


# Franz Joseph Gall on God and religion: “Dieu et Cerveau, rien que Dieu et cerveau!”

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## Abstract

Franz Joseph Gall's (1758–1828) doctrine of many faculties of mind with corresponding cortical organs led him to be accused of materialism, fatalism, and even atheism. Yet little has been written about the specific charges he felt forced to respond to in Vienna, while visiting the German States, or in Paris, where he published his books. This article examines these accusations and Gall's responses. It also looks at what Gall wrote about a cortical faculty for God and religion and seeing intelligent design in the functional organization of the brain. Additionally, it presents what can be gleaned about his private thoughts on God and organized religion. We conclude that Gall was sincere in his admiration for and belief in God the Creator, but that as an enlightened scientist was recognizing the need to separate metaphysics from the laws of nature when presenting his new science of man.

## KEYWORDS

fatalism, Franz Joseph Gall, materialism, phrenology, religion

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## 1 | INTRODUCTION

Late in the 18th century, Franz Joseph Gall (1758–1828) began to present his nascent doctrine about human and animal cognitive traits and how they relate to the organization of the brain (for a detailed biography, see Finger & Eling, 2019). He started in about 1796 by lecturing at his home in Vienna and provided an overview of his emerging doctrine in the liberal German periodical, *Neue Teutsche Merkur*, in 1798. His basic thesis was that there are many independent faculties of mind (e.g., for music, mathematics, color perception), and that each has a separate cortical organ. The faculties of mind and the sizes and locations of their respective organs, he argued, could be discerned by studying the skulls of people unusually strong in a single trait or propensity. He maintained that the sites for the organs of their stand-out traits would be revealed in tell-tale cranial bumps caused by the growth of specific, underlying brain areas.

Studying the skulls of three extremes of society, namely criminals, the insane, and great people, was not Gall's only method. As he would reveal in great detail in his two sets of books, his *Anatomie et Physiologie du Système Nerveux en Général, et du Cerveau en Particulier* (Gall & Spurzheim, 1810–1819) and his less expensive *Sur les Fonctions du Cerveau et sur Celles de Chacune de ses Parties* (Gall, 1825; English edition, Gall, 1835), he also studied animals, correlated cognitive changes with age, examined people born with disabilities, conducted autopsies on individuals injured or affected by diseases, and more. Skilled as an anatomist, he also drew from research on human and comparative nervous system anatomy—importantly, numerous studies that he conducted with his assistant (from 1805 to about 1813), Johann Gaspar Spurzheim (1776–1832).

Despite his various methods, Gall always viewed human craniology as his primary method. He referred to his “secondary” methods only when they were in accord with what he believed craniology was revealing about the mental faculties and the organization of the brain. As for why he focused on skulls rather than the brain itself, this was in part because it was difficult to obtain the brains of great people, not to mention preserving these prize specimens for future study (Finger & Eling, 2019, pp. 125–168, 320–325; Hagner, 2003). Importantly, skulls had the advantage of making what he was claiming visible and testable, and hence his organology and its phrenological spawn that much more appealing to professionals and even amateurs wishing to approach nature, including human nature, in an exciting new way (Bittel, 2019; Sysling, 2018, 2021).

Gall's project was unique in its attempt to account for individual differences with recourse to differences in the growth of different parts of the cortex, and historians have increasingly recognized his importance in bringing the concept of cortical localization of function to the fore. In contrast, other parts of his thinking are more easily linked to the philosophical and scientific zeitgeists of his times. For example, Johann Caspar Lavater's (1741–1801) ideas about physiognomy, which involved correlating behavioral traits with physical features, especially of the head, were still very popular in German-speaking countries and elsewhere at the turn of the century (Lavater, 1775–1778, with numerous later editions). In fact, Gall even branded himself a physiognomist in his 1798 published letter to the Austrian censor Joseph Friedrich Freiherr von Retzer (1754–1824).

Similarly, and of greater significance given the subject matter of this article, naturalists were bringing humans and animals closer together much like Gall was striving to do, at this time (e.g., Zammito, 2002). Along with building extensive collections for study, “Enlightened” naturalists, including Carl Linné (Linnaeus, 1707–1778) in Sweden and his acolytes in Britain and other locations, were confining their scientific treatises to the natural world and avoiding speculations about metaphysical entities that cannot be experienced through the senses (e.g., Linnaeus, 1735, 1758).

During the 17th century, French philosopher René Descartes (1596–1650) had concluded that humans have both a *res extensa*, a body, and a *res cogitans*, a separate soul, and that this distinctly human soul activates the machinery of the body through the tiny pineal gland (Descartes 1649/1989, 1664/1972). Descartes' basic notion was in accord with Church dogma and had a strong influence in some countries, most notably his native France, although his chosen site of interaction was far from agreed upon. But with the 18th century's emphasis on sensory experiences and detailed observations, even scholars in France were now choosing to approach the “nature of man”

empirically. Moravi (1980), in his analysis of factors characterizing this development, referred to *savants* such as, Pierre Jean Georges Cabanis (1757–1808), Claude Adrien Helvétius (1715–1771), Paul-Henri Thiry d'Holbach (1723–1781), Georges-Louis Leclerc, Comte de Buffon (1707–1781), Charles Bonnet (1720–1793), and Antoine-Louis-Claude Destutt de Tracy (1754–1836). Gall was well aware of developments in France, where he would live from 1815 until his death in 1825, and he frequently mentioned the names of these naturalists and philosophers in his works.

No longer as segregated from other animals by a great theological divide, humans had become more closely associated with higher animals as the 18th century was ending. The idea of a ladder or a Great Chain of Being, which in the past featured angels and God, was now less likely to feature these metaphysical entities at the top (see Hagner, 1992, 1993, 1997). Bringing humans down to earth had additional ramifications for philosophy and the sciences. Among other things, it helped stimulate the new discipline of anthropology, which Gall helped establish with his studies on the skulls and behavioral traits of different human populations (Moravia, 1978, 1980).

Immanuel Kant (1724–1804) played a major role in the German version of the Enlightenment, a movement known as the *Aufklärung*. Like some of his British and French counterparts, Kant promoted a strict division between the study of the natural world and that of the soul (e.g., Zammito, 2002). His very clear message was that metaphysical questions could not be approached with the methods of science, meaning by careful and replicable observations or other sensory experiences.

German minister Johann Gottfried von Herder (1744–1803), one of Kant's disciples, wrote about the need for natural philosophers to restrict their gazes to the real world. By doing so, he maintained, one will observe important differences among peoples living in different places, under different environmental circumstances, and the like. Herder formulated these ideas in his *Ideen zur Philosophie der Geschichte der Menschheit*, a work published in 1777, in which he did not present the soul as relevant for understanding human nature. This was just before Gall completed his medical studies in Vienna. Gall's orientation and many of his fundamental assumptions can be linked to passages in Herder books (Finger & Eling, 2019; Lesky, 1967; Temkin, 1947, pp. 119–123).

Hundreds of books and even more articles have now been written about Gall, his followers, and the ups and downs of what became known during the second decade of the 19th century as “phrenology,” especially in Britain and the United States (e.g., Ackerknecht, 1958; Cooter, 1981; Cooter, 1984; Critchley, 1965; De Giustino, 1975; Finger & Eling, 2019; Fodor, 1983; Lanteri-Laura, 1970; Ohler, 2020; Rawlings & Rossitch, 1994; Van Wyhe, 2002; Young, 1970). Some recent contributors to this vast literature have emphasized how certain of Gall's 27 faculties have become accepted by clinical researchers and others engaged in the neurosciences, though not the precise locations Gall gave for their organs (Code et al., 1996, 2003; Kapur, 1996; MacPherson & Della Sala, 2019; Ogden, 1996; Sacks, 1998, 2007). Contemporary writers have also focused on phrenology and matters of gender (e.g., Bittel, 2013; Cornel, 2014), race (e.g., Poskett, 2019), changing legal systems (e.g., Berveling, 2021; Thompson, 2021), education (e.g., Tomlinson, 1997), the arts (e.g., Colbert, 1997; Finger & Eling, 2019, pp. 339–362), as well as the rise of specific disciplines, including psychology and psychiatry (e.g., Cooter, 1976; Finger & Eling, 2019, pp. 363–390).

