

## James Stanley Grimes and phreno-physiology

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### ABSTRACT

In 1832, Johann Gaspar Spurzheim toured the United States to promote the practice of phrenology. Among the people attending his lecture in Boston was a young lawyer named James Stanley Grimes (1807-1903). Impressed by Spurzheim's field of knowledge, he decided to study phrenology himself. In 1839, Stanley Grimes published *A new system of phrenology*, a treatise reflecting the author's peculiar view of the discipline. Grimes proposed a classification system that established three types of cerebral organs: ipseal, social, and intellectual. In a later book, he postulated that there was a direct connection between phrenology and geology, or between brain structure and geological changes. Likewise, he proposed a theory of evolution based on natural selection, which came out eight years before Charles Darwin's *On the origin of species*. Our purpose is to summarise the contributions of this amateur phrenologist and speculative scientist, who was a privileged witness to both the introduction and the decline of phrenology in the United States.

### KEYWORDS

James Stanley Grimes, brain, cerebral organs, phrenology, phreno-physiology, 19th century history

### Introduction

Phrenology originated with the research on brain anatomy and physiology conducted by German doctor Franz Joseph Gall (1758-1828) in the last decade of the 18th century. Gall postulated that the affective and intellectual faculties were located in specific regions of the cerebral cortex, and that there was a parallel between cortical development and the degree to which those faculties would be expressed in a subject's behaviour. He initially called his doctrine *Schädellehre* (doctrine of the skull) before changing it to *Organologie*, and finally, *physiologie de cerveau*. The term 'phrenology', normally used to refer to the knowledge system proposed by Gall, was adopted by Gall's research assistant and student Johann Gaspar Spurzheim (1776-1832) after reading Thomas Foster's article 'Sketch of the phrenology of Gall and Spurzheim'.<sup>1</sup>

Phrenology was introduced to the United States by Dr Charles Caldwell (1772-1853).<sup>2,3</sup> Caldwell, who was born

in North Carolina, travelled to Paris in 1821 to attend one of Spurzheim's courses. Upon returning in the winter of that same year, he taught the first course on phrenology ever presented in the United States to his medical students at Transylvania University, Kentucky. In 1824, he published the contents of that course in a book titled *Elements of phrenology*.<sup>4</sup> Two years previously, he and John Bell (1796-1872) had co-founded the first society of phrenology in North America: the Central Phrenological Society.

The arrival of Spurzheim in New York on 4 August 1832 was a turning point for American phrenology.<sup>5</sup> This renowned phrenologist stayed in New York until 11 August, when he moved on to New Haven and subsequently to Hartford. On 20 August he arrived in Boston, where he was welcomed by the leading academic and political figures of the city. However, Spurzheim's carefully planned tour of the most important cities in the country ended suddenly when he fell ill in Boston. He died at 11 pm on Saturday, 10 November 1832.

Before he died, Spurzheim taught one of his phrenology courses in Boston. A young Bostonian lawyer, James Stanley Grimes (1807-1903), was among the crowd attending his lecture. He was impressed by Spurzheim's field of knowledge and decided that he himself would also study phrenology. In 1834, he started to give lectures; five years later, in 1839, he published *A new*



Figure 1. James Stanley Grimes (1807-1903)

*system of phrenology*,<sup>6</sup> a treatise presenting his own theoretical views. That same year, he founded the Western Phrenological Society, based in Buffalo.<sup>7</sup> In the mid-19th century, he published *Phreno-geology: the progressive creation of man*,<sup>8</sup> a book that Grimes considered to be a natural continuation of *A system of*

*phrenology*. In 1893, he summarised his more than sixty years of study of the brain in a short treatise titled *Phreno-physiology*.<sup>9</sup> Grimes used this term to refer to “a beautiful system of natural relations, which I have lately discovered, combining the principles of Phrenology with those of Physiology”.<sup>10(p64)</sup>

Little is known about the life of J. Stanley Grimes. The son of English immigrants, he was born in Boston in 1807. In 1832, he married Frances Warner, who died in 1848. He trained as a lawyer and practised law in his home town and in New York. At the same time, he taught medical jurisprudence at Castleton Medical College in Vermont. During the 1860s, he moved to Evanston, Illinois, where he died on 27 September 1903.<sup>11</sup>

