

# The authority of human nature: the *Schädellehre* of Franz Joseph Gall

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**Abstract.** This essay is the first account in English to examine Franz Joseph Gall and the origins of phrenology. In doing so a host of legends about Gall and the beginnings of phrenology, which exist only in the English-language historiography, are dispelled. An understanding of the context of phrenology's origins is essential to the historicization of the movement as a whole. The first of two sections in the essay, therefore, introduces Gall's biography and the context in which his provocative science emerged. It is shown to what extent Gall borrowed from other thinkers of his time. I show that Gall's system was meant to be a certain science of human nature. In the second section I analyse the reactions of contemporaries to Gall's important two-year lecture tour of Europe. I conclude that although many critics dismissed Gall as a charlatan, there was no consensus about the proper way to disseminate scientific knowledge or the attributes necessary for the gentleman of science. For example, it was not clear whether science could be profitable, whether it should be shared with lay audiences or whether it could in fact be science at all if it was also entertaining. I argue that in any case Gall's aim was never really to impart science or to disseminate his system. His science and early means of disseminating it were meant to generate elite intellectual status. In this Gall was quite successful.

The historian Erwin Ackerknecht remarked that Franz Joseph Gall had as great an impact on the nineteenth century as Freud did on the twentieth.<sup>1</sup> It is an intriguing comparison, and yet despite an extensive Anglo-American historiography of phrenology in the 1970s and 1980s Gall and the German origins of phrenology have remained essentially unknown in English-language historiography.

This essay seeks to fill that historiographical gap by examining the influences on and activities of phrenology's originator, Franz Joseph Gall (1758–1828). There are many fine studies of Gall by German scholars; these do not easily suit the needs of the wider historiography of Anglo-American phrenology, however. The histories of Gall and of phrenology are two different books, distinct and often contradictory. Hence this account is not simply a summary of German Gall research. Instead, the German beginnings of Gall's science are considered from a perspective useful for understanding the specific cultural origins of what became phrenology in the English-speaking world.

The first part of this essay re-examines Gall and his system and provides a brief chronological overview of his life and work before the growth of the phrenology 'movement'. The second section uses an analysis of the reception of Gall's system during his European lecture tour to examine the functions of Gall's naturalistic system and the negotiation of scientific authority in early nineteenth-century Germany. I argue that Gall's system was, in part, a way of acquiring elite scientific authority and status.

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1 E. Ackerknecht, *Medicine at the Paris Hospital 1794–1848*, Baltimore, 1967, 172.

Gall's philosophy of Nature determined many aspects of his system.<sup>2</sup> Gall also used Nature to substantiate his claims to epistemological authority. As Steven Shapin has shown, the practice of maligning testimony while privileging the evidence of Nature has been an argumentative strategy at least since the sixteenth century.<sup>3</sup> A similar approach can be applied to Gall so that his system can be seen as the creation of a science of certitude.

Historians such as Roger Cooter have seen Gall's system as 'virtually synonymous with social unorthodoxy and dissent, and hence implied change', a view which was based on the stories of Gall's 'banishment' from Vienna and persecution by the clergy. Together these formed an image of Gall the rebel, Gall the heterodox reformer. Not unrelated is Robert M. Young's representation of Gall as a revolutionary thinker.<sup>4</sup> Rather than seeking to reform, I argue that Gall's system functioned to garner learned authority and attention in a social world of patronage, high art and high science.

Franz Joseph Gall was born in the Swabian village of Tiefenbronn near Pforzheim, later part of the German Grand Duchy of Baden.<sup>5</sup> His father, Joseph Anton Gall, was a wealthy Roman Catholic wool merchant and mayor of Tiefenbronn. The Galls had been a leading family in the region for more than a century. Franz Joseph was the sixth of twelve children, seven of whom lived to adulthood. One of Gall's brothers became a weaver in Tiefenbronn, another a merchant and a third became a Catholic priest.<sup>6</sup> Gall's father hoped Franz Joseph would become a merchant and his mother that Gall would become a priest like his elder brother.

Gall's first education came from a priest uncle in the Black Forest. Later Gall attended school in Baden Baden and then in Bruchsal before leaving for university in Strasbourg in 1777 to study medicine. In Strasbourg Gall was introduced to the comparative anatomy of Johann Hermann (1738–1800), who taught that there was a close relationship between Man and apes.<sup>7</sup> From 1781 Gall continued his medical studies in Vienna where he was most impressed by his teacher Maximilian Stoll (1742–87). A well-known physician, Stoll

2 E. Clarke and L. S. Jacyna, *Nineteenth-Century Origins of Neuroscientific Concepts*, Berkeley, 1987.

3 S. Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England*, Chicago and London, 1994.

4 R. Cooter, *The Cultural Meaning of Popular Science: Phrenology and the Organization of Consent in Nineteenth-Century Britain*, Cambridge, 1984, 40, 225–6; however, M. Hagner, *Homo Cerebralis: Der Wandel vom Seelenorgan zum Gehirn*, Berlin, 1997, 170 interprets Gall's focus on popular audiences as rebelliousness against 'the establishment'; R. M. Young, *Mind, Brain and Adaptation in the Nineteenth Century: Cerebral Localization and its Biological Context from Gall to Ferrier*, Oxford, 1970 (reprinted 1990).

5 Biographical accounts of Gall include G. A. L. Fossati, 'Gall', *Nouvelle Biographie Générale*, 46 vols., Paris, 1857, xix, 271–83; C. F. Wells, *Some Account of the Life and Labours of Dr François Joseph Gall: Founder of Phrenology and His Disciple Dr John Gaspar Spurzheim*, London, 1896; and P. Möbius, 'Franz Joseph Gall', in *idem*, *Ausgewählte Werke*, 8 vols., Leipzig, 1905, vii; R. M. Young, 'Gall', in *Dictionary of Scientific Biography* (ed. C. C. Gillispie), New York, 1970–6; H. Heintel, *Leben und Werk von Franz Joseph Gall: Eine Chronik*, Würzburg, 1986, which is a well-researched source of information about Gall's life. An important bibliography of Gall's writings is H. Heintel and B. Heintel, *Franz Joseph Gall: Bibliographie mit einem Portrait und 13 Abbildungen*, Stuttgart, 1985. Additional bibliographical references are included in J. van Wyhe, *The History of Phrenology on the Web* (<http://pages.britishlibrary.net/phrenology>).

6 I am grateful to Wolfgang Schütz for generously providing me with many details on Gall's family and their circumstances, the fruits of his own Gall research.

7 J. Hermann, *Tabula Affinitum Animalium*, Strasbourg, 1783.

emphasized the collection of empirical facts from clinical observation before drawing general conclusions, a theme which would become a permanent part of Gall's practice and rhetoric. Gall received the doctorate of medicine in 1785 and became a successful, well-connected, private physician in Vienna.

Gall was a complex and interesting man. His three main passions were, as Ackerknecht and Vallois wrote, 'science, gardening, and women'.<sup>8</sup> Gall was rather proud and fiercely independent; he even rejected an offer in 1794 to become the personal physician to Emperor Franz II<sup>9</sup> – merely to preserve his independence.<sup>10</sup> What relation this bore, if any, to Gall's political views is impossible to assess without further evidence. In 1790 Gall married Maria Katharina Leisler (1760–1825), the orphaned daughter of a surgeon. The marriage was apparently not a happy one; there were no children. Gall and his wife lived separately for most of their marriage although Gall supported her financially until her death. Gall then married his French mistress of thirteen years' standing, Marie Anne 'Virginie' Barbe (b. 1795).

### Forging a new science

The greatest inspiration to the creation of his system was Gall's reading, as a medical student, of the works of the philosopher Johann Gottfried von Herder (1744–1803).<sup>11</sup> Herder's *Vom Erkennen und Empfinden der menschlichen Seele* (*On the Knowledge and Sensation of the Human Soul*, 1778), put forward an organic or vital theory of mind and body.<sup>12</sup> Herder wrote that recent findings in electricity, magnetism and irritability suggested that strict mind–body dualism was unfounded and that empiricism was crucial for the philosophy of mind. Herder, like Gall after him, avoided pure materialism by arguing that vital 'powers', which coursed through all of Nature, needed to have material 'organs' through which they could interact with the material world.<sup>13</sup>

Herder was the philosopher of Gall's new science. 'Should physiology ever come so far that it demonstrates the study of the soul', Herder wrote, 'this manifestation would throw light on the dissection of the nervous system; and perhaps, in some cases, also suggest an apportionment into small blunt ligaments.'<sup>14</sup> Elsewhere Herder adumbrated Gall's science: 'I am certain that a valuable science will be created from the consistency of these parts to

8 E. Ackerknecht and H. Vallois, *Franz Joseph Gall, Inventor of Phrenology, and His Collection* (tr. C. St Léon) (Studies in Medical History), Madison, WI, 1956, 7.

9 Franz II is often incorrectly named Franz I in accounts of Gall. However, Franz II (1768–1835), since 1792 Holy Roman Emperor, in 1806 became Franz I of Austria.

10 During Gall's lecture tour he wrote to a friend, 'I am urgently invited to all parts of the world and in Munich they have made me as generous a petition as Berlin. You know, my dear friend, that I prefer to be my own lord. It is enough to be tied down by a wench's apron strings.' Gall to Andreas Streicher, 3 May 1805, in M. Neuburger, 'Briefe Galls an Andreas und Nannette Streicher', *Archiv für Geschichte der Medizin* (1917), 10, 3–70, 10.

11 R. Haym, *Herder nach seinem Leben und seinen Werken dargestellt*, Berlin, 1877–85; R. C. Clark, *Herder: His Life and Thought*, Berkeley, 1955.

12 On Herder's influence on Gall and other theorists see Hagner, op. cit. (4); Claudio Pogliano, 'Between form and function: a new science of man', in *The Enchanted Loom: Chapters in the History of Neuroscience* (ed. Pietro Corsi), Oxford, 1991, 144–203; and E. Lesky, 'Gall und Herder', *Clio Medica* (1967), 2, 85–96.

13 Pogliano, op. cit. (12), 152.

14 J. G. von Herder, *Abhandlung über den Ursprung der Sprache*, Berlin, 1772, Part 1, sec. 1.

which a physiognomy based on conjecture would not easily attain. The foundations of the external form are inside; for everything has been fashioned by the organic powers operating from within and working outwards.<sup>15</sup> Note that Herder linked an awareness of natural consistencies with epistemological certainty. Gall's science was, in a sense, a complex elaboration of this principle. Gall was inspired. He would forge an empirical natural science in an area where there had only been speculation – human nature.

The Vienna in which Gall lived and worked was the capital of Franz II, the last Holy Roman Emperor. The medical community was particularly vibrant. Extramural lecturers provided instruction in addition to the large medical school. Theorizing within the medical community was common. The Gall historian Friedrich Schulz noted that the intelligentsia of Gall's Vienna were intensely preoccupied with recognizable features of disposition in face and head.<sup>16</sup> We should picture Gall living in a community of medical men preoccupied with similar themes. His theories were not radically new, but they were provocative and memorable.