In the past, as is true now, Gall was a controversial figure. To some, he was a dedicated naturalist, scientist, and visionary, and to others, a buffoon or a charlatan without scruples. Like the man himself, his doctrine was just as controversial. On one end of the continuum, some of his contemporaries viewed it as a much needed change in thinking about the mind and brain, whereas on the other, it was deplored as pseudoscientific nonsense. Between these two extremes, there were many people who found some of his ideas reasonable and acceptable, and others, especially his *cranioscopy*, misguided or questionable at best.

What stands out as underexplored in this vast sea of writings is how little has been written about Gall's personal thoughts about God and religion, and the extent to which they are in accord with what he presented in his published writings. Given that Gall was repeatedly accused of being a materialist, and sometimes even an atheist, those interested in Gall and the history of phrenology would like to know what he really meant when he once famously declared, “*Dieu et Cerveau, rien que Dieu et cerveau*,” meaning “God and the brain, nothing but God and

the brain" (Gall, 1835, vol. 6, p. 292)? Was he just trying to escape the wrath of conservative clerics, who might have felt threatened by a doctrine they believed dispensed with the ruling soul in higher thought processes and most notably free will? Was he bowing to worried governmental officials fearing his ideas might create or add to the instability in their realms? Indeed, did he personally believe in God? And did he even adhere to any organized religion?

In this essay, we shall attempt to shed needed light on these and other questions about Gall and religion. We will show that Gall was not an atheist; that he was sincere in his admiration for and belief in God the Creator, even though he chose not to attend Church regularly. In addition, we will show how he responded in public venues to charges his doctrine was materialistic. In so doing, we will be providing more needed facts about both Gall's life and doctrine, which have not always been presented accurately.

This endeavor should be construed as no more than a long-overdue opening chapter on the broader subject of phrenology and religion—a story with a complex history and many dimensions that span time and locations; in effect, a subject too large to be examined in detail in a single journal article. Although some authors have provided interesting perspectives on this complex subject (e.g., Cantor, 1975; Gaukroger, 2016; Leaney, 2006; Verplaetse, 2009), including how phrenology would become an acceptable tool for promoting virtues and morality, earlier works have tended to deal with people, times, and places after Gall had formulated and defended his views. With a focus on Gall himself, our starting point is what we know about religion in his family and early in his own life.

## 2 | A CATHOLIC UPBRINGING

Franz Joseph Gall was born in 1758 in Tiefenbronn, a small town in the south of what is now Germany. His Catholic ancestors had emigrated from Italy during the 17th century and his family retained the Catholic religion rather than becoming Protestants. Joseph, as he was called, was baptized at the Maria Magdalena Church on the day he was born (for biographical information, see Finger & Eling, 2019).

Gall's father, a successful merchant, opted to have his son begin his education with a parish priest. Johann Evangelist Beyerle (1754–1801), an uncle and a clergyman, who had moved from Tiefenbronn to nearby Weil der Stadt in 1767, was his first teacher. Early on, Joseph's mother held out hope that this son would become a clergyman like her brother.

Gall began his secondary education in a *Gymnasium* at Baden that had been a lyceum run by Jesuits before the order was abolished by Papal decree in 1773. He was then moved to the Schönbrunn Gymnasium in Bruchsal—a school well suited to prepare young men for the priesthood. But in 1777, he openly rejected the path that would most have pleased his parents. Having a stronger interest in natural wonders than in the metaphysical world, he decided to study medicine in Strasbourg. Nonetheless, he did not complete his medical studies at the famed university. In 1781, Joseph Anton Gall (1749–1807), a cousin of Gall's father, persuaded him to obtain his diploma in Vienna. Joseph Anton was, in fact, another priest in the family, and he offered to help him financially, despite (or perhaps hoping to influence and change) the young scholar's secular ambitions.

After completing his medical studies in Vienna, Gall opened a medical practice in the center of the rapidly expanding Austrian city, wishing to cater to well-to-do individuals. Recognizing the importance of being acceptable to the segments of Viennese society he was targeting, he married Katharina Leisler (1760–1825) in 1790. Katharina had converted to Catholicism, and the ceremony took place at St. Joseph ob der Laimgrube, her parish church in Vienna. Whether Gall attended Sunday services regularly before or after his marriage is unclear but doubtful. Information about him going to services is conspicuously missing from his autobiographical writings and the biographies written by those who knew him well during his time in Vienna.

### 3 | THE NASCENT DOCTRINE

Gall published a book about advancing medicine in 1791, while in Vienna. It was titled *Philosophisch-medizinische Untersuchungen über Natur und Kunst im gesunden und kranken Zustande des Menschen* (Philosophical-Medical Studies on Nature and Art [of Healing] in Healthy and Diseased Conditions of Man) (Gall, 1791). This early work called for a new medicine based on nature, the senses, and observable facts—an empirical and practical medicine devoid of loose philosophies and especially metaphysical ideas based on faith.

In addition to stressing humans as being a part of the animal kingdom, Gall presented the seeds of the two ideas that would soon make him famous (to some, infamous) in this book. One was the notion of many independent, innate, concrete (practical) faculties of mind, and the other, “that the various psychic faculties and notions have their seats in different places of the brain” (Gall, 1791; see Temkin, 1947; also Finger & Eling, 2019, pp. 24–31). Nonetheless, he did not provide a list of the mental faculties he was contemplating, and he only spoke in a diffuse, loose way about cortical localization of function in his first volume, the only one published (he appeared to have started a since-lost second volume). Missing these details and with limited sales, his often-overlooked first book did not appear to upset the Austrian authorities or conservative local clergy.

Gall now set forth to fill in the missing details. A young singer named Bianchi with no formal training and a remarkable memory for music, yet only for music, opened his mind to the idea that there might be many different types of memory, each innate and independent of the others (Eling et al., 2017). She appeared to remind him of some schoolmates, who could remember written passages with ease. Gall now recalled that these boys from his past shared a common feature: large bulging eyes. This led him to think that there might be a specialized area for words in brain behind each eye socket. An organ for words, he reasoned, could account for both the exceptional ability and the unusual physical feature in these uniquely talented (but average in other ways) verbal memorizers.

The combination of Bianchi with her unique gift for music and the impressive verbal memorizers with bulging eyes from his school days stimulated Gall's extensive investigations into numerous faculties of mind and how each might be associated with a specific part of the brain (duplicated on each side). However, he found it next to impossible to secure the brains of great people or to preserve the brains of criminals and the insane, which he found easier to obtain (Hagner, 2003). Thus, he began focusing more on the skulls and casts of outliers with unusual skills or drives, and on animal crania. His skull and cast collections (one in Vienna and another in Paris) would total hundreds of pieces, and they would serve as research libraries (Finger & Eling, 2019, pp. 125–151).

Since Gall did not have, and did not want to pursue, a university position, he began by lecturing on his theory at his home. During the 1790s, many professors were also giving private lectures at their homes, where they kept their instruments and cabinets. Physicians and their students attended Gall's lectures, some taking notes for publication. They were joined by other interested individuals, including writers, politicians, and members of the clergy. What is notable is that not even the clergymen seemed offended with what Gall was saying about many faculties of mind that could be associated with specific brain organs.

