

# Mariano Cubí y Soler's phrenological examination of Eusebio Güell y Bacigalupi (first Count of Güell)

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## ABSTRACT

**Introduction.** In the early 19th century, phrenology forced the scientific community to reconsider the physiology of the cerebral cortex, marking the beginning of the era of cortical localisation of brain functions. However, it quickly lost scientific support, becoming a popular pseudoscience whose principles were used as a tool for social and individual change. The so-called practical phrenologists brought visibility to the practice through books, public courses, and phrenology examinations; Mariano Cubí y Soler (1801-1875) was the main representative of this current in Spain. This study describes Cubí's report of his phrenological examination of Eusebio Güell y Bacigalupi (1846-1918) on 13 April 1868.

**Development.** Cubí's phrenological doctrine establishes that there were 47 faculties or brain organs, grouped into four classes: 1) faculties of external contact, 2) faculties of external knowledge, 3) faculties of moral perception and action, and 4) faculties of universal relation. His phrenological examination of Güell comprises two parts, the analysis and the synthesis. In the analysis, Cubí determined the sizes of the 47 brain organs; based on the information collected, he drafted the synthesis, a description of Güell's talents and character.

**Conclusions.** The document analysed in this article constitutes a synthesis of practical phrenology as a system of work and as a means of drawing conclusions.

## KEYWORDS

Phrenology, mind, brain, Gall, Mariano Cubí, 19th century

## Introduction

In 1798, in a letter to the journal *Der Neue Teutsche Merkur*, Franz Joseph Gall<sup>1</sup> (1758-1828) set forth the basic postulates of a new "science" that he called *Schädellehre* ("the skull doctrine").<sup>a</sup> Influenced by the vitalist theories of Johann Gottfried von Herder (1744-

1803) and the physiognomy of Johann Kaspar Lavater (1741-1801), Gall began systematically studying the anatomy and physiology of the human brain. The term phrenology, typically used in reference to the system of knowledge developed by Gall, was adopted by Johann Gaspar Spurzheim (1776-1832), Gall's assistant between 1804 and 1813, after he read Thomas Ignatius Maria Foster's (1789-1860) work *Sketch of the phrenology of Gall and Spurzheim* (1816).<sup>2,3</sup> The new "science" was based on the following postulates:

<sup>a</sup>In the mid-1790s, Gall gave public courses in Vienna, defending the idea that the development of the different organs of the brain is reflected by the cranial protuberances.

- The brain is the organ of the mind.
- The brain comprises a set of organs or mental faculties.
- The organs or mental faculties making up the brain are located in different brain areas, each of which has a specific function.
- As the skull is ossified over the brain during its formation, external analysis of the cranium (cranioscopy) is a method for diagnosing the state of the organs or mental faculties.

Despite its misguided suppositions and methods, Gall's new "science" forced a reconsideration of the physiology of the cerebral cortex, marking the beginning of the era of cortical localisation of the functions of the brain.<sup>4,5</sup> Over the 19th century, advances in the understanding of the brain and human behaviour marked the end of phrenology as a paradigm of scientific study. However, far from fading and disappearing, it became a social instrument for the perfection of mankind.<sup>6</sup> Deprived of medical and academic support, phrenology was transformed into a popular pseudoscience.

Gall believed that *Schädellehre* enabled understanding of the functional anatomy of the brain. Spurzheim considered it to be a powerful tool for the implementation of individual and social change. George Combe<sup>7</sup> (1788-1858) was one of the leading proponents of this new practical vision of phrenology. In 1828, he published the work *The constitution of man in relation to external objects*.<sup>8</sup> In the text, he seeks to simplify the erudite speculation of Gall and Spurzheim, to determine its social implications, and to sketch out a scientific programme for everyday life, behaviour, and social relations. Practical phrenology enjoyed broad acceptance in British and North American society.<sup>9</sup> The same was not the case in other Western countries. In France and Italy, phrenology was restricted to scientific circles. According to the theory of Gall, in other countries it became an object of study for physicians and scientists interested in understanding the functioning of the brain. In the Germanic region, despite this being the birthplace of *Schädellehre*, it was met with indifference, and its principles were systematically rejected.

