative"—phrenology being just one manifestation of this efflorescence of popular science for the masses.[26] Ironically, the social and political forces that enabled the introduction of phrenology into elite spaces also set the stage for its popularization and subsequent fall from scientific grace: the antistatus and antiprofessional ethos of the Jacksonian era, for example, in destabilizing the expert status of law and medical practitioners, allowed them to explore phrenology as a possible source of medico-legal knowledge and expertise in the 1830s.[27] The Second Great Awakening similarly shaped the overtly Christian morality that was often intertwined in the Fowlers' and others' articulation of popular practical phrenology and its proposed uses to solve a number of social ills.[28]

To these ends, practical phrenologists throughout the nineteenth century emphasized both Spurzheim's utopianism and Combe's sensibilities about social and natural order. In this, practical phrenologists as a group were following in the very successful footsteps of the Fowler brothers, who remade the *American Phrenological Journal* and their iteration of practical phrenology into a reform-minded project. While it is fairly clear that the Fowlers were interested in various reformist causes, this was also just a very good strategy. The wave of reform movements of the Jacksonian period and through midcentury touched on issues like prison and asylum reform, new attitudes and treatment of the poor and indigent, changes to education, abolitionism, temperance, and women's rights agitation. Most of these reform movements were not successful in this period, but did inspire new focus on social problems from a Christian worldview, inspired in part by the rhetoric of the Second Great Awakening. The Fowlers fed into this moment, remaking and selling phrenology as a solution to social problems.

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[26] Pandora, "Popular Science in National and Transnational Perspective," 351.

[27] Thompson, *An Organ of Murder*, 58-59.

[28] On the relationship between phrenology and revivalism, see: White, "Minds Intensely Unsettled."

By the 1840s, elite interest in phrenology in both Europe and in the United States had largely declined, due in part to the work of French physiologists, notably Marie-Jean-Pierre Flourens, in critiquing cerebral localization theory, for which phrenology was a central example and point of attack. When science circled back around to localization theory in the 1860s, following the work of Pierre Paul Broca and Carl Wernicke, among others, phrenology did not regain its former status; European (and American) scientists and physicians had mostly moved on. At midcentury, practical phrenology was still at the height of its popularity, with the Fowlers overseeing their small empire from New York. Phrenology also still flourished elsewhere, though it experienced a slow decline as the twentieth century dawned. Yet it is difficult to set an "end date" for phrenology: for a so-called "failed science," it was remarkably hardy. As late the 1940s, the British Phrenological Society still had a full roster of members.[29] There is a solid argument to be made that phrenology remains a potent force in American culture and politics.[30]

The story of phrenology, however, is not merely a story of the United States and Europe. Phrenology was a global science, as James Poskett has recently argued.[31] Phrenology attracted both adherents and critics around the globe, and phrenological materials, books, and objects were collected and transmitted on a global scale. In particular, phrenology became a tool of empire, traveling with colonizers and implemented as a means to reinforce racial hierarchies and justify the violent processes of colonization. For example, colonial India hosted its own phrenological societies, including the Calcutta Phrenological Society, founded in 1825, not long after the founding of the Edinburgh and Philadelphia societies, which hosted lectures and generated phrenological research based on local Indian schoolchildren.[32] Indian phrenology continued to develop throughout the century, promoted and debated by both white colonizers and Indian elites on varying axes of the political spectrum, used in particular to explore and demarcate racial categories in the sub-continent.[33] Phrenology's uses, thus, were tied to the movement of people and the utility of its theories and practices for making and reinforcing other systems of power.

THEORIES, PRACTICES, SITES

Phrenology was practiced in a multitude of places and by a multitude of users—from elite university lecture halls to smaller stages in rural areas, from phrenological offices in major cities to the homes of amateur users. Phrenology was studied and promoted in major

[29] List of Members, Feb. 1946, Marshall Phrenological Collection.

[30] Thompson, "Phrenology Is Here To Stay."

[31] Poskett, *Materials of the Mind*, 3-8.

[32] Poskett, *Materials of the Mind*, 137-140.

[33] Kapila, "Race Matters."

European and American cities and in colonial sites in the global South. It was practiced in homes and prisons, in hospitals and universities, on farms and in the streets. Its tenets and theories were adaptable and its meanings fluid, rendering it portable across borders and through different cultural contexts.

Phrenology was based on a few simple tenets, which were interpreted and put into practice in various forms throughout the course of the century. These tenets were as follows, as enumerated by John van Wyhe:

(1) The brain is the organ of the mind.
(2) The mind is composed of multiple distinct, innate faculties.
(3) Because they are distinct, each faculty must have a separate seat or "organ" in the brain.
(4) The size of an organ, other things being equal, is a measure of its power.
(5) The shape of the brain is determined by the development of the various organs.
(6) As the skull takes its shape from the brain, the surface of the skull can be read as an accurate index of psychological aptitudes and tendencies.[34]

The number of named organs changed over the century, from twenty-seven under Gall's original system to thirty-three according to Spurzheim to thirty-five in Combe's iteration, which would come to be the generally accepted number.[35]

The skull was divided into broad groups of organs, including the animal organs, the intellectual organs, and so forth, and then further into individual organs (Fig. 2). Each organ had a particular set of qualities, demonstrating what the exercise of this organ, its excess or deficiency, might relate to behavior or character. For example, the organ of Destructiveness could be related to force and indignation, but in extreme expression was related to vindictive or cruel behaviors, including a desire to cause pain up to and including a propensity to murder. Different organs also sometimes related to classed, gendered, or racial assumptions about qualities of mind. Philoprogenitiveness and Inhabitiveness, for example, organs located at the base of the skull and which represented parental love/love of children and love of home, were frequently tied to femininity and motherhood, dovetailing with nineteenth-century expectations for true womanhood.[36]

[34] van Wyhe, "Was Phrenology a Reform Science?" 314.

[35] Combe's *Essays on Phrenology,* published in 1819, identified the same 33 organs as Spurzheim, but in later works, such as *A System of Phrenology*, he expanded this number to 35. See: Blöde, *Dr. F. J. Galls Lehre*, 101; Combe, *Essays on Phrenology*, vi; Combe, *A System of Phrenology*, xiii; Spurzheim, *Physiognomical System*, xvi; van Wyhe, *Origins of Victorian Scientific Naturalism*, 213-215.