When he published his letter to Joseph Friedrich Freiherr von Retzer, the Austrian censor, laying out his research program and his objectives in 1798, he did not present his now-growing list of higher faculties. But he did state unequivocally that the expression of each innate faculty of mind is dependent on a distinct brain area. Retzer, who was friendly to Gall, knew that some people could, and probably would, misinterpret what he was trying to state about the brain merely being the soul's instrument. This was why he personally encouraged Gall to publish his synopsis in the *Neue Teutsche Merkur* (New German Mercury), a liberal German periodical, rather than in an Austrian periodical. Gall took Retzer's advice, later reminiscing: “Hardly had I obtained any results from my research, when I foresaw the objections touching materialism, fatalism and the irresistibility of actions” (Lesky, 1981, p. 305).

## 4 | THE CHARGES IN VIENNA

The advice Retzer gave Gall must be considered in the context of what was happening in Vienna as the 18th century was drawing to a close. The Holy Roman Empire had blossomed under Empress Maria Theresia (1717–1780) and Emperor Joseph II (1741–1790), who assumed the throne after she died and reigned for a decade, embraced Enlightenment values and instituted many reforms that helped to modernize the city's institutions (e.g., its university and asylum for the insane) despite formidable opposition.

Some Western European monarchs, however, were now beginning to worry about spreading of democratic ideals, knowing how they led to the American and then the French Revolutions. They saw freethinking as a threat to the stability of their countries, a dangerous factor that could lead to uprisings and their own downfalls. Austria's experiment with modernity and reform was curtailed with these growing fears. Francis II (1792–1835), who followed Joseph II and ruled when Gall was beginning to present his doctrine in public venues, saw need to steer a more conservative course, and his actions became more repressive with news of how the Jacobin-led Reign of Terror (1793–1794) was targeting nobility.

Gall was affected by some of the changes that took place in Vienna, but actions directed specifically at him were unexpected. On Christmas Eve, 1801, Francis II informed his State Chancellor, Count Johan Lazansky (1784–1804), that he wanted the government to prohibit Gall from lecturing “because this theory can be traced to materialism, and consequently seems to contradict the first principles of religion and morality.” He also wanted to know “whether Gall had permission for these lectures, or, if he gave these lectures without permission, can be held accountable for them” (Von Frierip, 1802, pp. 249–250; also see Lesky, 1981).

The Catholic Church did not seem to be the main force behind the Emperor's effort to shut Gall down, although an unsubstantiated report in the British press from 1806 suggested “some fanatical priests” were behind it (Van Wyhe, 2002, p. 25). Rather, Joseph Andreas Stifft (1760–1836), Francis II's personal physician, had the power and the concerned Emperor's ear. He was most likely the person in the shadows responsible for what transpired to Gall, being highly motivated to increase his own stature and control over Vienna's medical community, while realizing how to appeal to the Emperor's fears (Finger & Eling, 2019, pp. 215–217).

Gall responded to the surprise communication with a lengthy letter, his “Petition and Remonstrance” (see Von Walther, 1804; translated in Combe & Combe, 1838; also see Schober, 2019). He informed the government that he had broken no laws and the right for licensed physicians to teach was clearly stated on their diplomas. He provided the names of prominent physicians lecturing from their homes without official permission, while pointing out that he was not being secretive in the least. In fact, the Emperor's own censor had even granted him permission to present his new ideas in a book.

Gall now turned to materialism, the second and more serious charge against him. He argued that his approach to the mind and brain was in accord with what revered philosophers and physicians had long contended. For instance, he wrote that “it has been held, even from the time of Alkmaon [Alcmaeon of Croton; fl. 5th century BC], that a favourable organization of the head and brain is an indispensable condition to the favourable manifestation of the mental powers” (Combe & Combe, 1838, p. 320). More importantly, Saint Paul (ca. 5–ca. 67) and Saint Augustine (354–430) associated bodily organs with the human soul, also claiming, as he was now doing, that these *parts of the body are merely instruments of the soul*. Whether one maintains that the mind is associated with the whole body, the brain, or specific parts of the brain, he argued, really makes no difference: this is not and was never equated with materialism. “Allow me to add,” Gall stated in his defence, “that, during the whole period of five or six years during which I have lectured, I have never heard the objection stated by any one of my hearers, and *least of all by any clerical persons*” (Combe and Combe, 1938, p. 324; italics ours).

Gall mentioned several respected older and contemporary anatomists, physiologists, and clinicians, who stressed the importance of the brain and were not impeded by the government or the clergy in an attempt to show how unfairly he was being targeted. He brought up Gerard van Swieten (1700–1772) and Herman Boerhaave (1668–1732), two revered physicians, who helped modernize Viennese medicine. Moreover,

Soemmering... says that it is not improbable that certain kinds of ideas arise in determinate parts of the brain; that certain mental functions are executed in determinate parts; in short, that these different powers appropriate to themselves different provinces of the brain. The same sentiments are expressed by Schelhammer, Willis, Viq D'Azyr, Glaser, Hocboe, Lanzisi, Morgagni, Schmit, Reil, Blumenbach, Cuvier, Platner, Tiedemann, Metzler, Herder, in short, by every celebrated and able anatomical, physiological, psychological, anthropological, and metaphysical author. Consequently, my fundamental principles have at all times been expounded by the greatest men, without any one having ever, on that account, become alarmed on the subject of materialism. (Combe & Combe, 1838, p. 320)

In effect, Gall formulated three arguments that he would be forced to repeat at later times. Lambros Kordelas (1998) characterized the first as the *Competence* argument: that, as a scientist focused on nature, he was not competent to speculate on the soul, a theological subject. The second was the *Traditions* argument: that previous and contemporary authorities held comparable views on the relationship between their listed faculties and the brain, yet were not considered materialists. And third and arguably most important *Category* argument: namely, that physical organs were erroneously being interpreted as responsible for the faculties, when they are no more than the instruments for the soul.

Hence, Gall's defense was based largely on philosophical and historical information. Importantly, his easily understood retorts do not come across as having been formulated to placate an angry and concerned Church. In February 1802, when he put his appeal on paper, he was directing his comments to secular governmental authorities and a misinformed monarch.

That March, Francis II issued a directive stating that private lecturing would now be forbidden unless the Dean of the Medical Faculty granted the lecturer permission. Gall knew this general rule was aimed specifically at him, and therefore that it would be futile for him to bother to apply for official permission.

Gall had previously requested a meeting of the Government of Lower Austria to evaluate the charges against him, and this meeting took place a few days later. This body concluded that he had not broken a law by lecturing in his own home, and it failed to agree on the charge of materialism. Two members of the government were worried that Gall's doctrine would allow criminals to claim that their acts were based on uncontrollable brain-based propensities. This would set a dangerous precedent and wreak havoc on the legal system. Thus, they argued that yes, his doctrine could be construed as dispensing with free will and conscious choices. But in opposition to these critics, Gall also had his share of powerful supporters, men who defended him and his ideas.

## 5 | ON TOUR

Gall was never forced out of Vienna. But being unable to lecture except to foreigners, he chose to leave the city in 1805 to present his ideas in a number of German cities that were not under the Austrian rule and to visit his parents. He did not realize upon leaving that his lecture-demonstration tour would also take him to Denmark, the Netherlands, and Switzerland, or that he would enter Paris two years later, eventually acquiring French citizenship and never again returning to Austria (Finger & Eling, 2019, pp. 221–275).