Gall derived his version of innate psychological faculties partly from the treatment of the pioneer of animal psychology Hermann Samuel Reimarus in his *Allgemeine Betrachtungen über die Triebe der Thiere, hauptsächlich über ihre Kunsttriebe* (*General Observations on the Instincts of Animals, Especially their Artifice*, 1760).<sup>17</sup> In the writings of the famous Viennese educationalist Joachim Heinrich Campe there were further examples. In Campe's *Kleine Seelenlehre* (*A little Study of the Soul*, 1780) and his *Theophron* (3rd edn., 1790) there were similar faculties to those Gall would later use, including *Ordnungsliebe* (sense of order) *Bedachtsamkeit* (circumspection), *Großmut* (courage), *Witz* (humour), *Treue* (loyalty) and so on.<sup>18</sup> The list of immediate predecessors could easily be multiplied.

During Gall's years as a medical student he witnessed the founding of the largest general hospital of the century in Vienna and the adjoining new insane asylum, in the Narrenturm ('Fools' Tower').<sup>19</sup> The size and propitious accessibility of these institutions, due to the liberal stance of their respective directors, Johann Peter Frank and Franz Nord, and Gall's social status and connections, enabled him to move freely within these institutions and observe heretofore unequalled numbers of mental disorders of all kinds and to later compare their symptoms with post-mortem dissections.<sup>20</sup>

Gall sought in dissection the confirmation of his erstwhile theories about innate mental faculties. These were unique opportunities to observe the correlation between individual

15 J. G. von Herder, *Ideen zur Philosophie der Geschichte der Menschheit*, Riga and Leipzig, 1784–91, quoted in Clarke and Jacyna, op. cit. (2), 230–1

16 F. Schulz, *Die Schädellehre Dr Gall's und seine Restschädelsammlung im Städtischen Rollett Museum zu Baden bei Wien*, Vienna, self-published, 1973.

17 Gall quotes Reimarus frequently in his first work, *Philosophisch-medicinische Untersuchungen über Natur und Kunst im gesunden und kranken Zustande des Menschen*, Volume 1, Vienna, 1791 (no more published). See Lesky, op. cit. (12), 88; and S. Oehler-Klein, *Die Schädellehre Franz Joseph Galls in Literatur und Kritik des 19. Jahrhunderts: zur Rezeptionsgeschichte einer biologisch-medizinischen Theorie der Physiognomik und Psychologie*, Stuttgart and New York, 1990, 77–9.

18 Schulz, op. cit. (16), 35.

19 On Gall's studies in Vienna and the medical context of the time see E. Lesky, 'Wiener Allgemeine Krankenhaus. Seine Gründung und Wirkung auf deutsche Spitäler', *Clio Medica* (1967), 2, 23–37.

20 It is often erroneously reported that Gall was the physician to the asylum or the Vienna general hospital when in fact he was a private physician.

behaviour and the anatomy and physiology of the brain in the manner inspired in Gall by reading Herder and in the cumulative manner taught by Stoll.<sup>21</sup> It remained only to form general conclusions about the visibility of Nature's plans in human nature.

Clarke and Jacyna have shown that the prevailing view of brain function in the 1790s was still that of Albrecht von Haller (1708–77).<sup>22</sup> Haller's view was that the brain acted as a whole and did not have functionally distinct components. It was against this predominant view that Gall and others argued for localization. It is perhaps not a coincidence that Kant's important suggestions about the role of the mind in imposing categories of understanding were also making an impact at this time.<sup>23</sup> According to Gall's scheme, categories of experience were fixed by virtue of innate faculties.

Gall's first publication was his 1791 book *Philosophisch–medizinische Untersuchungen über Natur und Kunst im kranken und gesunden Zustande des Menschen*. The work was largely a medical naturalist's diatribe against metaphysics. Gall represented himself as a follower of Nature, whose findings were uniquely determined by that irrefragable source of truth, and not by the wild speculations of those whom he considered his opponents – idealists and romantic *Naturphilosophen*. The work betrays a strong influence of Herder and, in some instances, even some slight plagiarism.<sup>24</sup> Also present in Gall's work are hints at the localization of brain function.<sup>25</sup>

Some time around 1792 or 1793 Gall was convinced that he had discovered discrete regions of the cerebral cortex where innate universal faculties or aptitudes resided. Gall called these regions 'organs', a term which was by then common in Vienna for hypothetical brain modules. The particular faculties of Gall's psychology and organology reflect the cases in the asylums, schools and local prisons and the peculiarities of his own patients, from whom he made many of his first generalizations, such as *Mord/Würgsinn* (faculty of murder) and *Diebsinn* (faculty of larceny).<sup>26</sup>

From around 1792 Gall began to collect human and animal skulls, prepare coloured wax moulds of brains and plaster casts of heads in order to study the development of cranial contours with the characteristic behaviours associated with a species or individual.<sup>27</sup> By

21 For greater detail on Gall's formative influences see Lesky, op. cit. (12).

22 Clarke and Jacyna, op. cit. (2).

23 O. Temkin, 'Gall and the phrenological movement', *Bulletin of the History of Medicine* (1947), 21, 275–321, 281; L. Sass, *Madness and Modernism*, Cambridge, MA and London, 1992, 327–9.

24 Lesky, op. cit. (12), 87, 91.

25 See for example Gall, op. cit. (17), 198.

26 There is perceptive analysis of Gall's justifications for his faculties in Young, op. cit. (4), 39–42; see also Gall, *On the Functions of the Brain and of Each of its Parts: with Observations on the Possibility of Determining the Instincts, Propensities, and Talents, or the Moral and Intellectual Dispositions of Men and Animals, by the Configuration of the Brain and Head*, 6 vols., Boston, MA, 1835. The theory that Gall derived his faculties from the Scottish 'common sense' school is without foundation.

27 Some of the oldest remaining items from Gall's collection are preserved in the Rollett Museum in the city of Baden near Vienna. See Schulz, op. cit. (16). The majority of Gall's collection is kept at the Musée de l'homme in Paris. See Ackerknecht and Vallois, op. cit. (8). A complete catalogue of Gall's collection is reproduced in 'Catalogue, numerical and descriptive, of heads of men and animals, which composed the collection made by the late Dr Gall. Transcribed by Mons. A. A. Royer, of the Jardin des Plantes, from the manuscript drawn up by M. le Dr Deancey, the pupil and friend of Dr Gall', *Phrenological Journal* (1829/30), 6, 480–99, 583–602, and (1831/2), 7, 27–36, 181–5, 250–3.

1802 the collection consisted of three hundred human skulls and 120 plaster casts. Gall sought the skulls of individuals for whom prominent behaviour or capacities such as bravery, or cunning, or cold-blooded murder, were particularly pronounced. Surely they would reveal the cerebral organ responsible for the faculty they had displayed so prominently in life. The search for unusual and outstanding samples was not unlike earlier collecting for cabinets of curiosities.<sup>28</sup> Gall's macabre collection became so extensive, and his enthusiasm for collecting so conspicuous, that he became a local celebrity. In this endeavour, too, Gall enjoyed the assistance of the powerful and well connected, such as the minister of police in Vienna, Earl Saurau, who helped Gall to procure a large number of criminals' skulls.

It was partly the belief that abundant empirical confirmations proved his theory which gave Gall such confidence in his system. The deep order of Nature had to be visible and individual observations revealed the order Gall was looking for. Thus, as he explained,

I could not think that with so many individuals a good memory and protruding eyes only coincidentally coincided. I surmised that there must be a connection between memory and such prominent eyes. By manifold consideration of this I had the idea: if the memory betrays itself through an external trait, should not other mental qualities be externally recognizable?<sup>29</sup>

Gall called his new system '*Schädellehre*' (doctrine of the skull) and '*Organologie*', and later simply 'the physiology of the brain'. Gall did not approve of the other names, such as phrenology or craniology, which came to be applied to his system.<sup>30</sup> The term phrenology as a name for Gall's system was coined by the English gentleman naturalist and physician Thomas Ignatius Maria Forster (1789–1860) in 1815 and came into general use in the 1820s.<sup>31</sup>

In 1798 Gall wrote that his system was based on seven premises:

- 1 'Aptitudes and tendencies [i.e. faculties] are inborn in humans and animals.'
- 2 These have their 'seat, their basis, in the brain'.
- 3 & 4 'Not only are the aptitudes and tendencies varied and independent, but in addition they are essentially separate and independent of one another, therefore they must have their seat in various and independent parts of the brain.'

28 See, for example, anon., *Beytrag zu Hrn. Dr Galls Schedellehre, oder Kurze Lebensbeschreibung des Franz Mühlbergers, eines Jünglings, dessen, als eines vorzüglichen Rechners, Büste in des Hrn. Dr Galls Sammlung merkwürdiger Köpfe aufgestellt ist*, Vienna, 1801; Gustav Gugitz, 'Mozarts Schädel und Dr Gall', *Zeitschrift für Musikwissenschaft* (1934), 16, 32–9. On cabinets of curiosity see Paula Findlen, *Possessing Nature*, Berkeley, CA, 1994.

29 Quoted in E. Lesky, *Franz Joseph Gall 1758–1828: Naturforscher und Anthropologe*, Stuttgart, 1979, 74–5.

30 It is often alleged incorrectly in Anglo-American historiography that Gall called his doctrine craniology or craniology.

31 T. I. M. Forster, 'Observations on a new system of phrenology, or the anatomy and physiology of the brain, of Drs. Gall and Spurzheim', *Philosophical Magazine* (1815), 45, 44–50. See Cooter, op. cit. (4), 59–64. The word was used as early as 1805 in the sense that we might use 'psychology' today by the American physician Benjamin Rush (1745–1813) in his lectures, later published as *On the Utility of a Knowledge of the Faculties and Operations of the Human Mind*, Philadelphia, 1811, 271. Rush also used the term in *On the Opinions and Modes of Practice of Hippocrates*, Philadelphia, 1811, 293. See also E. T. Carlson and P. S. Noel, 'Origins of the word "phrenology"', *American Journal of Psychiatry* (1970), 127, 694–7.

- 5 'From the various divisions of the various organs, and the varying development of these, arise the varying shapes of the brain.'
- 6 'From the composition and development of particular organs arises the particular shape of particular parts of the brain or regions of the same.'
- 7 'From the genesis of the bones of the skull from infancy to the greatest age, the shape of the exterior surface of the skull is determined by the shape of the brain; therefore so far as the outer surface of the skull and the inner coincide, and no exception is made for the usual contours, particular aptitudes and tendencies can be concluded.'<sup>32</sup>

The last item was to be determined by examining the shape and contours of a head by sight or with the hands.

Although he avidly gathered new confirmations for the rest of his life, Gall never made any substantial changes to his system after its formulation in the 1790s. It is possible that Gall originally envisioned as many as thirty-two psychological faculties, but by the time his major works were published this number was reduced to twenty-seven.<sup>33</sup> Uniquely, Gall's faculties were numbered, lending a further natural-science air of quantification to his scheme. The names Gall used varied and several were generally given, unlike the single names later used by Spurzheim and phrenologists. Gall meant to express his inexact understanding of the functions of the organs by using multiple terms and he did not approve of the certainty presumed in using single terms.

Gall's system was an innovative science of recognizing and classifying individual aptitudes in ways specific to late eighteenth-century Viennese medical and philosophical contexts. Although the personal divination of head-reading was only one facet of Gall's intricate system, it was the facet that attracted the most attention. Although Gall was long condemned for his advocacy of the possibility of character analyses based on head-readings, without this bold hypothesis he might have been long since forgotten.