[36] Bittel, "Woman, Know Thyself," 109; Russett, *Sexual Science*, 18-19.

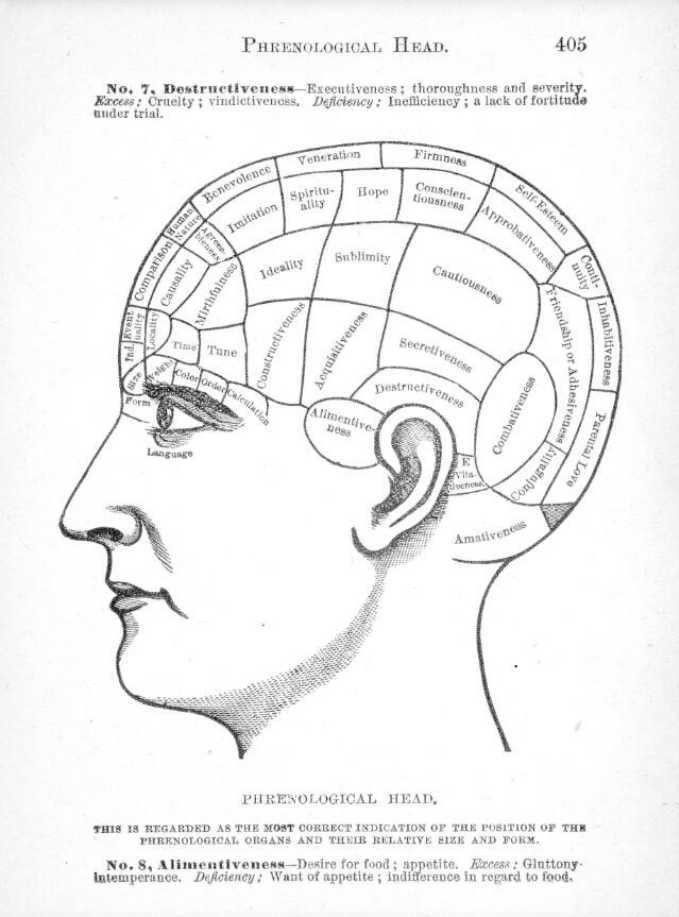

Figure 2: Nelson Sizer, *Forty years in phrenology : embracing recollections of history, anecdote, and experience* (1882). Wellcome Collection.

The various "organs" of the skull were each given a name and location on the skull, frequently depicted through either the image or the physical presence of a phrenological bust. Sometimes the related symbolical head was also used, particularly within practical phrenology, which depicted the meanings of the organs with small images, rather than just the name of the organ. The wide circulation of images of phrenological busts and symbolical heads resulted in broad familiarity with phrenological concepts and the names of organs, particularly in the United Kingdom and in the United States. Phrenological literacy was widespread, including knowledge of both the general precepts of the science and the names and locations of specific organs on the skull, enabled by the circulation of these images and other information about the organs.

The key to phrenological interpretation was not the size of an individual organ—as in the oft-derided charge of "bumpology"—but in the relative size of the organs altogether. This complex, but subjectively assessed, set of factors allowed the phrenologist or phrenological amateur to suggest an individual's character, as well as explanations for past behavior and possibilities for future behavior. For these reasons, phrenology was sometimes derided as

akin to palmistry or other forms of fortune-telling, a charge that phrenologists disputed vehemently, though often they embraced comparisons with physiognomy.

Physiognomy, the examination of facial features and the shape of the head for evidence of character, is both similar to and distinct from phrenology. Physiognomy has origins in the Ancient world, with texts dating to Aristotle, and while considered a science in this earlier period, by the eighteenth century it had largely decline to be viewed as a superstitious and vulgar adjunct of palmistry and other forms of fortune-telling. In the eighteenth century, interest in physiognomy was renewed by the work of Johann Caspar Lavater, a Swiss minister who published his own *Essays on Physiognomy,* which appealed to a bourgeois audience. The two practices have different methodological and theoretical bases; phrenology focused on the skull rather than the face, and purported to speak to the shape and nature of the brain itself, not just the organ-less and amorphous "character" divined by physiognomy. Yet the similarities and overlap between the two practices were self-evident for many observers in the nineteenth century: both enabled judgment and/or prediction of the self and character from evidence of the head, particularly its shape and appearance, often achieved through visual observation. That both phrenology and physiognomy often shared images—such as the use of the facial angle, originally developed by Petrus Camper—and assumptions—such as the notion that a large forehead portended great intellect—only served to reinforce this assumption.[37]

How the skull itself would be "read" varied from practitioner to practitioner. Some phrenologists, including its founders, advocated for manual examination, giving us the familiar image of the phrenologist with his or her hands on the head of a client (Fig. 3). Other phrenologists, particularly George Combe, advocated for the use of tools, particularly calipers and a tool known as a craniometer, though later he advocated for exclusive use of the calipers (Fig. 4).[38] Others promoted, both explicitly and implicitly, the value of the scientist's own vision as a tool for reading heads and interpreting character.

[37] On physiognomy, see: Pearl, *About Faces*; Percival, *The Appearance of Character*.

[38] Thompson, *An Organ of Murder*, 147.

Figure 3: A phrenology scene. Wellcome Collection. Attribution 4.0 International (CC BY 4.0).