Physician and professor Christian Heinrich Ernst Bischoff (1781–1861) heard Gall lecture in Berlin in 1805, and he published a book that presented Gall's ideas in considerable detail. Bischoff only included a few of his own thoughts in his 1805 publication, which was translated into French in 1806 and English a year later (Bischoff, 1805, 1806, 1807). But he did state that Gall's theory *did not* support materialism. "G. very judiciously declines all metaphysical research," these being "irrelevant inquiries," he wrote, emphasizing that "He is employed in analysing the dust of the earth of which man is formed, not the breath of life which was breathed into his nostrils"

(Bischoff, 1807, pp. 24–25). And, at the start of his third chapter, titled “Of the Brain as the Organ of the Soul,” Bischoff, closely following what Gall said, wrote the following:

In asserting that the brain is the organ of the soul, mind, or whatever we may please to call it, it is hardly necessary, now, to caution the reader against supposing that the brain is the positive principle of the mind or soul. It is but *the instrument, or condition*, without which the active principle, whatever it be, is insufficient. It is that part of the body on which the mind in a certain active state operates, and which must have a predisposed fitness to be acted upon. (Bischoff, 1807, p. 26; italics ours)

Although Bischoff was intrigued by the doctrine, he urged his readers to withhold all judgments until Gall finalized his thoughts and provided more details. Others, however, presented stronger opinions about the still unfinalized doctrine during Gall's tour. Some spoke positively after hearing him present his ideas, whereas others strenuously opposed parts or all of that he was saying (Eling & Finger, 2020, pp. 221–273).

Some of the negativity concerned his anatomy. In Berlin, Johann Gottlieb Walter (1734–1818) criticized it, and in Munich, Samuel Thomas Soemmerring (1755–1830) was unhappy that Gall did not properly recognize his own neuroanatomical discoveries. Nonetheless, Soemmerring admitted to colleagues that he found Gall's organology stimulating and promising.

Many of Gall's critics were far more worried about the fate of the soul. They looked upon Gall's doctrine as materialistic and fatalistic—the same accusations he had faced in Vienna. Henrik Steffens (1773–1845), a Norwegian recently appointed Professor of Philosophy at the University of Halle, repeated these charges and more after hearing Gall. He gave three lectures and then published a 45-page pamphlet, in which he maintained that Gall should be faulted for ignoring the “higher sciences,” meaning religious metaphysics (Steffens, 1805). The principal difference between us and animals, Steffens proclaimed, is that only we humans have free will. Yet by maintaining that the faculties are set by nature at birth, Gall was dispensing with free will and making we humans no different than lowly animals. Steffens felt compelled to add that the contention that there are special organs in the brain that can account for our faculties is also misleading, arguing that faculties are forces or capacities that cannot be observed or restricted to organs, including the brain.

In contrast to Steffens, Jakob Fidelis Ackermann (1765–1815), who held the coveted Chair in Anatomy at Heidelberg, was, neither a moral philosopher nor a weak opponent of Gall's work. A powerful and imposing figure in medicine, Ackermann had been in the audience when Gall lectured in Berlin, and he laid out his objections before Gall (accompanied by Spurzheim) even made his way to Heidelberg in 1807. Ackermann's book of criticisms had the provocative title *Die Gall'sche Hirn-Schedel-und Organenlehre vom Gesichtspunkte der Erfahrung aus beurtheilt und widerlegt* [Gall's Brain, Skull, and Organ Theory, Evaluated from an Empirical Point of View and Rejected]. Gall familiarized himself with Ackermann's objections before arriving in Heidelberg. A point-by-point rebuttal (supposedly) “Published by some Students of Mr. Dr. Gall” appeared as a response to them (Gall, 1806).

Some of Ackermann's criticisms involved anatomy, but he too also maintained that Gall was presenting a materialistic and fatalistic doctrine. Once again, Gall had to repudiate these frequently repeated charges. But he also took the opportunity to challenge some of Ackermann's own ideas. One had to do with an imagined organizing and regulating vital force (vitalism), and another basically held that having separate cortical organs for different higher functions was an anatomical and physiological impossibility. “As Professor Ackermann always continues to repeat these same objections, I am obliged to hold to the same answers,” Gall stated. “All his arguments have no other basis than this false definition: the organ is the true representative of the faculty” (Gall, 1835, pp. 233, 234, 239).

Importantly, as Gall made his way through the German states he again found that his most visible critics were not clergymen. Rather, they were anatomists vying to gain or maintain status and moral philosophers defending their religious beliefs and craving more publicity. The latter equated the mind with an immaterial and indivisible metaphysical force, a reigning soul, in accord with Church dogma. Yet, as historian John Van Wyhe noted, “clergymen seem to have played no role in the debates over Gall's system on the continent.” Van Wyhe even quoted Gall



as stating: "If things continue in all Catholic cities as in Munster [where he was warmly received], then I will soon earn the name of a true apostle" (Van Wyhe, 2002, p. 41).

## 6 | THE SITUATION IN FRANCE

Gall thought about going to Russia, but instead headed to Paris in 1807, where Napoleon Bonaparte (1769–1821) was responding to the excesses of the French Revolution. Napoleon was intensely nationalistic and was now devoting considerable resources to promoting French institutions and cultural achievements. He wanted the French to be the envy of the world in science, a subject he enjoyed and felt he understood, as well as in medicine, where he also exerted his powerful influence.

Napoleon despised Gall and his theory for several reasons. Some related to his xenophobia and nationalism. But on another level, he thought the idea of knowing a person by examining his or her head was absurd, and even said so when he first became familiar with Gall's theorizing. He would go on to state that "Nature does not reveal herself by external forms"—that she "hides and does not expose her secrets." Also concerning Gall's cranial bumps: "To pretend to seize and to penetrate human character by so slight an index is the part of a dupe or an impostor" (Antommarchi, 1825, p. 29).

Napoleon made it clear to Georges Cuvier (1769–1832), who in 1803 he had made Permanent Secretary of the division for *Sciences Physiques et Mathématiques* of the Institut National des Sciences et des Arts, that he should oppose Gall's efforts to be recognized by French scientists, the best in the world. Napoleon was then President of the Institut and in translation he remarked:

What? Are we now reduced to receiving lessons in chemistry from an Englishman [i.e., Humphrey Davy] and in anatomy from a German? What a disgrace! (see Renneville, 2020, p. 73)

Without question, many French scientists holding degrees in medicine were opposing Gall anyway. At the time, most were favoring "sensationalism" or "sensationism," their brand of Lockean empiricism, which rejected the notion of innate faculties and ideas, a position Gall was favoring. Additionally, the sharp dichotomy Descartes had made between humans having souls and therefore being capable of thinking and reflexive "beast machines" was still influential in France long more than 150 years after the great philosopher's death. As for the clergy, once again they did not launch a visible coordinated attack against Gall's doctrine, which some congregants were framing as a materialistic affront to Church dogma. Nor did the Church brand him an atheist or a heretic, which would have led to placing his writings on the dreaded Index of banned books.

In contrast to the situation in Austria, where he was effectively shut down, the French government allowed him to lecture and write freely. Moreover, he had many supporters in Paris and was treated as a celebrity in some social circles. He lived comfortably by advising and doing medical consultations for well-to-do patients, some also well connected and anxious to help him succeed.

As had been true in Austria, he was fully aware of the forces he was now facing. Hence, he continued to explain in great detail in his various lectures and writings why his doctrine was not materialistic and fatalistic, using easily understood arguments and words. He saw this imperative as so important that he decided to publish some of what he and Spurzheim had included in their *Anatomie et Physiologie du Système Nerveux en Général, et du Cerveau en Particulier* in 1810 (Gall & Spurzheim, 1810–1819) as a separate publication a year later (Gall & Spurzheim, 1811). His 1811 publication had been Section IV in the first volume of his "great work," and it was titled *Of Fatalism, Materialism, and Moral Liberty*. It would reappear in his less-expensive *Sur les Fonctions du Cerveau et sur Celles de Chacune de ses Parties* (Gall, 1825, 1835).