### Physiognomies

Gall's system was symptomatic of the renewed proliferation of physiognomy, the practice of divining inner qualities and character from external appearances. Extending back at least as far as ancient Greek and medieval writers, physiognomy had become widely

32 F. J. Gall, 'Schreiben über seinen bereits geendigten Prodrömus über die Verrichtungen des Gehirns der Menschen und der Thiere an Herrn Jos. Fr. von Retzer', *Der neue Teutsche Merkur* (1798), 3, 311–32, 314, 317, 318, 322, 322–3.

33 P. Wegner, 'Franz Joseph Gall in Schleswig-Holstein', *Zeitschrift der Gesellschaft für Schleswig-Holsteinische Geschichte* (1986), 111, 119–41, 131. Thirty-one organs were reported by an auditor of Gall in 1802. See also anon., [Joseph Schelle?] *Ausführliche Darstellung des Gall'schen System's der Schädellehre: nach den neuesten Vorlesungen des Herrn Doctor Gall bearbeitet*, Magdeburg, 1805, which mentions thirty organs; F. H. Martens, *Leichtfassliche Darstellung der Theorie des Gehirn- und Schädelbaues und der daraus entspringenden physiognomischen und psychologischen Folgerungen des Herrn Dr Gall in Wien. Mit Rücksicht auf die bisher darüber erschienenen Schriften. Zur belehrenden Unterhaltung für das grosse Publikum in Briefform*, Leipzig, 1803, has twenty-nine Gall organs listed; and J. T. F. K. Arnold, *Dr Joseph Gall's System der Gehirn- und Schädelbaues nach den bis jetzt über seine Theorie erschienenen Schriften*, Erfurt, 1805, has thirty-three organs named (excluding two 'as yet unknown organs').

popular in sixteenth-century Europe before fading away again. Gall's theorizing came in the wake of the most recent resurgence of physiognomy. Gall's system is sometimes confused with the physiognomy of the Swiss priest Johann Caspar Lavater (1741–1801), whose *Sturm und Drang* appreciation of aesthetic facial form and expression, best known through his beautifully illustrated *Physiognomische Fragmente* (1775–8), concentrated on facial features and the effect of an individual's appearance on the beholder. Lavater sought to reclaim physiognomy from negative associations with medieval enthusiasm.<sup>34</sup> Lavater did not claim that the external features were the causes of character or that physiognomy was an exact science.

Another physiognomical theory was the Dutch naturalist Pieter Camper's (1722–89) 'facial angle'.<sup>35</sup> Camper's facial angle was a combination of comparative anatomy and racial anthropology and prescribed that the more vertical a line drawn from chin to forehead, the closer to the ideal head. The classical head was asserted to bear a perfect right angle and to be the epitome of aesthetic and anatomical perfection. Camper's facial angle would later be joined with phrenology in nineteenth-century racial anthropology. Gall's organology would lend itself to the facial angle as Gall situated the highly esteemed intellectual organs in the forehead (an intuition by no means originating with Gall).

In 1796 Gall began to offer public lectures on his doctrine in his home in Vienna. Gall was assisted by a dissectionist named M. Niklas until 1800. Niklas would dissect brains before the auditors, according to Gall's method, from below, tracing nerve fibres outwards. Niklas was replaced in 1804 by a young medical student from the Mosel valley, Johann Gaspar Spurzheim (1776–1832). Together with the collection, the lectures made Gall a prominent figure in Vienna. His lectures were attended by visitors to Vienna, like a museum or palace, as one of the local sights. No doubt this rise from obscurity to become known as the man of skulls was gratifying to Gall.

Gall first described his system in print in December 1798 when one of his letters was published in the main literary journal of the Holy Roman Empire, *Der neue Teutsche Merkur*, edited by the famous poet Christoph Martin Wieland (1733–1813).<sup>36</sup> Wieland included a note with the letter assuring readers that Gall's system was important because Dr Gall was a special and uniquely qualified authority. Indeed, Gall was believed for many years to possess a unique authority partly from his emphasis on his many observations and partly because of his rhetoric that Nature led him to his conclusions and not the bias of particular philosophies.<sup>37</sup> During phrenology's later career, the claim that the system was founded on untold numbers of observations never faded, though time and place were forgotten.

34 R. Campe and M. Schneider, *Geschichten der Physiognomik*, Freiburg, 1996; and C. Schmölders, *Das Vorurteil im Leibe: Eine Einführung in die Physiognomik*, 2nd edn., Berlin, 1997.

35 P. Camper, *Über den natürlichen Unterschied der Gesichtszüge*, Berlin, 1792.

36 Gall, op. cit. (32), 330. English translations of this letter can be found in Gall, op. cit. (26) i; D. Goyder, *My battle for life: The Autobiography of a Phrenologist*, London, 1857, 143–52; Wells, op. cit. (5); P. Eling, *Reader in the History of Aphasia: from Gall to Geschwind*, Amsterdam, Philadelphia, 1994, 3–27; and van Wyhe, op. cit. (5). Earlier reports on Gall in *Der neue Teutsche Merkur* were 'Galls Vorlesungen, seine Sammlung abgeformter Köpfe' (1798), 1, 343–5; and 'Galls neueste Schrift über das Gehirn' (1798), 2, 184–96.

37 Anon., op. cit. (33).



### The decree

An unexpected event transformed Gall's system from a Viennese curiosity to a subject of international learned interest. For six years Gall gave public lectures on his system in his home. Three German pamphlets had been published on the subject by 1801 and there was perhaps only a single mention of Gall in a British periodical.<sup>38</sup> Gall prepared a large multi-volume work on his system, entitled *Lehre über die Verrichtungen des Hirns, und über die Möglichkeit, die Anlagen mehrerer Geistes- und Gemüthseigenschaften aus dem Bau des Kopfes, und des Schedels des Menschen und der Thiere zu erkennen*.<sup>39</sup> Before this work could be published, however, Gall's lectures were unexpectedly banned by Emperor Franz II in December 1801.<sup>40</sup>

The text of the decree provided several reasons for the ban – the enthusiasm with which Gall's system was discussed, the possibility that some enthusiasts might get carried away, the attendance of ladies, the danger the system might lead to materialism and thereby go against the 'the first principles of morality and religion', but it did not mention atheism.<sup>41</sup> The decree also proscribed any publication of Gall's system.

Many explanations for the decree have been offered. The London *Medical and Physical Journal* reported in 1806 that 'the suggestions of some fanatical priests' were responsible.<sup>42</sup> This rumour was later fused with the legend that Gall's publications were entered on the Papal index.<sup>43</sup> However, there is no evidence that the Viennese clergy opposed Gall's system. In fact, as will be seen below, Gall's system was of great interest to clergymen. Rather than the opposition of a class of clergy, it seems personal enmity or rivalry was behind the ban. Numerous accounts blame the Emperor's jealous personal physician, Joseph Andreas Stiff (1760–1836), for the decree.<sup>44</sup> Stiff's influence on the Emperor to reject new scientific and political activity since the French Revolution was extraordinary.<sup>45</sup> Stricter censorship and a newly reactivated secret police were only two symptoms of a

38 Anon., op. cit. (28); L. F. Froriep, *Darstellung der ganzen auf Untersuchungen der Verrichtungen des Gehirnes gegründeten Theorie der Physiognomik des Dr Gall in Wien*, Weimar, 1799, 1800, 1801, 1802; Martens, op. cit. (33); *Medical and Physical Journal* (1800), 4, 90.

39 E. Ebstein, 'Franz Joseph Gall im Kampf um seine Lehre: auf Grund unbekannter Briefe an Bertuch usw. sowie im Urtheile seiner Zeitgenossen', in *Essays on the History of Medicine Presented to Karl Sudhoff* (ed. C. Singer and E. Sigerist), London and Zürich, 1924, 275; and H. Heintel, 'Pränumeration auf ein Gallsches Werk', *Medizinhistorisches Journal* (1986), 21, 353–5.

40 E. Lesky, 'Der angeklagte Gall', *Gesnerus: Revue trimestrielle publiée par la société d'histoire de la médecine et des sciences naturelles* (1981), 38, 301–11.

41 The decree is reprinted in Neuburger, op. cit. (10), 57 and elsewhere.

42 'An Account of Dr Gall's System of Craniology', *Medical and Physical Journal* (1806), 15, 201–13, 201; republished as 'Account of Dr Gall's doctrine of the brain, or craniology', *Monthly Magazine* (1806), 21, 197–203.

43 This too is unfounded. See *Index Librorum Prohibitorum*, Rome, 1949.

44 G. Combe, 'On the institutions of Germany', *Phrenological Journal* (1838), 11, 22–33; Charles Gibbon, *The Life of George Combe, Author of 'The Constitution of Man'*, 2 vols., London, 1878, ii, 18; also E. Lesky, *The Vienna Medical School of the 19th Century*, Baltimore and London, 1976, 4–8; and Oehler-Klein, op. cit. (17), 46.

45 Oehler-Klein, op. cit. (17), 46. See also E. Lesky, 'Die Wiener Medizin in der Stiff-Zeit 1803–1836', in *idem*, *Die Wiener medizinische Schule im 19. Jahrhundert*, 2nd edn., Graz, 1978.

reactionary trend in Vienna since the French Revolution. Fear of Jacobins made materialism more than just a dirty word.<sup>46</sup>

There has been unending confusion over the materialist character of Gall's system. Gall was not a psychological materialist. Instead, following Herder, Gall viewed material organs as essential instruments of natural forces or vital powers. However, Gall denied any possibility of knowing about forces or minds apart from their physical instruments. This prioritization, which asserted the relevance of empiricism against introspection, has led many to conclude that Gall was a materialist. Hence Gall's metaphysical agnosticism:

The investigator of nature can only fathom the laws of the world of the body and takes for granted that no natural truth could be inconsistent with any revealed one. Beyond this, he knows that ... he has nothing to decide about mental life. He only sees and teaches that in this life the mind [*Geist*] is bound to bodily organization.<sup>47</sup>

Rather than hindering the propagation of Gall's system, the decree made his system well known. Twice as many pamphlets on Gall's system were published in 1802, following the ban, and the number doubled again in each of the following two years while Gall remained in Vienna.

### *Die Reise*

Although the ban on Gall's lectures increased the publicity he and his system received, it might still have been forgotten and phrenology never have existed were it not for Gall's triumphant lecture tour of Europe between March 1805 and October 1807. The vast majority of German written matter pertaining to Gall and his system is from this period, and ceases abruptly when Gall left Germany in late 1807.

A legend that Gall toured because he was 'banished' or 'expelled' from Vienna has persisted since the early nineteenth century. This story was first propagated by the British phrenologists, especially George Combe, as part of their self-conscious genealogy of persecution.<sup>48</sup> In fact, Gall left Vienna of his own accord and with every intention of returning. Gall received a letter in January 1805 from his elderly father in Baden, requesting to see his son again after twenty-five years.<sup>49</sup>

On 6 March 1805 Gall, then 47, left for Berlin on what he intended to be a lecture tour of several months.<sup>50</sup> Accompanying Gall were the 29-year-old Spurzheim as Gall's 'attendant' and dissectionist, Gall's servant, a wax modeller, two monkeys and the greater

46 On the politics of late eighteenth-century Vienna see P. Bernard, 'Francis II and the emergence of the police state', in *idem*, *From the Enlightenment to the Police State: The Public Life of Johann Anton Perger*, Urbana and Chicago, 1991; and M. Seliger and K. Ucakar, *Wien: politische Geschichte 1740–1934: Entwicklung und Bestimmungskräfte grossstädtischer Politik*, 2 vols., Vienna, 1985, i, 82–3.