### A new system of phrenology

Gall based his *physiologie du cerveau* on findings suggesting that certain parts of the skull protrude in a particular way, resulting in an individual's specific skills. Such protrusions were thought to result from the uneven development of different parts of the brain, each of which performed a specific function. In his analysis of the external shape of the skull (cranioscopic examination), Gall concluded that there were 27 faculties or organs; however, he simply described these organs, without providing any type of classification system. Spurzheim later categorised cerebral organs in two main groups as the intellectual and affective faculties. He further subdivided intellectual faculties into external senses, perceptive faculties, and reflective faculties. Affective faculties were subdivided into propensities and sentiments.<sup>12</sup> The classification system put forward by George Combe (1788-1858), another noteworthy phrenologist, did not differ significantly from that postulated by Spurzheim.<sup>5</sup>

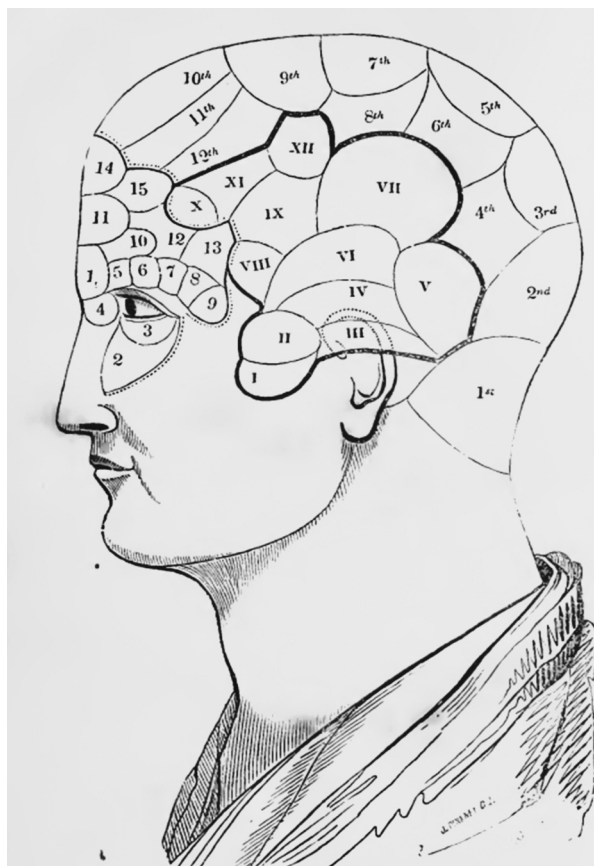
In *A new system of phrenology* (1839), J. Stanley Grimes identified 37 cerebral organs, which he classified into three types: ipseal, social, and intellectual.<sup>6</sup> Ipseal organs involve propensities focused on self-preservation and an individual's own interests, regardless of the interests or needs of third parties. Social organs involve propensities having to do with society, preservation of the species, and sense of community. Lastly, the intellectual organs involve the propensities associated with knowledge. According to Grimes, this classification system rested on a solid anatomical basis. His reasoning was that the spinal cord has three columns (anterior, middle, and posterior),

the medulla oblongata has three bodies (pyramidal, olivary, and restiform), and the brain is divided into three lobes (anterior, middle, and posterior). Intellectual organs would be located in the anterior lobe, ipseal organs in the middle lobe, and social organs in the posterior lobe.

This daring classification system was met with conflicting opinions. The Western Phrenological Society, with Grimes as its president, supported the new system,<sup>2</sup> whereas the Phrenological Society of Albany requested a report from an external committee headed by Professor Horsford. After six weeks of deliberation, the committee decided to adopt the new system after concluding that Grimes' system incorporated significant improvements compared to earlier classifications.<sup>13</sup> Nevertheless, such prominent figures in phrenology as Combe, Fowler, and

Caldwell strongly disagreed. Caldwell published a clearly hostile review of *A new system of phrenology* in the American Phrenological Journal.<sup>14</sup> Combe made no reference to Grimes' work in his lectures and articles and showed his annoyance whenever another researcher supported Grimes.