Gall claimed he was no more than an observant and thinking student of nature in these publications. "The naturalist endeavors to penetrate the laws of the material world only," he wrote, and as such "can draw no

conclusion as to spiritual life." Rather, the naturalist "contents himself with perceiving and teaching, that the mind is chained in this life to a corporeal organization" (Gall, 1835, vol. 1, pp. 11–12).

But what about fatalism? The argument most often presented by Gall's critics was that if physical organs alone determine behavior there cannot be free will. And, without free will there is no personal accountability for wrongdoings, not even for murder. To defend his doctrine against these fears and accusations, Gall went out of his way to distinguish between two kinds of fatalism. The first removes God from the picture, holding we are powerless to control things and everything we do follows fundamental laws of nature. The other, its opposite, holds that everything is determined by God, the Creator. Today, these extremes are called "logical fatalism" and "theological fatalism."

Regarding "logical fatalism," he explained that he was not denying God's existence by claiming that the faculties are innate. He simply did not see a reason to bring God into this discussion. Indeed, if faculties are innate, "must we infer that man is not master of his actions? that there exists no free choice, and, consequently, can be no merit or demerit in any action?" (Gall, 1835, p. 207). The answers he gave to these rhetorical questions was, of course, an emphatic "no."

As for "theological fatalism," he stated that "St. Augustine would have this same doctrine preached to exhibit clearly... our entire dependence on God" (Gall, 1835, p. 206). He explained that, "if men had not always been convinced of the influence of external and internal conditions on the determinations of our will or our actions, why, at all times, and among all nations, should they have made laws, civil and religious, to subdue and direct the desires of men?" Gall continued: "There is no religion which has not ordained abstinence from certain meats and drinks, fasting, and the mortification of the body," and that from "Solomon down to our own days, I know no observer of nature, who has not acknowledged that man, both physically and morally, is wholly dependent on the laws of creation" (Gall, 1835, p. 210).

Thus, Gall rejected the notion that innateness of the mental faculties implies the rejection of free will, while also dismissing the idea of an all-determining God. He did his best to make it clear that his doctrine did not dismiss the ability to reason and make conscious decisions. As for religion, he viewed it as important to individuals and society, because it helps us understand "first causes"—how it all started. It also helps us distinguish between good and evil, between acceptable and unacceptable. Guided by ethics and morality, we truly can become "the most perfect" of animals.

But, he continued, such an exalted position depends on us having a "more elevated organization" than other animals. The moral faculties should prevent petty crimes and even murder by suppressing more basic animal instincts and propensities. He associated the moral faculties with physical organs located at or near the front of the cerebrum, parts of the brain that are larger and better developed in us than in any other animal.

Against this forehead are placed those organs, that bestow on him the human character, and by means of which, he penetrates the relations of causes and effects, and is made capable of will and reason. Place your hand on the front and top of his head, and you will there find the sign of the alliance, which his Creator has concluded with him. There is the organ, which has been commissioned to reveal to all nations the Supreme Intelligence,—the organ, which, enthroned in the noblest organization on earth, has always exercised, and will always exercise, supremacy over all human interests. (Gall, 1835, vol. 5, p. 291)

Criminality was on Gall's mind when he wrote this passage, knowing how some of his critics had argued that, with recourse to his doctrine, all sorts of criminals might blame their transgressions on faulty brain physiology. He personally wrestled with how difficult it could be to know where to draw the line between accountability for a crime and what was then being called "moral insanity." He could only state that God would surely know who is guilty, even if people might err in such judgments.

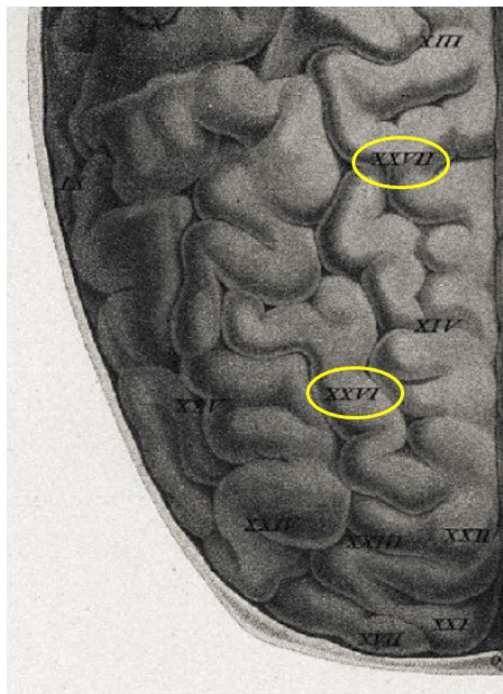
To appreciate the degree of internal criminality, it is necessary to measure accurately the influence of age, sex, the state of health, the moral condition, and a thousand other circumstances present at the moment of the illegal act. But by whom is this state of things so well known, that man can pass a uniformly equitable judgment on the merit and demerit of his fellow-men? This is possible only to that Being who searcheth the reins and the heart. This, if the question is in relation to the exercise of justice in its strictest sense, we must refer to God alone (Gall, 1835, vol. 1, p. 262)

Thus, Gall did not hesitate to bring God the Creator into the picture when discussing fatalism, free will, and the organization of the brain. As will now be shown, he had more to say about God's handiwork and religious beliefs when presenting a separate, higher faculty for God and religion in his "great work" and cheaper, second set of books.

## 7 | THE FACULTY FOR GOD AND RELIGION

Gall viewed "God and Religion" as one of the eight faculties unique to humans. He numbered it XXVI (of 27) in his two sets of books and associated it with an organ in the upper part of the front of the brain (Figure 1). Wishing to treat this sensitive subject as a naturalist and a physiologist, and nothing more, he explained: "I shall limit myself to examining whether man, by means of his organization, has been prepared for belief in an independent intelligence, in a God, religious sentiments, and worship" (Gall, 1835, vol. 5, p. 216).

Gall followed the same template he used for other faculties: presenting converging evidence and his conclusions in sections. The first covered the history of his "discovery" of this higher faculty and its organ. Here he



**FIGURE 1** The figure represents part from Plate IX from Gall's Atlas, highlighting faculties XXVI, faculty of God and Religion, and faculty XXVII Firmness, Constancy, Perseverance, Obstnacity

mentioned how he grew up in a family of 10 children, one being a brother with “a strong tendency to devotion,” who eventually became a priest. He also noticed how schoolchildren differed when it came to receiving religious instructions: some seemed drawn to religion from an early age and seemed destined to become priests, whereas others did not. The presence or absence of this inclination, he concluded, “was born with them” (Gall, 1835, vol. 5, p. 216). With these and other observations suggesting an innate faculty, Gall went into churches and monasteries to examine the heads of the people praying with the greatest fervor. He noticed that the heads of these people “often rise gradually to the top.” Further, “the portraits of ecclesiastics, known by their zeal in their religious functions, have always the head greatly raised in the crown,” as is also true in the artistic representations of ancient high priests (p. 218).

Gall devoted his second section to the natural history of this faculty in humans. He began by writing how “Every where and in all ages, man, urged by the feeling of his dependence upon every thing around him, is forced continually to acknowledge... a superior power,” and that “the unanimous consent of all nations [is] to adore a Supreme Being” (p. 218). “The idea people necessarily formed,” he continued, was “of a Being superior to all others, of a spirit diffused throughout the universe, which animates all, which sustains every thing by its presence, which is the principle of generation and production; it was the idea of a flame ever burning, of Omniscience whose providence watches without ceasing over all, and extends to all...” (pp. 218–219).