47 Gall, *op. cit.* (32), 330.

48 G. Combe, 'Preliminary dissertation on the progress and application of phrenology', *Transactions of the Phrenological Society*, Edinburgh, 1824, 1–62. The first published reference in Britain that Gall was expelled from Vienna is 'Account of Dr Gall's doctrine of the brain', *op. cit.* (42). Many recent examples could be attested.

49 F. J. Gall and G. Spurzheim, *Anatomie et physiologie du système nerveux en général, et du cerveau en particulier, avec des observations sur la possibilité de reconnaître plusieurs dispositions intellectuelles et morales de l'homme et des animaux, par la configuration de leurs têtes*, 4 vols., Paris, 1810, i, pp. xvi, xvii. As early as 1802 it was said that Gall wanted to leave Vienna in order to publish. See 'Ueber Dr Gall's Vorlesung in Wien und das kaiserliche Verbot derselben', *Der neue Teutsche Merkur* (1802), 2, 248.

50 Oehler-Klein, *op. cit.* (17), 53. Gall was later joined by his wife and her niece Rosalie Leisler.

portion of Gall's collection of skulls and casts.<sup>51</sup> Gall's craniological system soon became an international sensation and immensely fashionable amongst the literate and wealthy. Artists sold marked skulls, prints of skulls with Gall-like markings or snuffboxes and ladies' fans with similar motifs.<sup>52</sup> From Berlin Gall received urgent invitations to lecture in further cities, universities and courts throughout Europe, causing Gall to extend his tour ever farther. Lecturing to most of the crowned heads of Europe, to the major universities in Germany, as well as before scientific societies as in Kiel,<sup>53</sup> or in fashionable hotels, Gall covered a large expanse of social as well as geographic territory. Gall and his motley company eventually travelled to more than fifty cities throughout Germany, Denmark, the Netherlands, Switzerland and France – all the while steering clear of the Napoleonic wars.<sup>54</sup> (See map, Figure 1.) With very few exceptions, Gall was acclaimed everywhere he went. Three commemorative medals were cast in his honour in Berlin. One of the medals reads, 'He found the way to espy the workshop of the soul.'<sup>55</sup>

Although no subsequent popularizer of Gall's system enjoyed the degree of success and approbation which Gall received, phrenology always retained a strong association with itinerant lecturing. Phrenology spread through Britain largely through the itinerant teachings of Johann Gaspar Spurzheim, George Combe and many others.<sup>56</sup> In the United States Charles Caldwell, Orson Fowler and others followed the examples of Spurzheim and Combe. The same practice by Combe, Robert Noel and Gustav Scheve took an Anglicized phrenology back to Germany in the late 1830s and 1840s.<sup>57</sup> This is why the comparatively low-key German phrenology of the 1840s to the 1860s was not Gallian but Combean.

51 Gall to R. Meier, 10 December 1805, translated and reprinted in 'Correspondence of Dr Gall', *Phrenological Journal* (1846), 19, 36–42, 38.

52 P. Wegner, 'Phrenologische Schnupftabakdosen: Ein Beitrag zur Wirkung Franz Joseph Galls bei seiner Ankunft in Paris', *Medizinhistorisches Journal* (1983), 18, 69–99; *idem*, 'Le docteur Gall à Cythère', *Medizinhistorisches Journal* (1984), 19, 233–43; *idem*, 'Franz Joseph Gall in der zeitgenössischen französischen Karikatur', *Medizinhistorisches Journal* (1988), 23, 106–22.

53 Wegner, *op. cit.* (33).

54 On Gall in Denmark see C. Bjoern, *Historike Efterretninger om Dr Gall og bares Organlaebre*, Odense, 1810; E. Snorrason, 'The Danish physician Carl Otto (1795–1879) and phrenology', in *Wien und die Weltmedizin* (ed. E. Lesky), Vienna, Cologne, Graz, 1974, 146–58; V. Christensen, 'Dr Galls Ophold i Kùbenhavn. 1805', *Historiske Meddelelser om Kùbenhavn* (1921), 8, 217–25; and *Tidsskrift for Phrenologien* (1827), 1, 353–69. On Gall in the Netherlands see T. van Heiningen, 'De Receptie van de Hersen-schedelleer van Franz Joseph Gall in Holland Kort na 1800', *Gewina: Tijdschrift voor de Geschiedenis der Geneeskunde Natuurwetenschappen Wiskunde en Techniek* (1997), 3, 113–28; M. Conradi, 'Franz Joseph Gall in Nederland', *De Psycholoog*, July/August 1995, 320–3; J. Steendijk-Kuypers, 'Het succes van een dwaling. De hersen-schedeleer van Franz Joseph Gall (1758–1828) en de echo van de frenologie in Nederland', *Ned Tijdschrift Geneeskunde* (1996), 140, 2560–4; and anon., *Verhandeling over de onzekerheid der Physiognomie of Gelaatkunde, uit de rede en onverinding aangetoond en bij gelegenheid der Hersenschedelleer van Doctor Gall, ter overweging aangeboden, uit het Duitsch vertaald*, Amsterdam, 1806.

55 Photographs of the medals may be found in Neuburger, *op. cit.* (10), 56.

56 Cooter, *op. cit.* (4) provides an appendix of 212 public lecturers on phrenology in Britain to c. 1860.

57 There has been very little research on phrenology (as opposed to Gall) in Germany. Important overviews are M. Blankenburg, 'Seelengespenster: Zur deutschen Rezeption von Physiognomik und Phrenologie im 19. Jahrhundert: Versuch einer historischen Sondierung', in *Gehirn-Nerven-Seele: Anatomie und Physiologie im Umfeld S. Th. Soemmerrings* (ed. G. Mann and F. Dumont), Stuttgart and New York, 1988, 211–38; J. F. V. Deneke, 'Die Phrenologie als publizistisches Ereignis: Galls Schädellehre in der Tagespublizistik des 19. Jahrhunderts', *Medizinhistorisches Journal* (1985), 20, 83–108; and G. Kunz, 'Gustav von Struve und die Phrenologie in Deutschland', Mainz University Ph.D. dissertation, 1994.



majority of the lectures were devoted to Gall's organology. Gall discussed between two and five of his organs or faculties per lecture, presenting actual examples from his collections for each. In addition to lecturing on his system, sometimes to audiences numbering in the hundreds, Gall also used his tour for further research.<sup>59</sup> He was usually invited to inspect the local prisons and asylums.

The impact on Gall's audiences was meant to be overwhelming. Gall's auditors sat facing several tables covered in a large assortment of human and animal skulls as well as plaster casts and coloured wax models of brains. As he spoke, surrounded by his skulls, Gall's sincere conviction was apparent and his enthusiasm often persuaded even those originally disposed against him. Sometimes his audience broke out in enthusiastic applause.

Gall anticipated that, if not interrupted by the Napoleonic wars, he would continue to lecture in Russia, France, Italy and England. After meeting some of the most prestigious learned men of Europe, Gall arrived in Paris in October 1807 where he received the most enthusiastic and perhaps the most profitable reception so far. Although originally intending to continue, Paris became the *Endstation* for Gall's tour.<sup>60</sup> The idealist German *Naturphilosophie* which Gall despised was nowhere to be seen. The Parisian medical scene was less averse to a physiological psychology.<sup>61</sup> 'No heads in the world,' Gall wrote, 'are haunted with materialism and fatalism with such a complete lack of all religious morality as the French.'<sup>62</sup>

Gall was not the first Viennese physician-with-a-theory to land in Paris. Franz Anton Mesmer (1734–1815), the creator of mesmerism or animal magnetism, arrived in Paris in 1778 after travelling indirectly from Vienna.<sup>63</sup> As with Mesmer, Gall initially had a very promising reception. He delivered well-publicized and well-attended lectures at the *Athénée* and the *Société de médecine*. 'There is always unending applause at all the public demonstrations, which always have between 2–300 persons.'<sup>64</sup> Gall's exceptional status in Paris did not last. Like Mesmer, the Parisian scientific authorities eventually repudiated their distinguished Viennese visitor when he seemed poised to claim too much status for himself.

59 Thanks to Gall's tour a death mask was made of Friedrich Schiller in May 1805 by Johann Christian Ludwig Klauer and the only life mask of Goethe was taken in 1807 by Karl Gottlieb Weißer.

60 On the French reception of Gall and the subsequent history of his system there see P. Wegner, 'Das Ringen um Anerkennung: Drei Briefe Galls an Cuvier', *Medizinhistorisches Journal* (1990), 25, 40–89; *idem*, 'Materialismus in der Kranioskopie? Die Berichterstattung über Franz Joseph Gall in der französischen regierungsamtlichen Zeitung "Gazette nationale ou le monteur universel"', in *Gehirn-Nerven-Seele: Anatomie und Physiologie im Umfeld S. Th. Soemmerrings* (ed. G. Mann and F. Dumont), Stuttgart and New York, 1988, 159–74; see also Martin Staum, 'Physiognomy and phrenology at the Paris Athénée', *History of Ideas* (1995), 56, 443–62; G. Lanteri-Laura, *Histoire de la phrénologie: L'Homme et son cerveau selon F. J. Gall*, Paris, 1970, 1993; A. McLaren, 'A prehistory of the social sciences: phrenology in France', *Comparative Studies in Society and History* (1981), 23, 3–22; E. Williams, *The Physical and the Moral: Anthropology, Physiology, and Philosophical Medicine in France, 1750–1850*, Cambridge, 1994, 105–12, also 182–8; and M. Renneville, *La Langage des crânes: Une Histoire de phrénologie*, Paris, 2000.

61 Temkin, op. cit. (23); Williams, op. cit. (60).

62 Gall to Streicher, 20 January 1809, in Neuburger, op. cit. (24).

63 H. Schott (ed.), *Franz Anton Mesmer and die Geschichte des Mesmerismus*, Wiesbaden, 1985; R. Darnton, *Mesmerism and the End of the Enlightenment in France*, Cambridge, MA, 1968.

64 Gall to Streicher, 16 December 1807, in Neuburger, op. cit. (10), 23. On the sensation caused by Gall's arrival see Wegner, op. cit. (60), 159–74; *idem*, 'Phrenologische Schnupftabakdosen', op. cit. (52).

With profitable lectures to give and a wealthy elite clientele as a physician (which his fame assured him), Gall remained in Paris, becoming a naturalized citizen in 1819. According to Spurzheim, the two stayed in Paris because it was the best place for them to publish, ‘but primarily to show the conceited scholars that we do not fear them in scientific matters, and instead preach and affirm the doctrine in every way under their noses’.<sup>65</sup> In 1810 Gall had the first of a four-volume work on his system published.<sup>66</sup> The first two volumes also bear the name of Spurzheim.<sup>67</sup> Spurzheim helped with the notes and arranged and supervised the important engravings, but the text was Gall’s.<sup>68</sup>

Apart from a few brief excursions, Gall remained in Paris and its environs to the end of his life. He did not found any schools or societies based on his unique system. Instead Gall spent much of his income enlarging his collection of skulls and casts, sometimes lecturing, and writing his expensive six-volume *Sur les Fonctions du cerveau et sur celles de chacune de ses parties* (1822–5).

