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EXAMINING PHRENOLOGY

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While browsing an antique store specializing in Victorian material, we happened to spy a white porcelain bust with lines sectioning off numbered areas on its skull. The shop owner remarked, “That’s the *phrenology head*,” and told us that Orson and Lorenzo Fowler (major advocates of phrenology in the 1830s and 1840s) brought the head from England and had done much to popularize phrenology in America in the early 1800s. Indeed, many Victorian homes boasted such busts, he added. To shed some light on this interesting time—and its implications for current science—this article provides a brief overview of phrenology.

Phrenology's Origins

Franz Josef Gall was born in what is now Germany on March 9, 1758.¹ As a boy, Gall had a keen ability to observe people.² He began to correlate personality features with prominent skull regions, which became the basis for phrenology. Characteristics that interested Gall included exceptionally fine penmanship, excellence in arithmetic, extraordinary memory, cautiousness, combativeness, and benevolence.^{2,3} Gall also noted the lifelong consistency of these qualities (e.g., a selfish individual usually does not later become benevolent).

While continuing his medical training at Strassburg, Gall observed that the most brilliant medical students had bulging eyes.³ He concluded that the cerebral area behind the eyes was the cause of their outstanding memories. This observation led to his concept of specificity in brain function. Gall believed that the cause of enhanced memory was the prominent cerebral region, and that the skull simply reflected the pattern of the brain underlying it.²

After his medical studies were complete, Gall moved to Vienna, where he established a practice. His true passion remained with the brain, and he continued to study individuals with prominent mental features. He would visit prisons, royal courts, Vienna’s lunatic asylum, and judicial courts to observe people with pronounced personality characteristics. When permitted, he would examine the brains of those people postmortem. In that way he could not only examine the brain but also the corresponding regions of the skull.

Basic Tenets

Gall called the brain regions that he associated with the overlaying skull “organs.” He used a skull area and its measurements to predict an individual’s personality. Gall originally determined that there were 27 organs of the brain, and the list was later expanded (table 1).⁴

Gall had a grand view for his vision and work:

My purpose is to ascertain the functions of the brain in general, and those of its different parts in particular; to show that it is possible to ascertain different dispositions and inclinations by the elevations and depressions upon the head; and to present in a clear light the most important consequences which result therefrom to medicine, morality, education, and legislation a word, to the science of human nature.⁵

Phrenology’s basic tenets are:

- The brain is the organ of the mind.

- The mind consists of a plurality of innate and independent faculties.
- The brain consists of as many different portions or organs.
- The various faculties of the mind are possessed, originally, in different degrees of strength by different individuals, and also by the same individual.
- There exists a reciprocal proportion between the relative strength and power of the various mental faculties and the size of those portions of the brain.
- The shape of the brain generally may be ascertained by the form of the skull.
- The truth of phrenology is mainly supported by an appeal to the demonstrative evidence of physical facts.[6](#)

Great Interest

As Gall continued his practice and lectures in Vienna, Austrian Emperor Francis I demanded his research be halted. Gall was part of a scientific and clinical effort to see the brain as the seat of mental functioning. This was a radical idea for his time, suggesting a physical site for moral reasoning instead of the nonphysical soul, which threatened the Church's religious teachings and the crown's authority.

Gall and his associate Johann Christopher Spurzheim subsequently left Vienna, lectured throughout Europe for two years, and finally settled in Paris in 1807. In Germany they gave talks to enthusiastic audiences in Berlin, Dresden, and Magdeburg.[7](#)

The first phrenological society was founded in Edinburgh in 1820, and later there were many societies in Great Britain and America. These, in turn, led to the publications of journals and scientific meetings.[2](#) The first such journal, *Phrenological Journal and Miscellany*, began in 1823. In its introductory statement, it said about phrenology, "It is more than time that the indifferent but impartial world should know, that they are not only uninformed, but grossly and scandalously misled, in regard to this new department of knowledge."[1](#) By 1838, of the 1,000 members of the English phrenological societies, about 170 members were physicians and surgeons.[8](#)

In its heyday, phrenology was extremely popular. People consulted phrenologists about whom to employ, marriage choice, education, and child-rearing practices (Figure 1). Itinerant phrenologists offered their services throughout rural America. Prominent Americans who embraced phrenology included Horace Mann, Walt Whitman, Edgar Allan Poe, and James Garfield.[3](#)

Phrenology's Decline

With time phrenology's flawed scientific basis became apparent. People soon realized that "bumps on the head" did not correspond to personality traits. Phrenologists entered the ranks of tea leaves readers and circus palmists. In fact, John Quincy Adams once remarked that he could not see how two phrenologists could look at each other without bursting into laughter.[3](#)

Yet this pseudoscience persisted. In the 1930s, Lavery and White developed an automated phrenological machine called the Pscygraph, which provided a numeric printout of a skull's shape. They built 33 such devices (Figure 2), which were leased to American entrepreneurs for "clinical" use. The Pscygraph had 1,954 parts and rated 32 mental faculties. It looked at each faculty on a five-point scale by way of 32 probes with five head contact points arrayed in an elaborate headpiece. In 1934, two businessmen set up shop near the Century of Progress Exposition in Chicago and earned more than \$200,000 from a public eager to have their heads read.[9](#) Some of the Pscygraphs have survived to this day. One is at the Archives of the History of American Psychology at the University of Akron in Ohio, and for a donation of \$20 visitors can have their own phrenology reading (figure 2).

Phrenology is now cited as the quintessential example of psychological pseudosciences, but it did provide the basis of cerebral regional specificity—that is, that specific areas of the brain have designated functions.[10](#) As Simpson says, "phrenology thinking played an important part of the growth of clinical neurology in the second half of the nineteenth century."[11](#)

Gall contributed to the ongoing debate of the origins of personality (nature versus nurture) by emphasizing areas of the brain as fundamental to personality types, and later research found that mental and neurologic disorders can be tied to specific areas of the brain. MRIs have demonstrated specific locations of brain activity in Alzheimer's disease, schizophrenia, and ADHD.

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Table. Phrenology's “organs”

Not all phrenologists agreed on the number of organs. One list included the following⁴:

- Amativeness
- Philoprogenitiveness
- Inhabitiveness
- Adhesiveness
- Combativeness
- Destructiveness
- Secretiveness
- Acquisitiveness
- Constructiveness
- Self-esteem
- Love of approbation
- Cautiousness
- Benevolence
- Veneration
- Firmness
- Conscientiousness
- Hope
- Marvelousness
- Ideality
- Gaiety or Mirthfulness
- Imitation
- Individuality
- Configuration
- Size
- Weight and Resistance

- Coloring
- Locality
- Calculation
- Order
- Eventuality
- Time
- Melody
- Language
- Comparison
- Causality



Figure 1. Part of an advertisement for phrenology services from 1902. Figure photos provided by the Archives of the History of American Psychology at the University of Akron. Reproduced with permission.



Figure 2. One of the original (and still functional) Pscygraphs, housed at the Archives of the History of American Psychology at the University of Akron in Ohio.

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