Thus, religion and the concept of a Superior Being appears to be universal, though different cultures have promoted different names for God and have used different symbols, texts, temples, and means for proper devotion. He explained how people have a need to know about first causes and are consequently developing frameworks and using symbolism to make God and the mysteries of creation more concrete and comprehensible.

His third section dealt with excesses, especially how they can explain religious mania. Although he liked to draw mostly from his own experiences, he cited French psychiatrist and reformer Philippe Pinel (1745–1826), with whom he overlapped in Paris. Pinel was not philosophically oriented and Gall considered him an astute observer—so much so that he opened this section by quoting him. “Nothing is more common in hospitals,” he quotes Pinel as having written, “than cases of alienation produced by too exalted a devotion, scruples carried to fatal excess, or religious terrors” (p. 230).

Gall chastised physicians for not recognizing the obvious, stating that, “As this species of mania often occurs without there being any lesion of the other qualities or faculties, physicians ought long since to have concluded, that it belongs to the lesion of a peculiar cerebral part” (p. 230). He then presented supportive cases, beginning with an insane man he and Spurzheim had observed while traveling through the Netherlands. “In the hospital of Amsterdam,” he recalled, “we saw a madman who was tormented with the idea, that, contrary to his will, he was forced to sin, and that he could not be saved,” to which he added: “He has the organ of devotion greatly developed” (p. 231). He also cited other such cases. One was an ecclesiastic fearing for his salvation, and yet another was a madman convinced he was condemned to burn in hell, both again exhibiting greatly developed organs of devotion.

He also described women suffering from religious insanity. Elizabeth Lindemann, whose organ of devotion was “unusually developed,” is exemplary. While standing before him, she exhibited a tendency to raise her eyes toward the heavens, while showing sadness and anguish. “From her youth,” Gall wrote, “she had devoted herself excessively to prayer” and “for some time past she had been subject to convulsions, and maintains that she was possessed: the devil, she said, entered into her heart through her mouth, and tried to draw her into hell” (p. 231).

Gall recognized the propensity for people with religious mania to commit suicide, many because they viewed themselves as sinners, with some certain that the devil had gained possession of their bodies. A Swabian man was described to show how this could happen. This man had been drawn to religion from his infancy, became a religious fanatic, and was tormented by the idea that nothing could save him. “In spite of all resistance to these melancholy ideas, which beset him, he finally fell victim to his propensity to suicide” (p. 234). Gall commented that this man was reasonable in every other respect, and that only his organs of devotion and circumspection were highly developed.

Gall's ideas on where the physical organ associated with religious faculty was located followed in the next section, which bore the heading “External Appearance of the Organ of the Sense of the Existence of a God and of

the Propensity to Religious Worship.” Going into more detail than before, he pointed to the busts and portraits of individuals “who, in all ages, and in all sects, have been most ardently attached to religious ideas,” concluding that we “constantly find in them, that the great development of the cerebral parts... makes the posterior mean part of the superior half of the frontal, project considerably” (pp. 235–236).

He also cited an example of the opposite condition, commenting: “How much all these elevated heads differ from that of the atheist Spinoza, flattened on the top!” (p. 236). To help readers appreciate the different shapes of these extreme heads, he referred them to plates (e.g., viii, ix, xi, and xii; xciv for Spinoza) in the *Atlas* he and Spurzheim published in 1810.

His final section on “God and Religion” is titled “Proofs of the Existence of God, taken from Organology.” “After all I have said,” Gall began, “it can no longer be doubted, that the human race is endowed with an organ, by means of which it acknowledges and adores a God of the universe; this is the noblest prerogative, which man possesses above the brutes” (p. 241). Our senses allow us to experience objects, and so do our propensities and faculties. It logically followed that we would not have an organ for appreciating God if God did not exist!

Now; it is certain that, in all ages and all countries on this earth, the organization of man has led him to the knowledge of a Superior Being: it is certain that, in all ages and all countries, man feels his dependence on first cause; that he feels the necessity of having recourse to a God, and of rendering homage to Him. Who would dare to think, that this single sentiment, this single organ was deprived of its object in the external world? No; nature cannot so far wrong men in their most important interest! There is a God; because there exists an organ for knowing and adoring Him! (p. 242)

## 8 | NOT GALL'S FINAL FACULTY?

We must now ask why the noble faculty of “God and Religion” was not the last faculty on Gall's list? Conversely, why did he opt to end his list with “XXVII. Firmness, Constancy, Perseverance, Obstinacy.”

A closer look at Gall's final faculty suggests that he did not consider it to be like his other faculties. In fact, he tells us that, “Properly speaking, firmness is neither a propensity, nor a faculty; it is a mode of being, which gives to man a peculiar impress, which is called character” (Gall, 1835, vol. 5, p. 244). Regrettably, he devoted little space to “Firmness, Constancy, Perseverance, Obstinacy” and did not elaborate on what he meant by “a mode of being.” But he did mention that “The character of man depends much more on his feelings, than on his faculties” (p. 243).

Gall was firm in his belief that this faculty for Firmness and related traits, much like God and Religion, was associated with a brain organ located in a lofty position. There are plates in his *Atlas* (viii, ix, xi, xii; see Figure 1) with heads showing it prominently. In his words: “This organ is formed by convolutions... placed immediately on the top of the head under the two superior anterior angles of the parietal bones, at the point, where these meet the superior posterior edges of the frontal” (Gall, 1835, vol. 5, p. 245). He tells us that when these convolutions are highly developed, they cause a spherical protuberance on the “crown of the head.” In contrast, this area is level or depressed in people known to be weak and irresolute.

It is interesting to note that Spurzheim, when later modifying Gall's list of faculties, also opted not to list God and Religion last on the ascending scale. In his *Physiognomical System of Drs. Gall and Spurzheim*, published just 2 years after he left Gall in 1813, he listed 33 faculties, ending with four reflective faculties: Comparison, Causality, Wit, and Imitation (Spurzheim, 1815). He did, however, have a lower “sentiment” with an associated organ for Veneration, which he numbered XIV. His “Veneration” encompassed God and religion, but it also included more than what can be observed in religious men, women, and children. This is because he believed something akin to worshipping a deity can be observed in lower animals. Others agreed, including French phrenologist François-Joseph Victor Broussais (1772–1838; 1836), who maintained that even sheep are known to venerate and follow a leader!

## 9 | GOD'S PRESENCE ELSEWHERE IN GALL'S BOOKS

In addition to making God and Religion a higher faculty in his *Anatomie et Physiologie* and *Sur les Fonctions du Cerveau*, Gall mentioned God elsewhere in his two sets of volumes. In some instances, it was just to lay the framework for what he would write about faculties and organs unique to humans (e.g., Gall, 1835, vol. 2, p. 235). But what is more interesting given Gall's feelings about metaphysics impeding scientific and medical progress, is that he repeatedly told his readers how he saw evidence of God's hand in nature, from simple organisms to the magnificent organization of the human brain. The latter in particular, he opined, is a wonder that only a Superior Being, the Creator, could produce.

In this context, he wrote these notable lines when discussing some of his faculties:

II. Love for Offspring.

It certainly is not to such causes as these, that the Creator has confided the life and the well-being of children and the young of animals. He has provided better for their safety. (Gall, 1835, vol. 3, p. 274).

V. Carnivorous Instinct; Disposition to Murder.

Man is omnivorous.... If the Creator had designed him to be nourished by vegetables only, nothing certainly could have turned him from his destiny. (Gall, 1835, vol. 4, p. 60).