### Seeking cultural authority

If we assume that Gall sought only scientific status or to spread his doctrine, his tour could be considered of questionable success. However, if we consider what it did for Gall’s social and intellectual status and authority, then it was a dazzling success, which is how Gall himself regarded it. Apart from aristocratic, bureaucratic and clerical elites, Gall also gained the approval of cultural and scientific elites. To take only one of many examples, Gall met the renowned anthropologist and Göttingen Professor of medicine Johann Friedrich Blumenbach (1752–1840). Blumenbach, known as the founder of scientific anthropology, found Gall’s lectures ‘equally interesting and entertaining’.<sup>69</sup> Gall greedily examined Blumenbach’s large collection of human skulls which Blumenbach used to create a theory of races. Gall’s own speculations on racial types are said to have begun only after visiting Blumenbach and his collection.<sup>70</sup>

65 Spurzheim to Coupette, 28 May 1808, in H. Heintel, “‘Meine Adresse: à M. Spurzheim chez Mr Gall à Paris’”: Briefe Johann Kaspar Spurzheims an Johann Paulin Palmatus Coupette’, in *Gehirn-Nerven-Seele: Anatomie und Physiologie im Umfeld S. Th. Soemmerrings* (ed. G. Mann and F. Dumont), Stuttgart and New York, 1988, 181. Also quoted in Heintel, op. cit. (5), 26; and Guido Groß, ‘Die Phrenologie des Dr Johann Kaspar Spurzheim aus Longuich (1776–1832)’, *Kurtrierisches Jahrbuch* (1977), 17, 35–52, 43.

66 Gall and Spurzheim, op. cit. (49). (The first two volumes only were written with Spurzheim.)

67 Heintel, op. cit. (65), 1988.

68 Neuberger, op. cit. (10), 62, n. 42. Gall explained,

The sole reason the name Spurzheim is on my work [the *Mémoire*], and will be written on the large one is that he knows my doctrine completely, has already contributed much to its perfection, and will propagate it further after my death. I was never jealous of the praise of men, and the doctrine must persist because it is true and useful.

Gall to Streicher, 7 March 1809, in Neuberger, op. cit. (10), 25.

69 Blumenbach to [Johann Abraham] Albers, 10 September 1805, translated and reprinted in ‘Correspondence of Dr Gall’, *Phrenological Journal* (1846), 19, 36–42, 41.

70 G. Mann, ‘Franz Joseph Galls Natur- und Geisteslehre des Menschen und der Völkerschaften (Lehre von den “Nationalschädeln”’, in *Die Natur des Menschen: Probleme der Physischen Anthropologie und Rassenkunde (1750–1850)* (ed. G. Mann and F. Dumont), Stuttgart and New York, 1990, 301–23.

Particularly flattering to Gall and beneficial to his reputation were the attentions of the great poet Johann Wolfgang von Goethe. Goethe travelled from Weimar to Halle and again to Jena to attend Gall's lectures.

[Goethe] was my most enthusiastic listener, and this honour was greatly envied of me. In addition I often had to give him his own lectures at home so that we could become quite familiar with our interrelated ideas. He often confirmed my propositions from his own experience, and was exceedingly happy with the transition to my revelations of the particular properties of the mind etc. Our feelings quite often melted ardently together. We never met or parted from one another without heartily embracing. It is also true, Göthes [*sic*] head is a godlike head, how it projects, how nobly it domes out, how it blends into the image of a Jupiter ...<sup>71</sup>

Clearly Gall was as gratified by the praise of 'lay' as by 'scientific' elites.

Thirty years earlier Goethe had been enthused by Lavater's physiognomy, contributing to the *Physiognomische Fragmente*.<sup>72</sup> These interests influenced Goethe's writings. In *The Sorrows of Young Werther* (1774), for example, written just before *Physiognomische Fragmente*, there are references to physiognomy, while in *Faust: Part One* (1808) Gretchen discerned that Faust comes from a noble house; she could 'read it from his forehead'.

Goethe described Gall's system as the 'pinnacle of comparative anatomy' and had several skulls marked by Gall.<sup>73</sup> Goethe's enthusiasm is understandable when we consider the corroboration it provided for his own natural philosophy. Goethe was close friends with Herder, and even contributed to Herder's *Ideen zur Philosophie der Geschichte der Menschheit*, which so influenced Gall.<sup>74</sup> Goethe and Gall shared a belief in the fundamental unity of structure based on homologous structures in different species. Organisms appeared to be variations of simpler themes. The original version, if it could be found, would be the key to the structure of Nature, the *Urform*. Goethe's interest in such plans led him to discover the human intermaxillary bone in 1784.<sup>75</sup> Hence Goethe's excitement for Gall. According to Gall, the nervous system was composed of modifications of basic independent ganglia. Goethe, however, regretted that Gall had gone into such detail with his organology. Goethe thought the localization of mental functions could not be so exact.

The central activity of Gall's tour and the only means through which he communicated his system to others was the lecture course. Gall remained bound by the Austrian censorship authority throughout his journey and his sole publication during this time concealed his authorship. Gall wrote in advance to his hosts, 'Nothing of mysterious [i.e.

71 Gall to Streicher, 15 October 1805, in Neuburger, op. cit. (10), 12–13. On Gall and Goethe see P. Möbius, 'Goethe und Gall', in *idem, Ausgewählte Werke*, 8 vols., Leipzig, 1903, iii, 211–60, where many of Goethe's references to Gall in letters and diaries are reproduced. See also the fruitful analysis in Oehler-Klein, op. cit. (17) Chapter 6, 'Theoretische Auseinandersetzung mit der Lehre Galls in der Goethezeit', 211–36; Lesky, op. cit. (29), 38–9.

72 I am grateful to Nicholas Jardine for bringing this to my attention. See E. von der Hellen, *Goethes Anteil an Lavaters Physiognomischen Fragmenten*, Frankfurt a. M., 1888; and L. Hirzel, 'Goethes Anteil an Lavaters Physiognomik', *Zeitschrift für Deutsches Alterthum und Deutsche Literatur* (1877), 21, 254–8.

73 Quoted in Oehler-Klein, op. cit. (17), 14, 216.

74 K. Seehafer, *Johann Wolfgang Goethe: Mein Leben ein einzig Abenteuer*, Berlin, 2000.

75 M. Wenzel "'Daß der Liebhaber etwas Erfreuliches und Nützlichliches zu leisten im Stande ist". Goethe, Soemmerring, und das Os intermaxillare beim Menschen', *Berichte zur Wissenschaftsgeschichte* (1986), 9, 161–6; and Seehafer, op. cit. (74), 180–1. Goethe's *Die Metamorphose der Pflanzen*, Weimar, 1790 and his 'vertebral theory of the skull' were similar attempts to find the original structure on which bio-diversity was based.

*naturphilosophisch*] anatomy nothing of unintelligible technical terms, all that I wish to present to my audience is plain and popular as the naked truth itself',<sup>76</sup> and '[ladies] enliven the audience in the most agreeable manner'.<sup>77</sup>

It is important to consider how a touring lecturer in early nineteenth-century Europe would have been understood. Who else toured like Gall or performed in the same venues?<sup>78</sup> A characteristic aspect of itinerants was their independence from institutional membership. Although this was far from obligatory for European gentlemen of science in the late eighteenth century, it was becoming increasingly common. Hence Gall could anticipate complete legitimacy whereas some of his listeners, especially those who themselves possessed institutional credentials, were disposed to be sceptical.

Gall's critics often branded him a 'charlatan'.<sup>79</sup> Travelling charlatans, mountebanks or empirics are part of the unexamined backdrop to Gall's lecture tour. The historian of medicine Matthew Ramsey wrote of the traditions of itinerant charlatans in eighteenth-century France as both a form of medicine and an economic activity.<sup>80</sup> Charlatans were practitioners of medicine without official credentials who pedalled drugs and performed minor operations and consultations for the general populace. The more successful and affluent charlatans travelled with a large entourage and announced their arrival in advance through the newspapers, not unlike Gall.<sup>81</sup> Ramsey wrote of one mountebank who travelled with his wife, a monkey, a servant and two valets.<sup>82</sup>

Some empirics and charlatans achieved widespread fame. Joseph Gassner gained a large peasant following in the Austrian Tyrol with his technique of healing by touch, exorcism and drugs. His name became known for magical healing throughout Europe in the third quarter of the eighteenth century.<sup>83</sup> The Count de St Germain, an alchemist who peddled an elixir of life in eighteenth-century Germany, also became very well known. Later in Paris he became the centre of a fashionable cult.<sup>84</sup> But the 'super-quack of the age' was the so-called Count Cagliostro.<sup>85</sup> Born Giuseppe Balsamo (1744?–96), Cagliostro was a

76 Gall to R. Meier, 1 June 1805, translated and reprinted in Robert Noel, 'Reliques and anecdotes of Dr Gall', *Phrenological Journal* (1844), 17, 153–7, 153.

77 Gall to [Volkmar] Rheinhard, 10 December 1805, translated and reprinted in 'Correspondence of Dr Gall', *Phrenological Journal* (1846), 19, 36–42, 39.

78 Important examinations of France and Britain are S. Schaffer, 'Natural philosophy and public spectacle in the eighteenth century', *History of Science* (1983), 21, 1–43; and I. Inkster, 'Culture, institutions and urbanity: the itinerant science lecturer in Sheffield 1790–1850', in *Essays in the Economic and Social History of South Yorkshire* (ed. S. Pollard and C. Holmes), Sheffield, 1976, 218–32. See also R. Porter, *Health for Sale*, London, 1989; and J. Golinski, *Science as Public Culture: Chemistry and Enlightenment in Britain, 1760–1820*, Cambridge, 1992.

79 S. Oehler-Klein, 'Franz Joseph Gall, der Scharlatan – Samuel Thomas Soemmerring, der Wissenschaftler? Neuroanatomische Methoden, Erkenntnisse und Konsequenzen im Vergleich', in *Gehirn-Nerven-Seele: Anatomie und Physiologie im Umfeld S. Th. Soemmerrings* (ed. G. Mann and F. Dumont), Stuttgart and New York, 1988, 93–132.

80 M. Ramsey, 'Irregulars: itinerants', in *idem, Professional and Popular Medicine in France, 1770–1830: The Social World of Medical Practice*, Cambridge, 1988, 129–75.

81 Gall's advertisement in the *Frankfurter Frag- und Anzeige-Nachrichten*, 3 June 1806, 46, is transcribed in Deneke, *op. cit.* (57), 89.

82 Ramsey, *op. cit.* (80), 133.

83 E. Maple, *Magic, Medicine & Quackery*, London, 1968, 132–3.

84 Maple, *op. cit.* (83), 133–4.

85 Maple, *op. cit.* (83), 134.



charlatan and self-styled thaumaturge, fortune-teller and alchemist. He made the grand tour throughout Europe duping royal patrons and seducing wealthy women.<sup>86</sup> He died a papal prisoner for blasphemy in the San Leo Fortress in Italy.<sup>87</sup>

These figures all claimed to possess special knowledge beyond that of ordinary men. Gall was not dissimilar in his claims to be able to read character by an examination of the head. Between 1805 and 1807 German periodicals were filled with reports of Gall's diagnostic legerdemain at prisons and asylums where he astonished his hosts with his uncanny accuracy. Gall's letters were also littered with references to his own Cagliostro-like encounters with women eager to see the famous Dr Gall:

I think I saw the beautiful [actress and singer] Karline Jagemann. As soon as this letter is away I will spy her out. There were two delightful little things looking out the window [of the local inn] and it seemed to me their lips pronounced the name Gall. They were probably as unsure as I was.<sup>88</sup>

Instead of a mysterious source for his privileged knowledge, Gall claimed ubiquitous Nature for his special authority. His skill in reading Nature – the fact that he ‘freed’ himself from the main schools of thought – allowed Gall to claim the privileged knowledge of a mystic or charlatan and still lay claim to the seriousness of a gentleman of science.