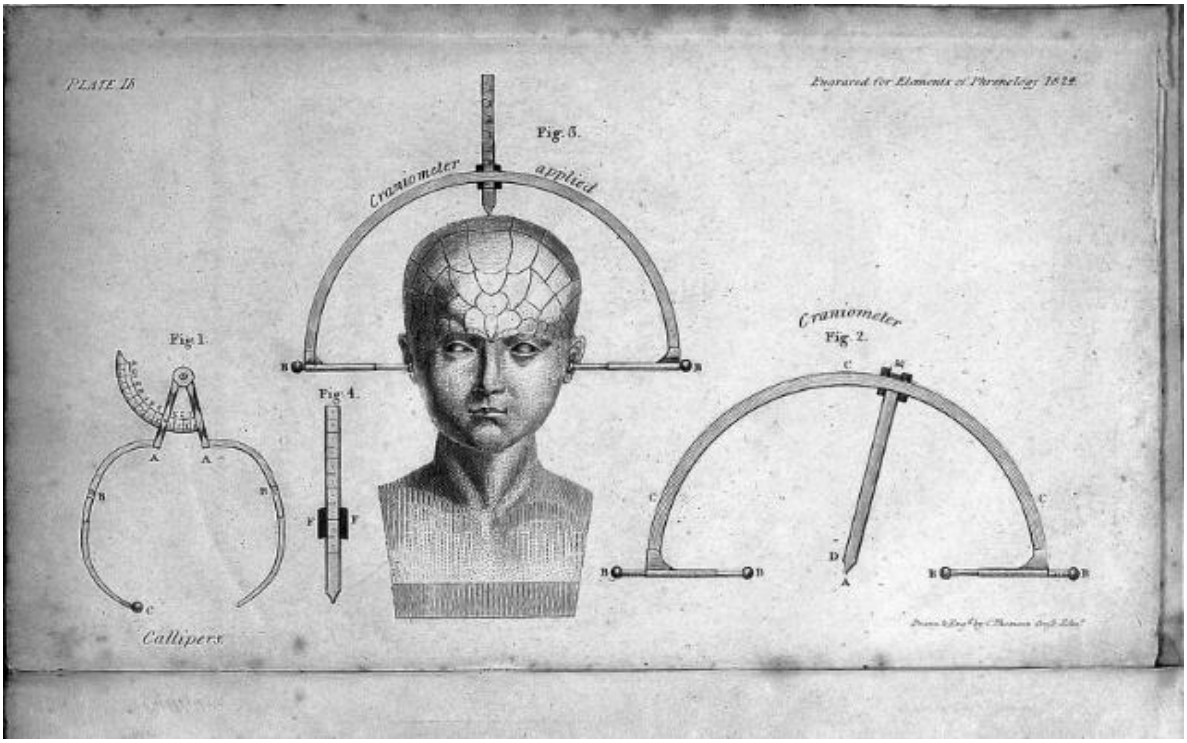

Figure 4: George Combe's depiction of crucial measuring devices, the calipers (left) and craniometer (center and right), in *Elements of Phrenology* (1824). Wellcome Collection.

Whether by hand, with tools, or by eye, phrenologists relied on their expertise to assess the organs and produce a phrenological reading that conveyed their findings. Practical phrenologists, when conducting readings for paying clients, often then recorded their results in one of two forms: a chart, using subjective numbers on a scale, usually 1-7, or in longhand form, as a summary of various current character traits and advice about "what to cultivate" in the future.[39] Phrenological charts for "average" white, middle-class clients tended to emphasize positive qualities, serving as a form of psychological counseling.[40] Indeed, "know thyself" became the motto of the Fowlers and their collaborators, conveying the self-help potential of the science, as well as how it could be used to know others.[41]

Meanwhile, assessments published in phrenological journals, both the more scholarly and popular varieties, often focused on two broad types: great men and their opposites. "Great men" as a category tended to include princes, presidents, generals, authors, philosophers, scientists (particularly phrenologists), and the occasional great woman as well. This category also sometimes included those who, while not famous, had a remarkable talent that suggested the development of a particular phrenological organ, such as a musical ability or great facility with measurement. On the other side of the equation, phrenologists frequently published about such undesirables as criminals, especially murderers, and people with intellectual disabilities and mental illness (Fig. 5). Direct contrast was sometimes drawn between such "great men" and their opposites, used to emphasize the extremes of human development, as represented through the noticeable difference in their skull shapes and phrenological readings. Additionally, "national types" or exemplars of racial or ethnic groups were another category of interest to phrenologists, though they were more likely to be treated as an aggregate, in line with the approach to ethnicity within racial science at large in the nineteenth century.

[39] On phrenological charts, see Sysling, "Science and Self-Assessment."

[40] Sokal, "Practical Phrenology."

[41] Bittel, "Woman, Know Thyself," 114, 118-119, 124n1.