XXIV. Goodness, Benevolence, Gentleness, ... Moral Sense, Conscience

The Creator has destined men to live in Society. It was therefore necessary to bind them strongly by the principle of sympathy. They had to share their pleasures and their pains, and often to suffer more from the misfortunes of others than from their own. (Gall, 1835, vol. 4, pp. 158–159).

Comparable lines can be found under (II) Attachment and Friendship (Gall, 1835, vol. 4, p. 299), (VII) Sentiment of Property; Instinct of Providing; Covetousness; Propensity to Theft (Gall, 1835, vol. 4, p. 147), (XVI) Perceiving the Relation of Tones, Talent for Music (Gall, 1835, vol. 5, p. 65), and (XIX) and (XIX) Faculty of Constructiveness (Gall, 1835, vol. 5, p. 113).

In the sixth and last volume of his 1825 set of books, he summarized his ideas about God's magnificent handiwork as follows:

It is precisely the same with man. All that he does, or knows, all that he can do, or can learn, he owes to the author of his organization. God is its source; the cerebral organs, his intermediate instrument.... Chance may furnish a faculty, the occasion of displaying activity, but when the faculty does not exist, it accomplishes nothing.... Thus *God is every where the artist, and man only the instrument.* (Gall, 1835, vol. 6, pp. 275, 277; italics ours).

Gall astutely recognized that his faculties could and must function together to produce certain thoughts and behaviors. Yet his writings say nothing about a supreme controller or conductor orchestrating the activities of his 27 faculties—nothing about a soul taking charge. Confining himself to the natural world, he only stated that proximity of cortical organs to each other could account for the ease of faculty interactions. For example, the organs of music and mathematics are close to each other, and the organ of religion is ideally situated between benevolence, hope, perseverance, and justice.

Such interactions, he pointed out, could account for different species of mania, including religious mania. "It is not at all rare," he explained, "that the organ of devotion and that of physical love, are found injured together, and hence the reason why cases of mania, compounded, of erotic and religious insanity, are so frequent" (Gall, 1835, vol. 5, p. 233). Moreover: "Religious mania may become exceedingly dangerous, when a propensity to murder is joined to it," and "Sometimes the propensity to suicide is joined to religious mania" (Gall, 1835, vol. 5, p. 234).

"Intelligent design," as it is now called, could also account for how composers approached specific kinds of music. Thus, "When the considerable development of the organ for music coexists with the great development of... the organ of theosophy, it produces a predilection for church music" (Gall, 1835, vol. 5, p. 73). Evidence of the

Creator's hand can also be witnessed in the fine arts (see Finger & Eling, 2019, chapter 15). Gall wrote that God placed the organs for (XII) Sense of Locality, Sense of the Relations of Space, and (XVI) Distinguishing the Relation of Colors, close to each other, and that, unsurprisingly, both organs are highly developed in landscape painters. Additionally: "There are also those different combinations, which determine the talent of the engraver, painter, sculptor, &c., for such a department in particular, for history, battles, religious, voluptuous subjects, &c.," and these too reflect God's wonderful design (Gall, 1835, vol. 5, p. 111).

Gall was not alone in seeing intelligent design at this time. In Britain, anatomist and surgeon Charles Bell (1774–1842) and physician-physiologist Peter Mark Roget (1779–1869) would write *Bridgewater Treatises* on the subject (Kruger & Finger, 2013). But for Gall, Johann Gottfried Herder (1744–1803) might have been the main source of inspiration for his views on nature, the biological foundations of the faculties of the mind, and the like (Lesky, 1967). As noted at the start of this essay, there are many traces of Herder in Gall's works, including of God as the Creator of nature. As put by historian Erna Lesky: "When he [Gall] later wrote the final chapters of his *Sur les fonctions du cerveau*... he recapitulated the basic ideas from the first part of Herder's ideas on the philosophy of a history of mankind, allowing its metaphysical content to take effect." Here "Gall no longer imposed any restraint on naming God the Creator" and "The *Createur des etres vivants* appears on almost every page." Lesky remarked that one could even "call this chapter a variation of Herder's leitmotif that 'God is everything in his works'" (Lesky, 1967, pp. 72, 94).

## 10 | PUBLIC STATEMENTS AND PERSONAL BELIEFS

Gall's personal beliefs about God the Creator cannot be extracted solely from what he said or wrote in public venues, given how he might have felt under pressure to appease clerical and governmental authorities. Recognizing how these forces might have shaped his public statements makes it important to discover what he might have expressed elsewhere and what those close to him divulged about his personal beliefs (e.g., Ebstein, 1924; Heintel, 1986; Neuburger, 1917, 1918; Oehler-Klein, 1990; Wegner, 1988).

Unfortunately, we encountered either a void or just brief mention of Gall's personal views relating to God or religion in our searches. Regarding the word "religion," we found it most often mentioned in the context of the Austrian emperor's edict, which was based on the fear that Gall's lectures might be undermining morals and religion. As for the word "God," it can be found in some of Gall's personal letters, though typically idiomatically, as in "God knows," "thank God," or "if God permits."

In a letter, dated October 19, 1824, to his friends Johann Andreas Streicher (1761–1833) and his wife Nanette (1769–1833), the musicians and piano makers looking after his house, collections, and affairs in Vienna after he left the city, we encountered the following lines:

For the time being, read my philosophy in the 4th volume of the large edition, because it will only follow in the 6th volume of the small edition. When comparing the two editions you will find that I have not made the slightest reduction in terms of God and soul. To be God's denier, and to admit to it, always seemed absurd to me. I also leave the theory of immortality completely untouched, because it does not concern physiologists directly. I even turn away the question about the soul, because we must assume a principle of action. (Neuburger, 1917, p. 35; translation ours)

In this letter, Gall was referring to the chapters of his *Anatomie et Physiologie du Système Nerveux en Général, et du Cerveau en Particulier*, in which he was attempting to explain his views on God and religion. Importantly, he was maintaining, as he had in print, that claims about him being an atheist are absolutely unfounded and absurd.

Austrian-born historian Max Neuburger, who published a collection of Gall's letters, inserted a footnote to this one, in which he commented on how Gall was attempting to demonstrate the existence of a God (Neuburger, 1917,

p. 65). Gall's proof of God, Neuburger maintained, is based on the knowledge that each of his "organs" corresponds to an external object, and on his discovery of the "organ of religiosity" (*sentiment religieux*) at the top of the head. In this same footnote, he included the quotation given above when discussing Gall's faculty for God and Religion, which as translated in the 1835 English edition ends with, "There is a God; because there exists an organ for knowing and adoring Him!"