Gall's unorthodox practice of disseminating theoretical knowledge to mixed or lay audiences via a lecture tour – and for profit – was described by his critics as the mark of a charlatan. The Göttingen classical philologist Christian Gottlieb Heyne wrote to the highly respected German anatomist Samuel Thomas Soemmerring (1755–1830): ‘That Gall wanders about as a charlatan, preaching to the ignorant to draw money out of them is to be regretted. A scientific tour to scientific scholars would have brought him honour and gain to science.’<sup>89</sup> According to this perspective, Gall lacked two proper ingredients to impart proper science: an exclusive audience and non-profit lectures. Both of these could imply the need for institutional membership.<sup>90</sup> Heyne begged Soemmerring, with his impeccable credentials as the sole authority on cerebral anatomy, to come forward with the ‘verdict’ – and so settle the question of the legitimacy of Gall's system once and for all with the force of authority. The cautious Soemmerring remained silent.<sup>91</sup>

Not all itinerants were disreputable. Gall referred to himself as a ‘travelling doctor’.<sup>92</sup> Gall was certainly not the only travelling doctor; another was Jacob Friedrich Ludwig Lentin, author of *Medizinische Bemerkungen auf einer literarische Reise durch Deutschland*

86 E. Mead, *The Grand Tour in the Eighteenth Century*, New York, 1972.

87 R. Gervaso, *Cagliostro: A Biography*, London, 1974.

88 Gall to Streicher, 1 February 1806, in Neuburger, op. cit. (10), 304.

89 Heyne to Soemmerring, 1 August 1805, in Ebstein, op. cit. (39), 284. Also quoted in G. Mann, ‘Franz Joseph Galls kranioskopische Reise durch Europa (1805–7). Fundierung und Rechtfertigung neuer Wissenschaft’, *Nachrichtenblatt der deutschen Gesellschaft für Geschichte der Medizin, Naturwissenschaft und Technik* (1984), 34, 86–114, 100.

90 See A. Lingo, ‘Empirics and charlatans in early modern France: the genesis of the classification of the “other” in medical practice’, *Journal of Social History* (1986), 19, 583–603. On the institutionalization of science lecturing see J. Hays, ‘The London lecturing empire, 1800–50’, in *Metropolis and Province: Science in British Culture 1780–1850* (ed. I. Inkster and J. Morrell), London, 1983, 91–119.

91 Soemmerring wrote a critical essay on Gall, ‘Meine Ansicht einiger Gallschen Lehrsätze’, *Göttingische gelehrte Anzeigen*, 1829, parts 6/7, 49–64, which he had published only after Gall's death.

92 Gall to Streicher, 14 March 1807, in Neuburger, op. cit. (10), 21.

(1800).<sup>93</sup> In contrast to charlatans, Gall was a qualified physician. The historian Gunter Mann noted that for a scholar to travel and earn his bread from his knowledge was not altogether unusual in this period.<sup>94</sup> Ramsey remarked, ‘Many surgical experts also travelled ... because their skills (such as couching cataracts) could not be fully employed in any one place.’<sup>95</sup>

Travelling between patrons was also common for musicians and composers such as Mozart and Beethoven. High-profile musicians even received the same kinds of gift as Gall, gifts that were in effect payment for the entertainment, although also a sign of honour and approbation. From Carl August, Duke of Saxony-Weimar-Eisenach, Gall was given a diamond ring and two hundred ducats. Beethoven received a golden snuffbox during a visit to Berlin some years before.<sup>96</sup> King Friedrich II of Württemberg gave Gall a golden cup filled with one hundred coins and the King of Prussia gave Gall a valuable diamond ring. Friedrich VI, then Crown Prince of Denmark, gave Gall a golden snuffbox encrusted with diamonds – a step above Beethoven’s plain gold snuffbox.

Gall’s lectures were entertaining, yet ostensibly ground-breaking science. Gall was no doubt a skilled showman in addition to being a riveting speaker. One anonymous commentator wrote, ‘As attractive as the greater part of his materials are: so striking is the deficiency of order, certainty and precision in his lectures. This deficiency is felt most at universities where one is accustomed to well-ordered lectures.’<sup>97</sup> The Göttingen obstetrician Friedrich Osiander, one of Gall’s bitterest critics, characterized Gall as a greedy mountebank (*Marktschreier*) who, devoid of real talent or knowledge, was only really skilled in entertaining his audiences.<sup>98</sup>

In Berlin the physician to the Prussian king and leader of German medicine Christoph Wilhelm Hufeland (1762–1836) defended Gall. Hufeland was convinced that Gall was ‘close to Nature’. Echoing Gall’s own rhetoric, Hufeland wrote,

I am completely convinced that Gall should be considered one of the most remarkable phenomena of the eighteenth century, and that his doctrine should be considered as forming one of the boldest and most important steps in the study of the kingdom of Nature. One must see and hear [Gall] for oneself to get to know this man, free from all charlatanry, untruth or transcendental enthusiasm ... [a man] raised in Nature and who, through continuous contact with her, has been educated as her confidant ... [from observations] he has drawn conclusions and from these he has established truths, which therefore become highly valuable, so that they, purely empirical, are simply a reiteration of Nature.<sup>99</sup>

Karl August Blöde, Financial Secretary of Saxony, told readers of his popular booklet on Gall’s doctrine that Gall was convincing because he spoke as one who is sincere and

93 See also J. Lentin, *Specimen Inaugurale Medicum Sistens Momenta Quaedam Generaliora Circa Febris Gastricae Distinctionem et Medelam*, [Göttingen, 1778].

94 Mann, op. cit. (89).

95 Ramsey, op. cit. (80), 132.

96 E. Pichler, *Beethoven: Mythos und Wirklichkeit*, Wien and München, 1994, 140.

97 *Intelligenzblatt der Jenaische Allgemeine Literaturzeitung*, 10 August 1805, 96, 810.

98 F. Osiander, ‘Ueber Dr Galls Vorlesungen in Göttingen’, *Neues Hannöerisches Magazin* (1805), 18, 1352. Osiander may have had personal reasons for opposing Gall so publicly. See Osiander’s collection of infant skulls in N. Lepp, M. Roth and K. Vogel (eds.) *Der neue Mensch*, Cantz, 1999.

99 C. Bischoff, *Darstellung der Gall’schen Gehirn- und Schädel-Lehre; nebst Bemerkungen über diese Lehre von Christoph Wilh. Hufeland*, Berlin, 1805, enlarged, 1806, quoted in F. Theile, ‘Gall’, *Allgemeine Encyclopädie der Wissenschaften und Künste* (ed. J. Ersch and J. Gruber), Leipzig, 1850, 400.

impartial. Gall was ready to acknowledge error if ‘Nature’ showed him to be incorrect.<sup>100</sup> In this case being independent and unattached to a particular school or intellectual movement meant Gall was free to seek the truth. This was a concept Gall himself promulgated in all his works.

Another contentious aspect of Gall’s lecture tour was profit. Gall probably earned very well on his journey though he spent his money as fast as he earned it on high living and by adding to his collection.<sup>101</sup> The Jena author Christian August Vulpius confided to a friend, ‘In W[eimar Gall] read for 70 persons at 1 Louis[d’or] per person; and also at the court where the duke [Carl August] gave him 80 ducats, the duchess [Anna Amalia?] a diamond ring, and the crown prince [Carl Friedrich] and his wife [Maria Paulowna] 100 Louis[d’or]. – [Gall] is really a bit of a charlatan.’<sup>102</sup> The classical philologist Christian Gottlieb Heyne wrote, after seeing Gall lecture in Göttingen, ‘one recognized the free sharp-witted combining observer; but one missed entirely the sense of truth, love for true fame and for science itself; instead [Gall] expresses shamelessly the most nefarious greed and the lowest acquisitiveness [which] ignobles his science’.<sup>103</sup> According to the Amsterdam newspaper *De Ster*, many of Gall’s Dutch auditors believed Gall ‘showed by far less enthusiasm for science and truth than plain self-interest, and he currently – to speak plainly – cultivates his doctrine and discoveries simply as a financial speculation.’<sup>104</sup> This characterization leaves some distance between the content of Gall’s system and his manner of disseminating it – the one perhaps legitimate and the other clearly not. What is far from clear is whether Gall’s lack of institutional membership mattered to the majority of his audience. Gall lectured at a time when he could expect audiences who would not necessarily demand institutional or disciplinary credentials. Later in phrenology’s history, as Roger Cooter observed, the principle of earning money from the science would be used to distinguish the ‘proper’ spokesmen from the quacks.<sup>105</sup>

The Danish *Naturphilosoph* and Gall critic Henrik Steffens (1773–1845) wrote an interesting account of Gall’s 1805 Halle lectures which reveals something of the expectations of genteel decorum Gall encountered:

Gall busied himself with the presentation of the organs of various talents, and with his assured manner of expressing himself, did not shrink to choose examples for the confirmation of his doctrine [*Lehre*] from amongst his audience. He spoke first of skulls which show no exemplary prominences, which are quite different from a beautiful and meaningful harmony of all [the organs]; and one recognized an instructive example of such a form, when one observed the head of the great poet, who honoured the lectures with his presence. The entire auditorium looked at

100 K. Blöde, *Dr F. J. Gall’s Lehre über die Verrichtungen des Gehirns, nach dessen Dresden gehaltenen Vorlesungen in einer fasslichen Ordnung mit gewissenhafter Treue dargestellt. Mit einer dreifachen Abbildung eines von Gall bezeichneten Schädels*, Dresden, 1806, p. iii.

101 In Berlin, for example, the price for the lecture course was two Friedrichsdor, in the Netherlands twenty-one florins, in Weimar, Freiburg, and Stuttgart one louis d’or (about eighteen shillings), in Münster two louis d’or, and in Frankfurt it was two Carolin (about thirty shillings). However, Gall claimed that he would admit for free those of little means such as ‘young medical men, students, preachers, schoolmasters, &c.’ Gall to [Volkmar] Reinhard, 1 June 1805, translated and reprinted in Noel, ‘Reliques and anecdotes of Dr Gall’, *Phrenological Journal* (1844), 17, 153–7, 153.

102 C. A. Vulpius to Nicolaus Meyer, 30 August 1805, quoted in Heintel, *op. cit.* (5), 14.

103 Heyne to Soemmerring, 1 August 1805, quoted in Mann, *op. cit.* (58), 164.

104 *De Ster*, 6 June 1806, 38, 1.