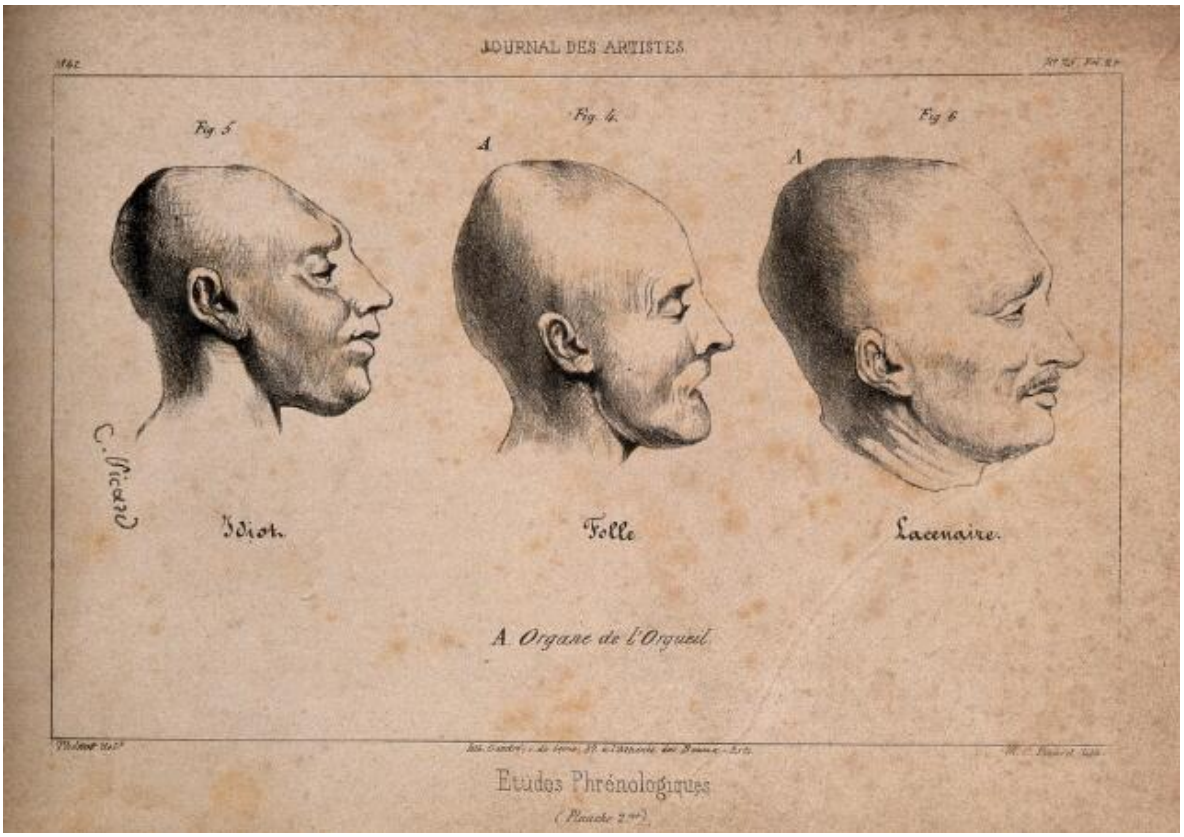

Figure 5: Three heads showing phrenological traits associated with insanity: a mentally defective person, a mad woman, and the murderer P.F. Lacenaire. Lithograph by C. Picard, 1842, after J.P. Thenot. Wellcome Collection.

Judgment by sight was an important aspect to phrenological assessment, particularly the form of popular practical phrenology that spread through midcentury America. Nelson Sizer, for example, one of the Fowlers' collaborators, argued that, "In the examination of skulls, judgment formed by the eye is quite sufficient."[42] One could learn to "know thyself" primarily through training one's own phrenological gaze.

The uses of vision emphasize the visual nature of practical phrenology itself. Practical phrenologists made substantial use of material and visual culture, including busts and skulls, both real and replicas, large posters, and robustly illustrated almanacs, journals, and books. In particular, the image and object of the phrenological bust was widely circulated in the nineteenth century (Fig. 6). Phrenological busts, inscribed with the names of phrenological organs or small cartoons illustrating the effect of the organ (sometimes known as a "symbolical head," Fig. 7), was often used metonymically. Phrenological busts, whether material or purely visual, served as useful devices and teaching tools to tie the name of an

[42] Sizer, *Forty Years in Phrenology*, 57-8.

organ to both the location on the head and the purported qualities of character or intellect that an organ signified.

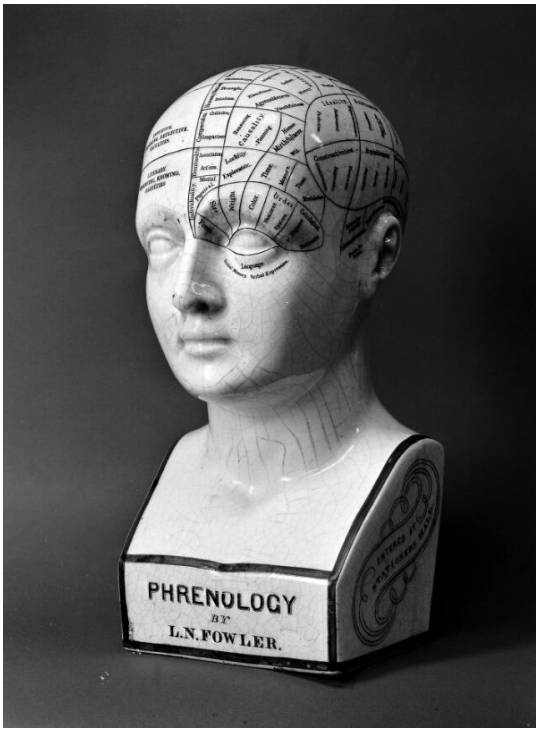

Figure 6: Photograph: `Phrenology', a ceramic head. Wellcome Collection. Attribution 4.0 International (CC BY 4.0).

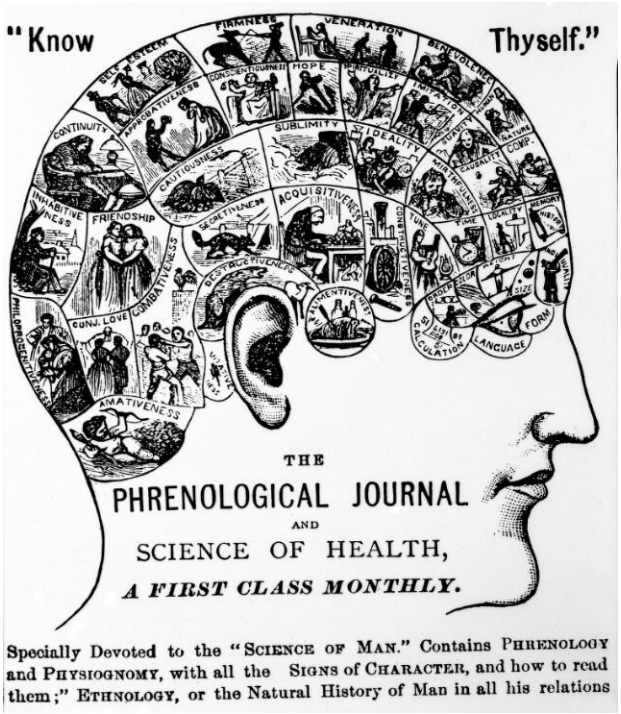

Figure 7: Phrenology: chart. Wellcome Collection. Attribution 4.0 International (CC BY 4.0).

With tools like the phrenological bust or chart and a plethora of periodicals and books, amateurs and other users were able to embark on phrenology in the comfort of their own home. Women, in particular, were encouraged to study phrenology to become better wives and mothers, and phrenological practice was touted as a way to improve one's children (Fig. 8).[43] But as Carla Bittel has shown, female phrenological practitioners and others experimented with phrenology, testing both the science and their own self-knowledge. Amateur study of phrenology could be used not only to help one to "know thyself," but also to affirm one's place in the midcentury hierarchies of gender and race.[44] Underlining the findings of other nineteenth-century sciences of the skull, phrenology allowed for easy visual identification of racial types, levels of intelligence (from genius to idiocy), and sexual difference. One could find out, for example, what the head of a "genuine mother" looked like, and evaluate one's own skull shape to make sure one fit the desired profile.

