



Postcards from the brain museum

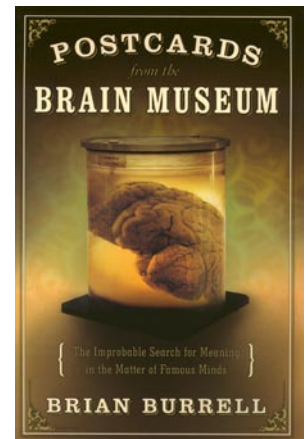
The improbable search for meaning in the matter of famous minds

Brian Burrell

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The possibility that genius, special talents, and skills can be explained by an analysis of brain structure has fascinated people for centuries. Scientists from various disciplines and backgrounds have investigated this intriguing concept in many different ways.

This exploration is the subject of the book *Postcards from the brain museum*. The author, Brian Burrell, defines this quest as the “anatomy of genius” and explains that it encroaches upon key issues of past and contemporary neuroscience. These issues are highlighted by the long search for localization of function in the brain, including the nineteenth century debate over whether specific functions are precisely localized within the brain. The issue of the anatomy of genius also touches upon the major philosophical question of the relationship between the brain and the mind or how the invisible products of the brain relate to the physical structure of the organ itself.

Burrell, determined to be a “neuro-detective” in the hunt for brains and heads preserved in jars, brain casts, and face masks kept in museums or forgotten on shelves, presents the results of his search in his new book. He traces the story of the anatomy of genius through accounts of unique individuals after whom the chapters are named.

Burrell discusses philosopher René Descartes and his doctrine of ventricular localization, which sets the pineal gland within the skull as a site of convergence of sensory stimuli. He also considers anatomist Franz Joseph Gall and his doctrine of organology, i.e., the idea that certain skills and talents can be defined based on the bumps on the skull, reflecting — incorrectly as it turns out, but with a theoretically innovative approach — the development of underlying cerebral organs devoted to given faculties. This doctrine was soon defined as phrenology and was later discredited. This information is

followed by tales of Lord Byron’s huge brain and by the story of mathematician Carl Friedrich Gauss’s brain and other brains studied at the University of Göttingen.

The chapter about neurologist Paul Broca nicely reconstructs his discovery of a brain center for language. A chapter about neuropsychiatrist Cesare Lombroso, the father of criminal anthropology, and his writings on the “criminal man” and “man of genius” is followed by a chapter about Edouard Séguin, who introduced special education for the handicapped, less relevant in the context of this book.

The next part of the book recounts the story of Charles Guiteau, who murdered US President James A. Garfield, and provides biographical sketches of and anecdotes regarding neurologist Edward C. Spitzka and anatomist Burt Wilder (who started the Wilder Brain Collection at Cornell University). The end of the book covers Walt Whitman’s encounter with phrenology and more recent stories on the brains of Russian revolutionary Vladimir Ilyich Lenin and physicist Albert Einstein. The story of Lenin’s brain is reconstructed, as it should be, through its political impact. The story on Einstein’s brain is probably too recent and controversial for an objective evaluation.

The book is interesting and entertaining in most chapters but also insists sometimes on macabre details and off-focus anecdotes. The main problem is that it pretends to give an account of the history of the neurosciences by basing it on the narratives of the so-called “elite brains.” The book is informative for scientists especially interested in the brains of individuals with peculiar skills. However, the history of the neurosciences is obviously much more complex than this book would lead one to believe and is based on data totally unrelated to the history of brains of famous individuals.

The book has other weaknesses, such as the correlation between the anatomy of genius and racism or “racial hygiene.” If one believes in a superior brain, then an inferior brain must also exist. This may be historically important, but it is not politically correct to present the two issues of genius and prejudice as interconnected, and this problem is dealt with rather superficially by Burrell. The brain of a genius is not superior, but it’s a brain that has developed certain skills.

There are also several mistakes that make the book seem not as scholarly as it should be. For example, the theory of physiognomics is much older than the 1770s, as claimed in the book. In addition, it was Adolf Hitler, who is not mentioned in the book, and not Cesare Lombroso, who inspired Mussolini’s racial laws.

Furthermore, Burrell’s view is that the study of brain anatomy based on the architecture of the cerebral cortex is a subjective exercise because interindividual variations make it totally unreliable, but this is not the case. In fact, the cortex has been subdivided by Korbinian Brodmann into numbered areas, and it is not the phrenological map that Burrell proposes. Burrell confuses the discovery of cortical organization and compartmentalization — one of the pillars of modern neuroscience — with a subjective exercise of anatomists. Finally, a more comprehensive and accurate bibliography would have enriched a book that seems to be the result of a passionate search but seems also to have been written in haste.

Altogether, the book provides Burrell’s view of the localization of talents in the brain, and his cruise among documents and accounts is certainly informative. However, the book makes the same historical mistake it criticizes, leaving anecdotes as such without providing deeper insight into the history of neuroscience.