105 Cooter, *op. cit.* (4).

Goethe. He remained quiet; a barely perceptible passing displeasure lost itself in a suppressed ironic smile. ... Finally [Gall] came to [Friedrich August] Wolf. As everybody knows, the organ of language [*Sprachsinn*], according to Gall, lies above the eyes near the root of the nose; so it is thereby decided that Wolf possessed this organ to a remarkable degree. But Wolf wore spectacles; as Gall began to demonstrate the organ of language on the bone of a skull, Wolf could well expect that [Gall] would use [Wolf's] skull as he had Goethe's and [Johann Friedrich] Reichardt's. Now it was terribly amusing to see how the great philologist dealt with the intentions of the *Schädellehrer*. [Wolf], with great composure, removed his spectacles and turned his face to all sides and was in an instant transformed to a skull in the hands of the demonstrator ...<sup>106</sup>

Gall, although from a wealthy family, was still considered provincial in many ways, not least his heavy Swabian accent. Gall's elite critics used any difference they could perceive between Gall and themselves which might be of use in persuading others that Gall was not as convincing or as trustworthy as he might at first appear.

Implicit in many of the criticisms of Gall's lectures is the assumption that a proper scholar should publish. It was not generally known at the time that Gall was forbidden to publish his system by the Austrian government, even while travelling through the rest of Europe. A writer in the *Jenaische allgemeine Literaturzeitung* identified publication as the necessary form of legitimate scientific dissemination which Gall lacked:

The unusual appearance of a man making his discoveries known, not written and in print, but rather as a prophet who skims through countries causing the reports one hears and expects from every centre about Gall like observatories' reports on the appearance of a new planet, ball of light etc.<sup>107</sup>

### Personal contests of authority

Many of the controversies were not over the content or implications of Gall's system or whether it was acceptable to make money with science, so much as over who had the authority to pronounce on the brain, the skull, the mind and so on. The first of these clashes of authority came from the venerable Berlin professor of anatomy, Johann Gottlieb Walter (1734–1818). While seemingly all Berlin fawned over Gall and his lectures, Walter cavilled about anatomical points and accused Gall and his system of materialism.<sup>108</sup>

Walter's heavy-handed criticism succeeded mainly in eliciting stronger support for Gall. The pharmacologist and physiologist Christian Bischoff, and Christoph Hufeland, came forward to defend Gall – publishing an authoritative pamphlet in his defence which was later translated into French and English.<sup>109</sup> Walter was not convincing because he was

106 Henrik Steffens, *Lebenserinnerungen aus dem Kreis der Romantik* (ed. F. Gundelfinger), Jena, 1908, 271. Also quoted in Oehler-Klein, op. cit. (17), 24–5.

107 *Jenaische allgemeine Literaturzeitung*, Nr. 122, 10 October 1805, 1027.

108 Walter, *etwas über Hn. Dr Gall's Hirnschädel-Lehre; Dem Berliner Publikum mitgetheilt*, Berlin, 1805.

109 C. H. E. Bischoff, *Darstellung der Gall'schen Gehirn- und Schädel-Lehre; nebst Bemerkungen über diese Lehre von Christoph Wilh. Hufeland*, Berlin, 1805. This pamphlet was also translated into French by G. Barbeguiere in 1806 and into English by H. C. Robinson in 1807. The *Edinburgh Journal of Medical Science* reviewed these works and the controversy with Walter, 1806, 2, 354–66. Hufeland's remarks were of a moderately critical nature. The *Jenaische Allgemeine Literaturzeitung* reported a speech at the opening of a new academic assembly hall in July 1805, when Gall had been away from Berlin for two and a half months. '[A physician] opened the [hall] with a fitting speech ... and as his inaugural project, a defence of Gall's theory against the attack of [J. G.] Walter in Berlin', *Intelligenzblatt der Jenaische Allgemeine Literaturzeitung*, (August 1805), 90, 754. See Gall's responses to Walter in Gall, 'Briefe Galls an Professor Dr Johann Gottlieb Walter nebst Antworten und Berichtigungen', 1805.

obviously ‘partial’. This was the opinion of Christian Gottfried Kratzsch in his pamphlet *Doktor Gall in Hamburg oder: Nähere Erläuterung seiner Hirn-Schädel-Lehre. Von einem unpartheyischen Hamburger*.<sup>110</sup> According to Kratzsch, Gall was on the side of Nature, and hence he was unbiased, non-doctrinal, even non-denominational. In this sense Gall was convincing because he was ‘free’. Gall allowed Nature to guide him to the truth; whereas Walter was not ‘free’ because his professional envy overwhelmed his reason. Shapin has shown how seventeenth-century gentlemen were seen to be free in this sense, as professional considerations and financial dependency were the causes of bias.<sup>111</sup> So being a professional was not the key to unreserved approbation for Gall.

Gall seemed to appreciate the propaganda value of controversy and he even purchased a hundred copies of Walter’s scathing pamphlet and distributed them to his friends and at his own lectures.<sup>112</sup> Even more than lecturing success, and the imperial ban three years before, an overzealous critic’s attacks raised the importance and visibility of Gall and his system beyond what they had had. Periodicals reported controversies and these became topics of discussion all over Germany. Even in London the *Medical and Physical Journal* carried a report of the Berlin controversy and which way credibility was apportioned: ‘A rancorous attack was now commenced on [Gall’s] theory by Doctor Walter, first anatomist in Berlin, but it failed of the intended effect, every person being convinced that it was dictated by envy.’<sup>113</sup> Gall enjoyed the increased fame and attention.

Gall’s main interest was always to secure authority and attention for himself. He discouraged others from lecturing on or practising his system as only he was capable of doing so. The Amsterdam *De Ster* reported that Gall did not like any of the pamphlets on his system written by others because Gall only liked talking about his system himself.<sup>114</sup>

This same impression of Gall’s aims is supported by his intercourse with Soemmerring in Munich. Soemmerring wrote of his first meeting with Gall and Spurzheim in his diary: ‘Dr Gall came with Dr Spurzheim; resolutely defiant, brazenly coarse; both handled me much too patronizingly in the beginning despite all the assurances that they had come to learn from me.’<sup>115</sup> Gall’s rendition of their meeting sounds remarkably similar, though from quite a different perspective:

[Soemmerring] showed us every courtesy, as difficult as it was for him, and as much subjugation as it cost him to see all the new and irrefutable discoveries – often he could hardly bear it; it was as when one has to take a disgusting medicine because one knows it will work.<sup>116</sup>

Ackerknecht and Vallois observed that Gall was better received amongst the older generation, those who were most indoctrinated with Enlightenment ideas, than with the

110 C. G. Kratzsch, *Doktor Gall in Hamburg*, Hamburg, 1806, 2. See also anon., *Beleuchtung der Gall’schen Gehirn- und Schädellehre durch Vernunft und Erfahrung geleitet von einem von aller Parteilichkeit freien Beobachter; für Aerzte und Nichtärzte*, Berlin, 1805.

111 Shapin, op. cit. (3).

112 Oehler-Klein, op. cit. (17), 64.

113 [A correspondent in Dresden,] ‘An account of Dr Gall’s system of craniology’, *Medical and Physical Journal* (1806), 15, 201–13, 202.

114 L. M., [writing 20 May 1806] *De Ster* (6 June 1806), 38.

115 Quoted in Oehler-Klein, op. cit. (17), 61; and Mann, op. cit. (58), 174.

116 Gall to Friedrich Johann Justin Bertuch, 23 September 1807, in Ebstein, op. cit. (39), 307. For a comparison of Gall and Soemmerring, see Oehler-Klein, op. cit. (79); Mann, op. cit. (58); and M. Hagner, ‘The soul and the brain between anatomy and “Naturphilosophie” in the early 19th century’, *Medical History* (1992), 26, 1–33.

younger, maturing romantic generation.<sup>117</sup> In many ways Gall was more an Enlightenment thinker than a romantic, though themes from both kinds of tradition were combined in his system.<sup>118</sup> Gall abhorred the new school of German vitalist idealism – *Naturphilosophie* – and dismissed its adherents as mystics and visionaries.<sup>119</sup>

*Naturphilosophie* was descended from the Leibnizian tradition, as developed by Kant, and was entering a new phase with the writings of Friedrich Wilhelm Joseph Schelling (1775–1854).<sup>120</sup> *Naturphilosophie* included a Spinozan conception of mind and matter as two different attributes of the same substance. Gall's devotion to empiricism and cold comparative observation was the direct antithesis of romantic *Naturphilosophie* with its emphasis on uniqueness and feeling. The romantic harmony of a transcendent metaphysical mind with physical Nature seemed incompatible with Gall's parcelization of mind according to his panoply of faculties.<sup>121</sup> In many ways Gall felt *Naturphilosophen* were opposed to everything he put forward. *Naturphilosophen* such as Lorenz Oken (1779–1851) would rule German academia, and especially medicine and natural history, for the next thirty years, during which time Gall's system was ignored in Germany. Gall attributed this lack of interest in his system to the influence of *Naturphilosophen*.<sup>122</sup>

The greatest controversy of Gall's tour was with the Heidelberg anatomist, and former pupil of Soemmerring, Jacob Fidelis Ackermann (1765–1815). Like that other great controversy in the history of phrenology, Spurzheim versus Gordon between 1815 and 1817, this one began first in print. Ackermann condemned Gall for not investigating Nature as a romantic *Naturphilosoph* in a 198-page book.<sup>123</sup> Gall and his devotees, Ackermann observed, claimed that Gall's system was empirical and based on Nature, 'so [the system] is only the fruit of [Gall's] true and unclouded observations of nature. It has come solely from empiricism, but unfortunately from what sort of empiricism? Certainly from that sort from which reason flies and every sort of rational induction contradicts'.<sup>124</sup> Ackermann not only challenged Gall's authority in terms of anatomy, but he also challenged Gall's direct communion with Nature because this was not directed by true philosophy. As much as any aspect of cerebral anatomy, Gall's special grasp of Nature challenged Ackermann's natural authority base.

117 Ackerknecht and Vallois, op. cit. (8).

118 Lesky, op. cit. (12), 95.

119 On *Naturphilosophie*, see N. Jardine, 'Naturphilosophie and the kingdoms of nature', in *Cultures of Natural History* (ed. N. Jardine, S. Secord and E. Spary), Cambridge, 1996, 230–45; and A. Cunningham and N. Jardine, *Romanticism and the Sciences*, Cambridge, 1990.

120 F. Schelling, *Erster Entwurf eines Systems der Naturphilosophie*, Jena and Leipzig, 1799; *idem*, *System des Transcendentalen Idealismus*, Tübingen, 1800. Schelling tried to push Gall away from the metaphysics of a human 'mind', since 'Hr. Dr Gall understands the structure of the brain better than the faculties which are inside.' *Idem*, 'Einiges über die Schädellehre', *Morgenblatt* (1807), 74, 542–3; reprinted in *idem*, *Sämmtliche Werke* (ed. K. F. A. Schelling), 14 vols., Stuttgart, 1859, vii, 542–3.

121 These generalizations are derived largely from the excellent account in Oehler-Klein, op. cit. (17), 13–15. See also H. Snelders, 'Romanticism and Naturphilosophie and the inorganic natural sciences 1797–1840', *Studies in Romanticism* (1970), 9, 193–215.

122 Gall to Nannette Streicher, 21 September 1827, in Neuburger, op. cit. (10), 53.

123 J. Ackermann, *Die Gall'sche Hirn-, Schedel- und Organenlehre vom Gesichtspunkte der Erfahrung aus beurtheilt und wiederlegt*, von J. F. Ackermann, Heidelberg, 1806, 191–2.