If the responsibility for making better minds was also often implicitly or explicitly given to mothers, reliance on "know[ing] thyself" (or one's child) could also be scaled up to the population level. The mechanism for how phrenology could "fix" social problems was not always entirely clear, though great reliance was placed on the importance of self-knowledge and self-improvement, which could find collective expression in institutions. If a child with an overabundance of one organ could be guided and educated towards the best expression of that organ, thereby keeping the child from growing into a dissolute or dangerous adult, such expectations could be used to shape educational reform as well as childrearing.[45] Similarly, if a prison warden knew, for example, which prisoners were most likely to behave violently, he or she could focus on restraint and surveillance of those prisoners, and indeed, phrenologists were welcomed into penal settings to provide this kind of data and even phrenological training of prisoners.[46] Phrenology was thus often a tool of expectation and potential, meant to shape disciplinary, educational, or institutional structures which could lead individuals and groups towards "appropriate" expression of their organs' powers and away from the more unsavory potential the mind held.

[43] Bittel, "Woman, Know Thyself," 105-106.

[44] Bittel, "Testing the Truth of Phrenology," 356.

[45] On phrenology and education, see: Tomlinson, *Head Masters*.

[46] Thompson, *An Organ of Murder*, 82-83, 88-91.

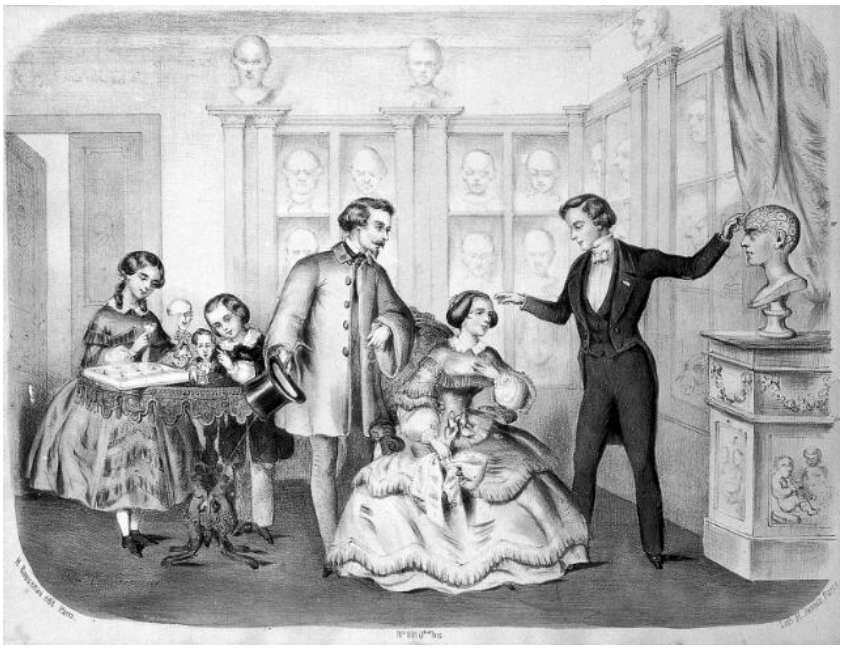

Figure 8: A phrenologist and some society people in a parlour. Lithograph by H. Jannin, possibly after L.C. Bommier. Wellcome Collection.

Phrenology was influential on a collective scale, creating knowledge of classes and groups, and reinforcing hierarchies of race, gender, class, disability, and fitness in line with nineteenth-century racial and sexual science, presaging late-century eugenic and hereditarian discourse.[47] The science was used as a form of racecraft, reinforcing racist hierarchies even as many phrenologists supported abolition. For example, phrenology came to be incorporated into racist minstrel shows toward the end of the century, becoming a way to belittle the work of people of color as scientists—including contemporaneous Black phrenological practitioners—as well as to delegitimize phrenology itself.[48]

In part due to concerns about the social order and its perceived utility for marking difference between groups of humans, phrenology came to be seen as particularly useful within institutions. Throughout the nineteenth century, phrenologists were welcomed into various institutions throughout Europe, the United States, and in colonial spaces, including schools, prisons, asylums, and poorhouses. In many cases, phrenology was used as another tool to extend the disciplinary project of these spaces; phrenologists were asked to assess the inmates of a given institution and would sometimes provide reports of their findings to wardens and other administrators of penal spaces. Phrenologists used the bodies found in these institutions as a kind of research capital, particularly in the production of phrenological

[47] Hilts, "Obeying the Laws of Hereditary Descent."

[48] Rusert, "The Science of Freedom," 301-304.

busts for demonstration (Fig. 9), but they also saw the potential for these sites as spaces to extend their power and expertise.[49]

Figure 9: Painted plaster head representing the French criminal Norbert. Science Museum, London. Attribution 4.0 International (CC BY 4.0).

Sites like the school, prison, and asylum were used by both elite and practical phrenologists as stages for the demonstration of phrenological truth. These and other institutions were also used to demonstrate the practical potential for the science as a tool of reform of these spaces and the systems of which they were a part. Various reformers, influenced by phrenology, believed that knowing and understanding the mind through a study of the brain via the skull could enable re-training and re-educating individuals, thus reforming them to be better (or better behaved) citizens. Phrenology had the potential to be a valuable way of not just better understanding the world, but also improving citizens and hence the nation (or colony). Phrenology could be social control, a useful tool for the ruling elite—as Gall might have proposed—and echoes of this form of phrenological thinking can still be glimpsed in politics and culture well into the present day.

[49] Thompson, *An Organ of Murder*.

MEANINGS

Phrenology has achieved a strange status both in popular culture and within the history of science and medicine. While it might seem simple to dismiss phrenology as a "pseudoscience," historians of science have instead taken it very seriously as an example of the development, dispute, and decline of a nineteenth-century science.[50] Phrenology has a robust historiography, dating to the 1930s at least, particularly due to the attention phrenology drew in the 1970s and early 1980s as part of the broader development of the history and sociology of scientific knowledge. In particular, scholars including Roger Cooter, Steven Shapin, and Geoffrey Cantor have used it as a case study in the social construction of scientific knowledge, focusing on the Edinburgh phrenology debates of the early nineteenth century.[51]

Historical studies of phrenology were initially dominated by attention to the earlier phases of phrenological development, particularly in the British context, and the debates about the nature and social meaning of the development and adoption of the science. More recently, scholars have asked a broader set of questions about the science, reflecting shifts in the methodologies and thematic interests in the history of science. Aspects of gender, race, and class, as well as the relationship between phrenology and other fields, such as educational reform or criminology, have now been explored by historians.[52] Historians have also begun to look beyond familiar ground, considering phrenology beyond Europe, Britain, and the United States, particularly its colonial and global implications.[53]

One question that has become a central theme in the historiography of phrenology is whether or not phrenology was a reform science. Originally the notion of a "reform science" was a central assumption of the work of historians of phrenology writing in the 1970s and 1980s, but scholars have recently come to reexamine this framework. By "reform science," scholars like Shapin, Cooter, and Cantor indicated a science with reform as its heart, characterized by its broad social and political meanings and uses.[54] This debate has been

[50] On "pseudoscience," see: Wrobel, *Pseudo-Science and Society*; Gordin, *On the Fringe*; Pigliucci, *Nonsense on Stilts*.