Six years after *A new system of phrenology* appeared, J. Stanley Grimes published another book in which he stated that the medulla oblongata was the central organ of consciousness, the sanctorum of the mind.<sup>15</sup> All cerebral organs converge at this centre, and all the nerves involved in voluntary movement would diverge from it. His ideas were based on earlier research showing that destroying certain parts of the brain or the spinal cord did not significantly alter consciousness, whereas destroying the medulla oblongata would effectively



INTELLECTUALS.			
LOWER RANGE.		MIDDLE RANGE.	
	Page.		Page.
1 Individuality,	65	10 Direction,	93
2 Chemicality,	69	11 Action,	95
3 Language,	78	12 Time,	97
4 Form,	80	13 Tune,	89
5 Size,	82		
6 Weight,	84	UPPER RANGE.	
7 Color,	87	14 Comparison,	101
8 Order,	88	15 Causality,	103
9 Number,	90		

IPSEALS.			
CORPOREAL RANGE.		RODENTIA RANGE.	
	Page.		Page.
I Pneumativity,	126	VIII Constructiveness,	185
II Alimertiveness,	140	IX Acquisitiveness,	187
III Sanitiveness,	155		
CARNIVEROUS RANGE.		HUMAN RANGE.	
IV Destructiveness,	164	X Playfulness,	192
V Combativity,	173	XI Perfectiveness,	199
		XII Hopefulness,	205
HERBIVEROUS RANGE.			
VI Secretiveness,	176		
VII Cautiousness,	181		

SOCIALS.			
ESTABLISHING GROUP.		CONFORMING GROUP.	
	Page.		Page.
1st Amativeness,	218	7th Firmness,	234
2d Parentiveness,	223	8th Conscientiousness,	247
4th Adhesiveness,	330		
GOVERNING GROUP.		9th Submissiveness,	257
5th Imperativeness,	233	10th Kindness,	263
6th Approbativeness,	236	11th Imitativeness,	268
		12th Credenciveness,	278

Figure 2. Grimes' phrenology head showing the 37 cerebral organs identified by that author<sup>6</sup>

eliminate consciousness. Although this reasoning sounds outlandish nowadays, in the mid-20th century renowned neurosurgeon Wilder Graves Penfield postulated that the highest integration level of the central nervous system depended on what he called the 'centrencephalic integrating system', including the midbrain and nearby structures. In line with Grimes' ideas, Penfield concluded that consciousness seems to disappear when the functions of the above mentioned structures are interrupted or disrupted.<sup>16,17</sup>

*Phreno-geology: the progressive creation of man, indicated by natural history and confirmed by discoveries which connect the organization and functions of the brain with the successive geological periods* (1851)<sup>8</sup> was J. Stanley Grimes' most original and singular published text on phrenology. This book establishes a connection between phrenology and geology, that is, between the structure of the brain and geological changes. In this treatise, he also proposed a theory of evolution based on natural selection eight years before Charles Darwin's *On the origin of species* appeared in November 1859. Grimes postulated that organisms demonstrate random variations across multiple generations that span long geological eras, and that only the individuals best adapted to the environment survive selective pressure. With time, this mechanism results in the emergence and diversification of species. His theory also proposed that humans and apes have a common ancestor, that the first animals evolved from plants, and other more bizarre hypotheses.

During the second half of the 19th century, J. Stanley Grimes published two additional books on phreno-physiology: *The mysteries of human nature explained by a new system of nervous physiology* (1857)<sup>10</sup> and *The mysteries of the head and the heart explained* (1875).<sup>18</sup>

### Closing remarks

James Stanley Grimes, amateur phrenologist and speculative scientist, witnessed the rise and decline of phrenology in the United States. In his youth, Grimes was fascinated by Franz Joseph Gall's and Johann Gaspar Spurzheim's ideas and was active in phrenology in its heyday, during the 1830s and 1840s. During that early period, phrenology was supported by many doctors and researchers, including Charles Caldwell, John Bell, Benjamin R. Coates, and John C. Warren, a professor at the Massachusetts Medical College in Boston (known today as Harvard Medical School). In the second half of

the 19th century, however, the practice lost the support of the scientific community and came to be dominated by the so-called 'practical' phrenologists or 'bump tracers'.<sup>3</sup> Noteworthy examples included Orson Squire Fowler (1809-1887) and Lorenzo Niles Fowler (1811-1896); the Fowler brothers turned phrenology into a popular phenomenon. In their phrenological office in New York, they read and interpreted skulls for a modest fee.<sup>19</sup> Phrenology, deprived of its initial scientific prestige, came to be regarded as a mere pseudoscience.

### Conflicts of interest

The authors have no conflicts of interest to declare.

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