

I deeply admire and temperedly pity Franz Gall.

Perhaps I should explain.

Franz Gall was a gifted early 19th century anatomist and brain scientist (we didn't know about neurons yet). Prior to Gall, most people believed that the spinal cord was just a large nerve coming from the brain. Gall, on the other hand, argued that the brain was an extension of the spinal cord. With this insight, Franz Gall revolutionized the understanding of the brain.

For Gall, the key to understanding the brain was the organization of the spinal cord. The spinal cord is arranged such that similar functions are grouped together and the relative size is related to relative importance. These organization principles continue into the brain. For example, similar functions group together in the lobes of the brain and the relative size of an area is related to relative importance. Try guessing whether humans or dogs have more brain space devoted to smell.

Gall believed that use would influence the size of a brain area. In this, he is strongly supported by modern neuroscience.

Gall also thought that the growth of a brain area would be reflected in the overlying skull. He didn't just suppose this, he supported it with research that is surprisingly modern. For example, using cross-species examples and case-studies of extreme cases to support his claims, Gall localized destructiveness (the capacity to destroy items) above the ears because this is the widest part of the skull in carnivores, and the skulls of two individuals with this trait were enlarged in this area.

For much of the 1800s, Gall's idea that one could determine mental skills by examining someone's skull (known as phrenology) was considered high science, and referenced positively in many respected books. It was featured at parties, salons, and used by respected doctors to diagnose patients. In time, however, his idea was shown to be false. While much of his other arguments are true, the brain does not normally push up against the skull creating bumps.

I deeply admire Franz Gall. His views have informed so much of my thinking about the brain. I also pity him, because instead of being remembered for his great insights, he is remembered for a mistake, a reasonable extension of his ideas that turned out to be wrong. This pity, however, is tempered by the realization that few people are remembered at all centuries after their death. In that sense, we all should be so lucky.

Christopher Robinson, PhD
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