[51] Riegel, "The Introduction of Phrenology"; Cantor, "A Critique of Shapin's Social Interpretation"; Cantor, "The Edinburgh Phrenology Debate"; Cooter, "Phrenology and British Alienists, Part I"; Cooter, "Phrenology and British Alienists, Part II"; Shapin, "Phrenological Knowledge"; Shapin, "The Politics of Observation."

[52] See, for example: Bittel, "Testing the Truth of Phrenology"; Bittel, "Woman, Know Thyself"; Branson, "Phrenology and the Science of Race"; Hamilton, "'Am I Not a Man and a Brother?'"; Rusert, "The Science of Freedom"; Tomlinson, *Head Masters*.

[53] Poskett, *Materials of the Mind*; Poskett, "Global Politics of Reform."

[54] See: Cooter, *The Cultural Meaning of Popular Science*; Steven Shapin, "Phrenological Knowledge."

reignited, with John van Wyhe arguing that such a characterization is inappropriate, while James Poskett has argued once again for phrenology as reform science.[55]

The question of reform, however, may be beside the point. Phrenology was not one science, but *many* sciences, practiced by a variety of practitioners in a variety of sites and times for a variety of purposes. Practitioners—whether a housewife, a prison warden, a physician, or a practical phrenologist—brought to phrenology their own politics, goals, and intentions. Phrenology was reformist in nature for some of them—certainly it was for Combe, for example, in his efforts to ameliorate the masses, as well as for the Fowlers, alongside their self-promotional aims—but to suggest phrenology was a reform science, full stop, is to reduce it to a single set of practices and assumptions, rather than the flexible, multivalent science it was.

Thus, if phrenology can be viewed as a story in minitature of the history of science, the transformations its historiography has experienced are also representative of the transformations of the field, in miniature: from a focus on "great men" to the social construction of science to the work of women, non-white, and other marginal users; from a focus on intellectual content to first social and then cultural, material, visual, and sub-altern aspects and uses of the science; and a shift from the metropole to the periphery, and a current turn to the global, with more attention to the work of the science in perpetuating white supremacy and other inequities. Phrenology ultimately was a science that was recreated and recast by its many users, who transformed it into a tool in the service of their own goals, both personal and political. Similarly, historians have continually rediscovered and reconsidered phrenology over the last century as a case study for the history of science and medicine in the service of their own goals—a manifestation of the changing attitudes, methodologies, and uses of the history of science.

MEMORY

Despite the increasing complexity with which phrenology has been approached by academic historians of science, in popular culture phrenology has remained a touchstone for "bad science," and both the images and language promoted by phrenology live on. One can buy novelty phrenological busts, both replicas of antique busts and ones modified to serve as piggy banks or other containers. The image of the phrenological bust has also been frequently repurposed to other ends. *The Roots'* 2002 album, *Phrenology,* featured a stylized phrenological bust on the cover.

Phrenological images, especially representations of the partitioning of the head into different components, are frequently used in humorous or satirical cartoons. Such images reinforce phrenological understandings of the relationship between the mind, brain, and skull, sometimes by superimposing a nineteenth-century phrenological illustration onto an

[55] van Wyhe, "Was Phrenology a Reform Science?"; Poskett, *Materials of the Mind*, 116-117.

image of a present-day head (as in the *Time* cover below) or by drawing a new schema on top of the image of the head, whether a cartoon or a photograph (as in the *New Yorker* and *Atlantic* covers). These images explicitly break the mind into a collection of parts—cerebral localization—associated with particular qualities of mind or character. While the neo-phrenological bust might have organs for "Snoop Dog" or "MySpace"—or, auspiciously in the case of Jeff Bezos, for "Colonize Outer Space"—instead of phrenological organs like "Firmness" or "Veneration," the overall effect is similar.

Even the most stylized, cartoonish neo-phrenological busts convey a belief that the mind and brain *both* are partitioned in ways that speak to our most essential selves. If these illustrations are intended to be humorous, the humor works because there is assumed to be a grain of truth within the joke. It's not, after all, another part of the body that is being partitioned off—the heart, the stomach—but the head, and in a fashion that almost perfectly replicates the scientific and popular images of nineteenth-century phrenological head. And if the head is now partitioned in terms of things one thinks about—"PS3" or "Prime Day"—perhaps this signifies more than anything the extent to which we are, in a capitalist age, what we buy.

Figure 10: Cover images from *The New Yorker* (September 4, 2006); *The Atlantic* (November 2019); and *Time* (June 7, 2004).

Phrenology echoes into the present, shaping our assumptions about other heads, minds, and groups of people. Practices including fMRI (functional magnetic resonance imagining) and various facial recognition technologies are often likened to phrenological practices, dismissed as "neo-phrenology" or "new phrenology."[56] Concerns with these practices often link the dangers of modern-day facial recognition algorithms, in particular, to the racist elements of phrenology and physiognomy, as well as the dark potential of such practices to shape the criminal justice system.[57] Phrenological assumptions about "good" and "bad" heads are often replicated in present-day studies which use machine learning to identify "trustworthiness" in faces or "aggression" or "selfish behavior" using fWHR (facial width to height ratios).[58] Phrenological assumptions and beliefs thus continue to shape scientific and cultural approaches to assessing and judging heads. Even if the cartoonish "partitioned head" seems intended to draw laughter, these other present-day uses of phrenology are no laughing matter.

What phrenology offers the historian above all else is an ability to consider the history of science beyond teleological understandings of science as stories of progress. If the language, imagery, and assumptions of phrenology have lived on into the present day, this speaks to the ongoing relationship of scientific inquiry to the contruction of the self.