Gall's widow, Marie Anne Barbe (1794–1857), often referred to as Virginie, also wrote a letter confirming Gall's belief in a supreme deity. She directed it to the editor of the French periodical *La Quotidienne* immediately after her husband's death, and its relevant parts read:

To the Editor of. . . Widow of a man so distinguished by his esteemed character as by the superiority of his genius, I did not expect that when I was destined for misfortune to water his grave with my tears, it would suddenly be necessary to dry them up to enter the fray, defend him and rehabilitate his honor in the court of public opinion. I did not expect that unbelief and Jacobinism, daring to claim the famous name of Doctor Gall as their heritage, would have the audacity to make it a trophy, a standard, a signal, and to invoke for their sacrileges the authority of a life constantly devoted to shaming and refuting their pernicious maxims. I, therefore, believe it is my duty to make here the profession of authentic faith to the glory of my husband, to society, to myself; I will base this on facts more eloquent than sentences, on irrefutable proofs, his writings, his words, his conduct. His writings: I will point to his chapter on the existence of God, quotes from the Fathers of the Church, which he designates as the wisest of philosophers, and no other passages in his works. His words: How many times, surrounded by his many disciples, in this famous pulpit where he developed so eloquently all the treasures of human intelligence, have I heard him go into ecstasy at the sight of the mysterious springs which linked it to the divine essence; how many laws, electrified with enthusiasm, have I seen him throw away the scalpel far from him, and stuck in admiration at the analysis of the organs of the brain, and exclaim that their immediate relations, their harmonious accord with all wonders of nature, could only be the work of a unique, universal creative power, the emanation, thus, of a "God, the only principle and only term of the Universe." (Barbe, 1828; translation ours)

This letter leaves little doubt about Gall believing in the God of his Christian upbringing or at least in a god perhaps more properly expressed with a small g. Since early childhood, he had admired the wonders of nature, and now with the eyes of a naturalist he found numerous reasons to believe that the natural world, including the mysteries of the brain, could only be explained with recourse to an intelligent and benevolent creator. Seeing nature as a miracle of God would have pleased his parents, his exceptionally devout brother, and the priests in his extended family. Although he was devoting his life to science and medicine, he appeared to continue believing in a Creator of the natural world.

Gall's aversion to mixing metaphysics with science is not contradicted by his stated belief in God the Creator. He considered it perfectly acceptable to praise God the Creator and yet not to go farther and attribute physiological and medical phenomena to imperceptible metaphysical forces. Gall was always sharply focused on what could be experienced through the senses, and he did not want what his anatomy or physiology to be based on or infused with Church dogma and blind faith in hidden forces. True, he honored God as the architect, but at the same time he drew a sharp line in the sand and dared not cross it when laying out his *nature-based* doctrine, which effectively left the immortal human soul to theologians.

But did he believe in organized religion? Everything we have explored led us to conclude that as an adult he was never inclined to attend Church regularly. Further, and also based largely on him not stating anything at all about his own religious practices in any of his writings, one is left wondering whether he bothered to show up at any house of worship on major Christian holidays. Here we would do well to remember that he rejected early parental pressure to become a priest. But more telling, he made it very clear when facing his own death that he did not want a



religious service when his body would be laid to rest. Thus, he did not appear to adhere to or actively practice his family's religion or endorse any other organized religion.

Winslow Lewis, Jr.'s (1799–1875) 1835 biography of Gall, which was based largely on what had appeared in the *Transactions of the Edinburgh Phrenological Society*, tells us how he was bothered by some of the abuses stemming from religiosity, closed minds, and religious intolerance. To quote:

Gall recognized God like a philosopher. He was indignant only against the abuses that men practiced upon the credulity of the people; against those who make of religion a refinement of power, of ignorance, of slavery and corruption. He was indignant against the persecutions which sectarians, of different faiths, carry on against their fellow-men in the name of God and religion. He was indignant against all these (Gall, 1835, vol. 1, p. 40).

More positively, Erna Lesky argued that Gall's personal ideas on God and religion can be likened to what William Derham (1657–1735) had characterized as “physico-theology” (Lesky, 1979). Derham was an English clergyman, natural theologian, and natural philosopher, the earlier term for a scientist. He published his *Physico-theology, or a Demonstration of the Being and Attributes of God* in 1723. Physico-theology, he explained, is the aspect of natural theology that seeks to prove the existence and attributes of a god from the evidence of purpose and design in the physical universe. This is an ancient argument derived from the Greeks, he explained, albeit one with medieval and modern forms.

This approach to God and religion is closely associated with what had been called the “Argument from Design” during the 17th century. In England, such notables as Robert Boyle (1627–1691), Robert Hooke (1635–1703), Isaac Newton (1643–1727), and John Locke (1632–1704), had ascribed to it. It also had adherents in France, Germany, the Americas, and elsewhere at this time.

Derham's term “physico-theology” has gone by the wayside, giving way to what would become known as “Deism,” a philosophy that continued to maintain that reason and observation of the natural world are sufficient to reveal the existence of a supreme being or creator of the universe. Deists typically believe in a god, while rejecting divine revelation along with the idea that god actively interacts with his creations. They also reject “corruptions” of what they consider the original, more natural religion, being especially critical of clergy who shroud religion in mysteries (e.g., about eternal salvation), in some instances for power and personal gain.

Gall might well have been a Deist, a popular religious movement that captured the minds of many prominent figures of the 18th-century Enlightenment, including Voltaire (1694–1778) in France and Benjamin Franklin (1706–1790) in the new United States. He always considered himself an enlightened man. And like these great thinkers, he might have questioned those preaching organized religion from their pulpits, claiming to know the Judeo-Christian God and preaching God's will. But on what grounds? Does the human brain with its remarkable organization really have the organs and the capacity to understand this God, His motives, and wishes? Indeed, does it have the capacity to know any such god? In Gall's view, the answer seems to be that it does not—it can only appreciate what can be experienced through the senses.

## 11 | IN CONCLUSION

Throughout his life, Gall had to deal with accusations about his theory being materialistic and fatalistic, and how they reflected his own beliefs. He took these charges seriously and responded to them in great detail, never claiming the physical brain to be the mind and always presenting it as no more than the instrument or tool of mind. Citing theologians and earlier philosophers, he argued that it did not matter whether one envisioned one, three, or 27 faculties with separate organs. This was not materialism, it did not lead to fatalism, and it did not preclude free will.

Gall felt that metaphysical issues were best left to the theologians and that, as a scientist, he was only willing and able to describe what could be experienced through the senses. He did, however, attribute the remarkably designed and adaptable human brain to a Creator, much as he did all of nature. He expressed his admiration for the Creator consistently, in his published and private writings.

There is little evidence to show that Gall was a pious, Church-going man. But he pointed out that people all over the world have a god or gods, and he therefore assumed that there must be a fundamental faculty for God and Religion. Most likely, Gall, like so many other figures of the Enlightenment, was a deist, believing in a God whose presence is more than adequately revealed in the wondrous designs of his creations. In retrospect, Gall seemed to be sincere in his admiration for and belief in God the Creator. And, as he had always argued, he never believed he was presenting a materialistic or fatalistic philosophy in his lectures or writings. He was merely restricting his science to the natural world, material not based on faith and a subject he could study through his senses.

With these summarizing thoughts, it seems fitting to conclude with one more quotation. It is again from Gall, and although it was what he was proclaiming in public it appears to be consistent with what we have been able to discern about his personal beliefs. In his words:

The world of each species of animals, is therefore the sum total of their cerebral organs—the sum of the relations, or points of contact between external things and internal organs. Where there is no organ, there is no relation, nor revelation. The turtle can never rise to the instincts of the elephant, nor the elephant conceive of the intelligence of man; and man having received no organ for conceiving of the infinity of worlds, of the eternal duration, or beginning of things, or understanding the essence of God, is condemned to absolute ignorance of these mysteries. Let those who presume to compare themselves, so to speak, with the Divinity, to understand and explain the laws that govern the universe; and those, who, with vain-glorious boasting, believe they may dispense with the necessity of a supreme and independent Intelligence, remember, that all the material conditions of their thoughts and conceptions, are compressed within the compass of twenty-two inches. On the other hand, let us call to mind the industrious habits, instincts, propensities, sentiments, and faculties, which from the insect to man, characterize and diversify the immense multitude of animal beings, and, overwhelmed with feelings of adoration, prostrate ourselves before the Creator, who has transformed such slight materials into the instruments of such sublime and numerous powers! Are we to cast a stone at the physiologist, who, in the height of his astonishment, exclaims; God and the brain! nothing but God and the brain. (Gall, 1835, vol. 6, pp. 291–292)!

## DATA AVAILABILITY STATEMENT

No data have been collected for this study.

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