The transition from scientific to practical phrenology was most pronounced in the United States. In the early 19th century, physicians and academics including Charles Caldwell (1772-1853), John Collins Warren (1778-1856), William Byrd Powell (1799-1866), John

Bell (1796-1872), and Benjamin R. Coates (1797-1881) adopted this organicist theory in their study of the brain.<sup>10</sup> Subsequently, as occurred in other Western countries, phrenology ceased to be considered an appropriate method for understanding the physiology of the brain. For instance, Thomas Sewall (1786-1845), professor of anatomy and physiology at Columbia College, argued that it is not possible to measure the brain through observation of the cranium.<sup>11</sup> After losing the support of the American scientific community, phrenology was adopted by the so-called practical phrenologists, also known as "bump tracers."<sup>12</sup> Through the efforts of these "professionals," who often lacked medical training, phrenology became a popular phenomenon and a lucrative trade. The Fowler brothers, Orson Squire Fowler (1809-1887) and Lorenzo Niles Fowler (1811-1896), were the leading representatives of this new wave of phrenology, and intelligently exploited its potential as a self-help tool.<sup>13</sup> From their phrenology consultation, they simplified, publicised, and popularised phrenology with the publication of written materials and the organisation of lecture tours across the United States. The slogan of their phrenological empire was "know thyself": self-knowledge derived from this science could lead to perfection through the development of mental faculties. They also trained and directed an army of practical phrenologists who, for a reasonable price, read and interpreted skulls: a dollar to complete a standardised form, and three for a full, hand-written analysis. Like Combe, the Fowler brothers had no medical training, but saw phrenology as a means of combining their oratory skills with their commitment to reform American society.

Gall's doctrine was introduced to Spanish medicine in the first third of the 19th century through the translation of phrenological texts and the publication of two original works<sup>14</sup>: *Exposición de la doctrina del doctor Gall, o nueva teoría del cerebro* ("Exposition of the doctrine of Doctor Gall, or the new theory of the brain"; 1806) and *Exposición del sistema del doctor Gall* ("Exposition of the system of Doctor Gall"; 1822).<sup>b</sup> Overall, it had little impact outside academic circles, as had been the

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<sup>b</sup>Spanish precursors to the organicist/modular ideas defended by phrenology include Juan Huarte de San Juan (1529-1588). His influential work *Examen de ingenios para las ciencias* ("Examination of aptitudes for the sciences"; 1575) inspired Esteban Pujasol (1562-1641) to write his treatise *Filosofía sagaz y anatomía de ingenios* ("Sagacious philosophy and anatomy of aptitudes"; 1637).

case in other European countries. It was not until the 1840s that phrenology as a practical science became popular in Spain, through the work of Mariano Cubí y Soler (in Catalan, Marià Cubí i Soler; 1801-1875).<sup>15-17</sup> Cubí, born in Malgrat de Mar (Barcelona), succeeded in bringing visibility to practical phrenology through an intense advertising campaign, emulating the style of the Fowler brothers in its purest form: he published books, designed phrenological busts, gave practical courses, and performed craniological examinations. Cubí's tireless teaching activity led to the emergence of a generation of Catalan practical phrenologists, with key figures including Narcís Gay i Beyà (1819-1872), Joan Llach i Soliva (1821-1860), and Magí Pers i Ramona (1803-1887)<sup>18</sup>; the latter was the leading figure in the Vilanova i la Geltrú group of phrenologists.

Craniological examination helped Cubí to bring prestige and legitimacy to the social utility of phrenology. He conducted numerous examinations of individuals from different social classes, including the Catalan social and cultural elite; regarding this group, he studied "the heads of many of Barcelona's most noteworthy individuals."<sup>19</sup> On 2 March 1843, the newspaper *Diario de Barcelona* printed a notice that Cubí performed phrenological examinations at the right-hand second-floor flat of number 57, Calle Trentaclus.<sup>c</sup> The price was 20 Spanish reales for adults and 10 reales for children.<sup>20</sup> The notice also indicates that he sold "a quite complete phrenology manual for 6 reales and a phrenologically marked bust for 16 reales."<sup>20(p831)</sup>

The objective of this study is to describe Mariano Cubí's phrenological examination of Eusebio Güell. The original document (a four-page booklet) was discovered by one of the authors (JPC) at an antique bookstore on Calle Banys Nous in El Call, Barcelona's Jewish quarter. As well as this document, the store held additional booklets reporting Cubí's phrenological examinations of members of the prominent Villalonga family of Palma de Mallorca: Francisco Villalonga (four years old, October 1860), Teodora Fàbregas de Villalonga (age not stated, May 1862), and Carmita Villalonga (three years old, May 1862). The owner of the store also gifted us a document entitled "XXIII : ABRIL : MCMXI Colonia Güell" ("23 April 1911 Güell Colony"), recounting the events following an accident that befell a 13-year-old employee.