BIBLIOGRAPHY

Bittel, Carla. "Testing the Truth of Phrenology: Knowledge Experiments in Antebellum American Cultures of Science and Health." *Medical History* 63, no. 3 (2019): 352–374.

Bittel, Carla. "Woman, Know Thyself: Producing and Using Phrenological Knowledge in Nineteenth-Century America." *Centaurus* 55, no. 2 (2013): 104–130. (Link to IsisCB)

Blöde, Karl August. *Dr. F. J. Galls Lehre über die Verrichtungen des Gehirns, nach dessen zu Dresden gehaltenen Vorlesungen in einer fasslichen Ordnung mit gewissenhafter Treue dargestellt.* Dresden: Arnoldischen Buchhandlung, 1805.

Branson, Susan. "Phrenology and the Science of Race in Antebellum America." *Early American Studies* 15, no. 1 (2017): 164–193.

Cantor, G. N. "A Critique of Shapin's Social Interpretation of the Edinburgh Phrenology Debate." *Annals of Science* 32, no. 3 (1975): 245–256.

[56] See, for example: O'Dwyer, "The Neo-phrenology of fMRI"; Stinson, "The Dark Past of Algorithms"; Uttal, *The New Phrenology*.

[57] Chinoy, "The Racist History Behind Facial Recognition."

[58] Thompson, "Rediscovering 'Good' and 'Bad' Heads"; Thompson, *An Organ of Murder*, 160-161.

Cantor, G. N. "The Edinburgh Phrenology Debate: 1803–1828." *Annals of Science* 32, no. 3 (1975): 195–218. (Link to IsisCB)

Chinoy, Sahill. "The Racist History Behind Facial Recognition." *The New York Times*, July 19, 2019, https://www.nytimes.com/2019/07/10/opinion/facial-recognition-race.html.

Colbert, Charles. *A Measure of Perfection: Phrenology and the Fine Arts in America.* Chapel Hill: University of North Carolina Press, 1997. (Link to IsisCB)

Combe, George. *Essays on Phrenology.* Edinburgh: Bell & Bradfute, 1819.

Combe, George. *A System of Phrenology*. 3rd ed. Edinburgh: John Anderson Jun., 1825.

Cooter, Roger. *The Cultural Meaning of Popular Science: Phrenology and the Organization of Consent in Nineteenth-Century Britain.* Cambridge: Cambridge University Press, 1984. (Link to IsisCB)

Cooter, Roger. "Phrenology and British Alienists, c. 1825–1845. Part I: Converts to a Doctrine." *Medical History* 20, no. 1 (1976): 1–21. (Link to IsisCB)

Cooter, Roger. "Phrenology and British Alienists, c. 1825–1845. Part II: Doctrine and Practice." *Medical History* 20, no. 2 (1976): 135–151. (Link to IsisCB)

Cooter, Roger. *Phrenology in the British Isles: An Annotated Historical Biobibliography and Index.* Metuchen, NJ: Scarecrow Press, 1989. (Link to IsisCB)

Cooter, Roger. "Phrenology: The Provocation of Progress." *History of Science* 14, no. 4 (1976): 211–234. (Link to IsisCB)

Cornel, Tabea. "Something Old, Something New, Something Pseudo, Something True: Pejorative and Deferential References to Phrenology since 1840." *Proceedings of the American Philosophical Society* 161, no. 4 (2017): 299–332.

Davies, John D. *Phrenology, Fad and Science: A 19th-Century American Crusade.* Hamden, CT: Archon Books, 1971 [1955].

de Giustino, David. *Conquest of Mind: Phrenology and Victorian Social Thought.* London: Routledge, 2016 [1975]. (Link to IsisCB)

Finger, Stanley. *Minds Behind the Brain: A History of the Pioneers and Their Discoveries.* Oxford: Oxford University Press, 2000. (Link to IsisCB)

Finger, Stanley. *Origins of Neuroscience: A History of Explorations into Brain Function.* New York: Oxford University Press, 1994. (Link to IsisCB)

Finger, Stanley, and Paul Eling. *Franz Joseph Gall: Naturalist of the Mind, Visionary of the Brain.* New York: New York University Press, 2019. (Link to IsisCB)

Floyd, Janet. "Dislocations of the Self: Eliza Farnham at Sing Sing Prison." *Journal of American Studies* 40, no. 2 (2006): 311–325.

Gordin, Michael D. *On the Fringe: Where Science Meets Pseudoscience.* New York: Oxford University Press, 2021.

Hamilton, Cynthia S. "'Am I Not a Man and a Brother?' Phrenology and Anti-slavery." *Slavery and Abolition* 29, no. 2 (2008): 173–187.

Hilts, Victor L. "Obeying the Laws of Hereditary Descent: Phrenological Views on Inheritance and Eugenics." *Journal of the History of the Behavioral Sciences* 18, no. 1 (1982): 62–77. (Link to IsisCB)

Jenkins, Bill. "Phrenology, Heredity and Progress in George Combe's Constitution of Man." *British Journal for the History of Science* 48, no. 3 (2015): 455–473.

Kapila, Shruti. "Race Matters: Orientalism and Religion, India and Beyond c. 1770-1880." *Modern Asian Studies* 41, no. 3 (2007): 471-513.

List of Members, Feb. 1946, Box 1, Folder 2, Marshall Phrenological Collection, 1870s-1958 (inclusive). B MS c99. Boston Medical Library, Francis A. Countway Library of Medicine, Boston, Mass.

Lyons, Sherrie Lynne. *Species, Serpents, Spirits, and Skulls: Science at the Margins in the Victorian Age.* Albany: State University of New York Press, 2009.

O'Dwyer, Laurence. "The Neo-phrenology of fMRI." *Full Bleed,* Issue 3: The Machine (2019), https://www.full-bleed.org/the-neo-phrenology-of-fmri.

McLaren, Angus. "Phrenology: Medium and Message." *Journal of Modern History* 46, no. 1 (1974): 86–97. (Link to IsisCB)

McLaren, Angus. "A Prehistory of the Social Sciences: Phrenology in France." *Comparative Studies in Society and History* 23, no. 1 (1981): 3–22. (Link to IsisCB)

Noel, Patricia S., and Eric T. Carlson. "Origins of the Word 'Phrenology.'" *American Journal of Psychiatry* 127, no. 5 (1970): 694–697.