124 J. Ackermann, op. cit. (123), 85–6.

Gall's system, by attributing the greatest importance to the brain's cortex, contradicted the dominance of the ventricles as taught by Soemmerring and Ackermann. As Michael Hagner wrote, 'For someone like Ackermann this was not just a question of content, rather it undermined [Ackermann's] authority and competence as Soemmerring's pupil and as professor of anatomy.'<sup>125</sup> Ackermann tried to overwhelm with his professional authority. This is obvious from the title-page of his book, which is cluttered with his professional titles and qualifications. Ackermann's jealousy was not invisible either. Gall was an unqualified dilettante sweeping the country and receiving undeserved 'undivided approval, and an excellent renown, a virtue which' Newton and Harvey did not have in their lifetimes.<sup>126</sup>

The bitterest opposition to Gall, as with Walter in Berlin, was personal rivalry between elite scholars. In Frankfurt, Gall stayed at the home of the romantic poet Clemens Brentano:

Yesterday Gall ate with us and after the meal talked to me for a long time about Akermann [*sic*], no, not talked, raged, he said loudly, Akermann is a liar, a frenzied wretch, and [Gall] would destroy him forever ... Their meeting will certainly turn out badly for Akermann, for Gall has something quite different in mind.<sup>127</sup>

In May 1806 Gall wrote a reply to Ackermann's book.<sup>128</sup> Gall reread Ackermann with the intent 'to refute him the better in Heidelberg ... But then [Ackermann's booklet] set me so on fire, and I felt so ardently the necessity to rebuke him, that I quickly finished the business'.<sup>129</sup> It was Gall's greatest wish that his answer be published before he arrived in Heidelberg to face Ackermann. 'I want to avoid bypassing Heidelberg at all costs, otherwise my opponents will discredit my organ of courage.'<sup>130</sup> The quality of the paper had to be likely to impress, and the title had to reveal that Gall had approved of the contents but, to avoid problems with the censorship authority in Vienna, not actually written it. By risking trouble with the Viennese censors and taking such meticulous care with publication, and most of all the polemical style of the book, it is obvious how personal the ostensibly scientific controversy was.

The contest continued in person. Brentano wrote to his fellow romantic poet Achim von Arnim, 'Come here immediately where you can see an incredible fight. Gall wants to completely eradicate Ackermann; they are furious with one another.'<sup>131</sup> Ackermann attended Gall's first Heidelberg lecture visibly agitated and by the close of the lecture Gall thought Ackermann looked 'even more disturbed'. Gall relished what he saw as his victory over Ackermann.

125 Hagner, op. cit. (4), 126.

126 Ackermann, op. cit. (123), 3–4. Other writings by Ackermann to this date included *Über die Kretinen, eine besondere Menschenabart in den Alpen*, Gotha, 1790; *Der Scheintod und das Rettungsverfahren*, Frankfurt, a. M., 1804.

127 Quoted in Oehler-Klein, op. cit. (17), 66. Oehler-Klein has provided a detailed analysis of Gall's interaction with the Brentano family.

128 [F. J. Gall] *Beantwortung der Ackermann'schen Beurtheilung und Wiederlegung der Gall'schen Hirn-Schedel- und Organenlehre, vom Gesichtspuncte der Erfahrung aus. Von einigen Schülern des Dr Gall und von ihm selbst berichtet*, Halle, 1806.

129 Gall to Bertuch, 19 May 1806, in Ebstein, op. cit. (39), 297.

130 Gall to Bertuch, 19 May 1806, in Ebstein, op. cit. (39), 304.

131 Brentano to Arnim, 12 February 1806, in Ebstein, op. cit. (39), 272.

By the first brain dissection [Ackermann] was extremely restless, and could hardly deny, then conceded, and then contradicted himself, and thereby fell into the most laughable contradictions with his opinions partly just expressed, and partly from his pamphlet. He was marginalized even more by the second brain dissection, at which even his own followers could no longer deny that they could see what I had promised. He was so enraged that he promised a public refutation. This he really gave on the following day in the presence of myself, and Spurzheim, and another hundred listeners.

He attacked dreadfully and screamed and gesticulated like an evangelist, grabbed bits from transcendental philosophy and from mysterious chemistry; showed the most unskilful preparations ... One could never expect that such a harebrained man would come around, and he distinguished himself by the highest distress and embarrassment, yielding and contradiction, obstinacy and palliation, he gave himself over simply to passion, and I felt rather malicious; I could not have wished for a more lovely spectacle.<sup>132</sup>

Again, as with Walter, losing one's temper seemed to confirm only personal bias. Although Gall was perhaps equally enraged by Ackermann's criticisms, he practised a cool and businesslike air while lecturing and dissecting before his opponent. Not unlike Spurzheim's Edinburgh confrontation with the anatomist John Gordon a decade later, Gall convinced Ackermann's Heidelberg followers with skilful dissections combined with natural rhetoric. We must remember the young Spurzheim standing to the side, observing his master throughout these debates. Later Spurzheim, borrowing wholesale from Gall, would also have his greatest successes during lecture tours in Britain and America.

### Conclusion

To conclude, we have seen that Gall was not the revolutionary thinker whose radical ideas came from nowhere, as he is sometimes represented in Anglo-American historiography. Equally to refer to the prevalence of romanticism explains only part of Gall's system.<sup>133</sup> Gall's system was a rich combination of the external examination of physiognomy, an Enlightenment orderly Nature and positivist rhetoric, an innate faculty psychology and the Romantic concept of organic unity of plan. In spite of the partial romantic foundations of his system, Gall would have disdained the label romantic and his fiercest opponents were the early German romantic *Naturphilosophen*.

Just as Gall's system was partly suggested by a philosophy of Nature, the same served to demonstrate his authority as a gentleman of science and to defend the system against criticism. Gall's system was not about social change but about epistemological certainty. Gall claimed to make empiricism and a foundation on Nature the measures of truth for questions of mind and human nature. 'Nature', Gall wrote, was his 'sole authority', which allowed him to triumph over his opponents through the greater epistemological power of his natural knowledge.<sup>134</sup> Gall adamantly repeated in all of his writings that his system swept away the old speculation and so conferred certainty where metaphysics produced only confusion. That is, Gall claimed greater certainty for his science because of the association he made between it and an irrefragable touchstone of truth. At a time when

132 Gall to Bertuch, Ebstein, op. cit. (39), 305.

133 Clarke and Jacyna, op. cit. (2).

134 Gall to R. Meier, 3 March 1806, translated and reprinted in 'Correspondence of Dr Gall', *Phrenological Journal* (1846), 19, 36–42, 40.



Kant's theories of the mind's role in shaping experience were making their initial waves, Gall's system showed how universal psychological capacities could be conceived of as empirically observable and subjected to measurement.

The stress on the number of confirmations for his theories was further grounds for certainty. Perhaps one of the most important and perceptive generalizations about Gall is Robert M. Young's observation that Gall was so convinced of the truth of his system that he only sought confirmations and explained away contradictory evidence.<sup>135</sup> It was this widespread practice, so seldom explicitly examined, that enabled Gall's system to be espoused and practised into the later twentieth century. Like other forms of vague prediction and divination, the predictions of Gall's system would sometimes appear to be correct.

The reactions to Gall's system are rich soil for exploring elite scientific authority in early nineteenth-century Europe. The controversies over Gall and his doctrine show that there was no consensus about the proper means to propagate scientific knowledge. Earning money with science and entertaining lay audiences was objectionable only to academic elites, though Blumenbach was not perturbed. It was equally unclear what personal attributes were necessary for a man of science to be trustworthy. Gall's mixed audiences noticed his lack of tact more than his sacrifice of precision for entertainment value. In general, Gall profited from the vague limbo between science and charlatanry. The belief that his science was the true description of human nature allowed Gall to present the most appropriate parts of his system to different audiences with perfect composure.

Gall's *Schädellehre*, essentially the same as later phrenology, elicited the main kinds of objection which later met phrenology: fatalism, materialism and the lowering of Man's unique status by treating human nature as a natural product.<sup>136</sup> The exception was atheism. Perhaps this was the result of the different degrees of power of Christian churches in Germany and Britain. Clergymen seem to have played no role in the debates over Gall's system on the continent. In Münster Gall remarked, 'If things continue in all Catholic cities as in Münster then I will soon earn the name of a true apostle.'<sup>137</sup>

The reactions to Gall also show that in the 1800s it seemed odd for a gentleman of science to communicate his findings through lectures and not in print. The tensions over purveying new science to lay audiences versus specialist audiences were also far from clear. Gall's tour was as much a profitable travelling entertainment show as a touring scholarly enterprise. There was no consensus about whether a disseminator of new science should be independent or attached to an institution. Gall wrote, 'Generally I have arranged my lectures so that they have a great interest for everyone.'<sup>138</sup> The crucial point for Gall was convincing his audiences. He tried to convince them that he had discovered the science of human nature by virtue of which he was a unique authority. In this endeavour all means were legitimate. It worked. Gall was, for a time, one of the most famous men in Europe. He made a fortune and, by his own account, was immensely satisfied. Gall's tour was an

135 Young, op. cit. (4).

136 On the latter see Henrik Steffens, *Drei Vorlesungen über Hn. D. Gall's Organlehre*, Halle, 1805; and *idem*, *Was ich erlebte*, 10 vols., Breslau, 1842, vi.

137 Gall to Streicher, 12 March 1806, in Neuburger, op. cit. (10), 17.

138 Gall to Streicher, 12 March 1806, in Neuburger, op. cit. (10), 17.

important cultural event in the years from 1805 to 1807. The tour also taught Spurzheim how to make phrenology. It was Spurzheim's attempt to reproduce in Britain the success Gall had achieved in Europe that led to the foundation of phrenology as a socially significant phenomenon.

It is curious that Gall was hailed as a wonder everywhere he went for two years and then absolute silence reigned as soon as he left Germany. No more German pamphlets or articles were published after Gall arrived in Paris. One reason is that no converts were left behind to search for Gall's brain organs. Instead, like a passing circus or magician, auditors were entertained and intrigued, but not noticeably changed. Gall's entire programme was geared towards this very purpose. Although he wanted his auditors to believe in his system, Gall kept such personal control over it that others were discouraged from appropriating or practising it. Gall's aim in any case was never really to impart science or to disseminate his system. His science and his means of disseminating it served to generate elite intellectual status. This type of status was equally conferred by the praises of gentlemen of science and by those of Goethe or aristocrats.

When Gall found his audience unreceptive he complained, 'Oh, if the people only had more trust in the holy truths of Nature!'<sup>139</sup> Gall's claims to the certitude of Nature were inextricable from the particulars of his system and it was appropriated, along with the faculties and bumps, by Spurzheim when he brought his own version of Gall's system to Britain in 1814. More was imparted by phrenological texts and lectures than the system itself. As the *Jenaische allgemeine Literaturzeitung* remarked on Gall's reception in Göttingen in 1805, '[it was] a rather lukewarm reception. Still, [Gall] will not be able to complain of enmity since his Nature won more adherents than his system'.<sup>140</sup> On Gall's foundations of certain human nature would be built the enormous edifice of phrenological naturalism.

139 Gall to Bertuch, 4 February 1805, in Ebstein, op. cit. (39), 290.

140 'Ueber D. Galls Vorlesungen in Göttingen', 30 October 1805, 1027–30, 1028.