## Development

### Protagonists

In Barcelona on 15 December 1846, Eusebio Güell y Bacigalupi (in Catalan, Eusebi Güell i Bacigalupi; Figure 1A) was born into a powerful bourgeois family.<sup>21</sup> His father, Joan Güell i Ferrer (1800-1872), was a distinguished industrialist, politician, and economist. His mother, Francesca Bacigalupi i Dulcet (1824-1847), was from a Genoese family of merchants who had settled in Barcelona. In 1862, Güell completed his baccalaureate at the Valldemia school, in Mataró, then continued studying in England and France, where he studied law, economics, and applied sciences. On 29 November 1871, he married Isabel López y Bru (1850-1924), the daughter of Antonio López y López, first Marquess of Comillas. By the Royal Decree of 9 June 1908 and the Royal Dispatch of 20 October 1910, King Alfonso XIII granted him the noble title Count of Güell.<sup>22</sup> He died on 8 July 1918 at his residence in Barcelona. Güell was one of the most important figures of the *Renaixença* (Catalan Renaissance), playing a key role in numerous socioeconomic issues at the time. He was also a dedicated patron of the arts and a client of the greatest architects of the Catalan Modernisme movement<sup>d</sup>: Lluís Domènech i Montaner (1850-1923), Josep Maria Jujol i Gibert (1879-1949), and Antoni Gaudí i Cornet (1852-1926).

Mariano Cubí y Soler (Figure 1B)<sup>23</sup> was born on 15 December 1801 in Malgrat de Mar (Maresme, Barcelona).<sup>e</sup> In March 1810, fleeing the Peninsular War, his family moved to Mahón (in Catalan, Maó), the capital of Menorca (Balearic Islands), where he learned to speak French and English. At the age of 20, he set sail on the US Navy corvette *USS Peacock* as the crew's Spanish and French teacher. After reaching the United States, he established himself in Washington, D.C., and subsequently in Baltimore, Maryland, where he taught Spanish at the St. Mary's School. His first contact with phrenology was in Baltimore, when he read the works of Gall and Combe. In February 1829, he moved to Havana

<sup>c</sup>Calle Trentaclus was renamed Calle del Arco del Teatro (the street's current name) in 1854.

<sup>d</sup>Modernism, a trend of artistic renewal around the turn of the 20th century, was known as Art Nouveau in France and Belgium, Jugendstil in Germany, Sezession in Austria, the Modern Style in England, and Liberty or Floreale style in Italy.

<sup>e</sup>The main source of information on the life of Cubí is the 1876 biography by the teacher Miguel Arañó y Majó (1818-1881).



Figure 1. A) Eusebio Güell y Bacigalupi, first Count of Güell. B) Mariano Cubí y Soler, who disseminated phrenology in Spain.

(Cuba), where he and Joan Olivella i Sala founded the Buenavista school. In late 1835, he left Cuba to return to the United States, specifically New Orleans, Louisiana. During his time there, he met Orson Squire Fowler<sup>f</sup> and Joseph Rhodes Buchanan (1814-1899).<sup>g</sup> In order to perfect the knowledge he acquired alongside these two phrenologists, Cubí travelled around the United States and studied the heads of over two thousand individuals of different social classes and conditions. Between 1837 and 1842, he worked as a lecturer in Spanish at the University of Louisiana.

<sup>f</sup>Orson Fowler was “converted” to phrenology after attending a lecture by Spurzheim in Boston in 1832.

<sup>g</sup>Joseph Buchanan studied medicine with Charles Caldwell, one of the first practitioners of phrenology in the United States.

On 2 October 1842, he returned to Barcelona with the aim of disseminating phrenology across the Iberian Peninsula. This campaign began in Tarragona and ended in Santiago de Compostela, with visits to Zaragoza, Mérida, Madrid, Seville, Cádiz, Vitoria, Bilbao, Burgos, Logroño, Santander, Valladolid, and Palencia, among other cities.<sup>16</sup> On his educational journey, he met strong critics, including the theologian Jaume Balmes (1810-1848) and the writer José María Quadrado Nieto (1819-1896), who decried phrenological texts as antireligious, antimoral, and antisocial.<sup>14</sup> For Balmes, religion was an essential pillar of society. Thus, he saw phrenology as an attack against the foundations of social order. In May 1847, Cubí was arrested in La Coruña and tried at the Ecclesiastical Court of Santiago de Compostela. He was charged with following “dangerous protestant, material, and pantheist trends that lead to denial of the original

sin, denial of the divine grace of Our Lord Jesus Christ, and the consequent denial of the Holy Sacrament of Penance.” He was released in April 1848, after 11 months of imprisonment. After years of intense campaigning across the Iberian Peninsula, he returned to Barcelona and founded the phrenological journal *La Antorcha* (1848-1850). In the 1850s and 1860s, he travelled in Europe, visiting France, England, and Switzerland. On 18 March 1858, he conducted phrenological examinations of Emperor Napoleon III, his wife Empress Eugénie de Montijo, and the prince imperial Eugène Bonaparte. In November 1875, a stroke left him unable to speak. He died at the age of 74 years on 5 December 1875, in the second-floor flat of number 363, Calle Diputación (Barcelona).