Pandora, Katherine. "Popular Science in National and Transnational Perspective: Suggestions from the American Context." *Isis* 100 (2009): 346-358. (Link to IsisCB)

Parssinen, T. M. "Popular Science and Society: The Phrenology Movement in Early Victorian Britain." *Journal of Social History* 8, no. 1 (1974): 1–20. (Link to IsisCB)

Pearl, Sharrona. *About Faces: Physiognomy in Nineteenth-Century Britain*. Cambridge, MA: Harvard University Press, 2010. (Link to IsisCB)

Percival, Melissa. *The Appearance of Character: Physiognomy and Facial Expression in Eighteenth-Century France.* London: W.S. Maney & Son, Ltd., 1999. (Link to IsisCB)

Pigliucci, Massimo. *Nonsense on Stilts: How to Tell Science from Bunk*. 2nd ed. Chicago; London: University of Chicago Press, 2018 [2010]. (Link to IsisCB)

Poskett, James. *Materials of the Mind: Phrenology, Race, and the Global History of Science, 1815–1920.* Chicago: University of Chicago Press, 2019. (Link to IsisCB)

Poskett, James. "Phrenology, Correspondence, and the Global Politics of Reform, 1815–1848." *The Historical Journal* 60, no. 2 (2017): 409–442.

Renneville, Marc. *Le langage des crânes: Une histoire de la phrénologie*. Paris: Institut d'Édition, Sanofi-Synthélabo, 2000. (Link to IsisCB)

Riegel, Robert E. "The Introduction of Phrenology to the United States." *The American Historical Review* 39, no. 1 (1933): 73-78.

Rusert, Britt. "The Science of Freedom: Counterarchives of Racial Science on the Antebellum Stage." *African American Review* 45, no. 3 (2012): 291–308.

Russett, Cynthia Eagle. *Sexual Science: The Victorian Construction of Womanhood.* Cambridge, MA: Harvard University Press, 1989. (Link to IsisCB)

Shapin, Steven. "Phrenological Knowledge and the Social Structure of Early Nineteenth-Century Edinburgh." *Annals of Science* 32, no. 3 (1975): 219–243. (Link to IsisCB)

Shapin, Steven. "The Politics of Observation: Cerebral Anatomy and Social Interests in the Edinburgh Phrenology Disputes." *Sociological Review* 27 (Special Issue, May 1979): 139–178.

Nelson Sizer, *Forty Years in Phrenology* (New York: Fowler & Wells Co., 1888).

Sokal, Michael M. "Practical Phrenology as Psychological Counseling in the 19th-Century United States." In *The Transformation of Psychology: Influences of 19th-Century Philosophy, Technology, and Natural Science*, edited by Christopher D. Green, Marlene Shore, and Thomas Teo, 21–44. Washington, DC: American Psychological Association, 2001. (Link to IsisCB)

Spurzheim, J.G. *The Physiognomical System of Drs. Gall and Spurzheim*. London: Baldwin, Craddock, and Joy, 1815.

Stack, David. *Queen Victoria's Skull: George Combe and the Mid-Victorian Mind*. London: Hambledon Continuum, 2008. (Link to IsisCB)

Stern, Madeleine B. *Heads & Headlines: The Phrenological Fowlers*. Norman: University of Oklahoma Press, 1971.

Stinson, Catherine. "The Dark Past of Algorithms That Associate Appearance and Criminality." *American Scientist* 109, no. 1 (2021): 26.

Sysling, Fenneke. "Science and Self-Assessment: Phrenological Charts 1840–1940." *British Journal for the History of Science* 51, no. 2 (2018): 261–280.

Temkin, Owsei. "Gall and the Phrenological Movement." *Bulletin of the History of Medicine* 21, no. 3 (1947): 275–321.

Tomlinson, Stephen. *Head Masters: Phrenology, Secular Education, and Nineteenth-Century Social Thought*. Tuscaloosa: University of Alabama Press, 2005. (Link to IsisCB)

Thompson, Courtney E. *An Organ of Murder: Crime, Violence, and Phrenology in Nineteenth-Century America.* New Brunswick: Rutgers University Press, 2021.

Thompson, Courtney E. "Phrenology Is Here To Stay." *Arc Digital*, February 11, 2021, https://medium.com/arc-%20digital/phrenology-is-here-to-stay-c835b5ce5032.

Thompson, Courtney E. "A Propensity to Murder: Phrenology in Antebellum Medico-Legal Theory and Practice," *Journal of the History of Medicine and Allied Sciences* 74, no. 4 (October 2019): 416-439. (Link to IsisCB)

Thurs, Daniel Patrick. *Science Talk: Changing Notions of Science in American Popular Culture*. New Brunswick, NJ: Rutgers University Press, 2007. (Link to IsisCB)

Uttal, William R. *The New Phrenology: The Limits of Localizing Cognitive Processes in the Brain.* Cambridge: MIT Press, 2003.

van Wyhe, John. "The Authority of Human Nature: The Schädellehre of Franz Joseph Gall." *British Journal for the History of Science* 35, no. 1 (2002): 17–42. (Link to IsisCB)

van Wyhe, John. *Phrenology and the Origins of Victorian Scientific Naturalism.* Aldershot, UK: Ashgate, 2004. (Link to IsisCB)

van Wyne, John. "Was Phrenology a Reform Science? Towards a New Generalization for Phrenology." *History of Science* 42, no. 3 (2004): 313–331. (Link to IsisCB)

Walsh, Anthony A. "The American Tour of Dr. Spurzheim." *Journal of the History of Medicine and Allied Sciences* 27, no. 2 (1972): 187–205.

Walsh, Anthony A. "Phrenology and the Boston Medical Community in the 1830s." *Bulletin of the History of Medicine* 50, no. 2 (1976): 261–273.

White, Christopher G. "Minds Intensely Unsettled: Phrenology, Experience, and the American Pursuit of Spiritual Assurance, 1830–1880." *Religion and American Culture* 16, no. 2 (2006): 227–261. (Link to IsisCB)

Wrobel, Arthur, ed. *Pseudo-Science and Society in Nineteenth-Century America.* Lexington: University Press of Kentucky, 1987. (Link to IsisCB)