### Cubí's phrenological doctrine

Cubí published numerous phrenology manuals: *Introducción a la frenología por un catalán* (“Introduction to phrenology by a Catalan”; 1836), *Manual de frenología* (“Manual of phrenology”; 1843), *Sistema completo de frenología* (“Complete system of phrenology”; 1843, 1844, and 1846), *Elementos de frenología, fisionomía y magnetismo humano* (“Elements of human phrenology, physiognomy, and magnetism”; 1849), and *La frenología i sus glorias. Lecciones de frenología* (“Phrenology and its glories. Lessons in phrenology”; 1852).<sup>h</sup> In *Sistema completo de frenología* (1844),<sup>24</sup> he displays how phrenology is based on the following general principles:

- The faculties or powers of the soul are innate.
- The brain is the organ of the soul or of the mind in the phenomenological world.
- The brain is multiple, that is to say, the soul possesses different faculties that are exercised through several other brain organs.
- The size of the brain is a positive measure of mental power.
- The size and shape of the brain can be appreciated by studying the size and shape of the external surface of the skull.
- Each faculty of the soul possesses its own system of expression: all brain organs, when activated, produce

<sup>h</sup>Cubí proposed that Spanish spelling be reformed and regularised (eg, “i” instead of “y” [“and”], “Barzelona” instead of “Barcelona”, and “frenología” instead of “frenologia” [“phrenology”]).

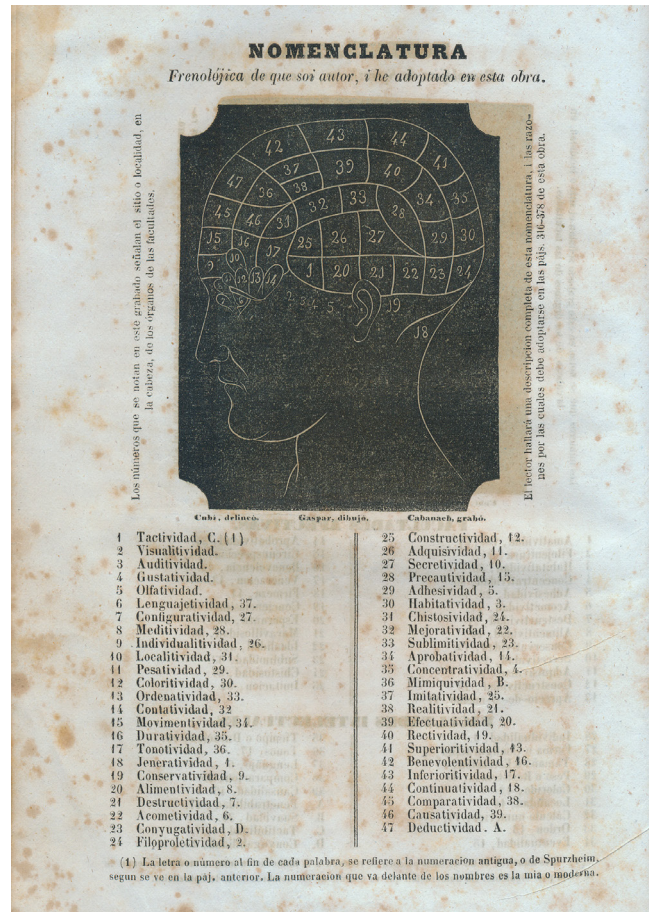


Figure 2. Phrenological organs and their localisation (*La frenología i sus glorias*, 1852).

a movement, expression, gesture, or attitude, with a special or natural language.

In *La frenología i sus glorias*,<sup>25</sup> Cubí proposes the existence of 47 brain organs or faculties (Figure 2), which may be grouped in four classes: 1) faculties of external contact (faculties 1-5), 2) faculties of external knowledge (faculties 6-17), 3) faculties of moral perception and action (faculties 18-44), and 4) faculties of universal relation (faculties 45-47). In parallel, he considers that faculties may be categorised according to their mode of action, as intellectual, moral, or animal. Intellectual faculties occupied the anterior region of the head, moral faculties the superior region, and animal faculties the inferior region.

Alongside the restructuring and taxonomy of brain organs, one of Cubí's main contributions is the discovery

of two new faculties: “*mimiquidad*” (loosely translated as imitation), the tendency for gestural expression and mimicking (organ 36), and “deductivity,” the ability to draw logical conclusions (organ 47). The latter faculty is referred to as penetrability or apriority in the third edition of his work *Sistema completo de frenología* (1846),<sup>26</sup> and subsequently renamed deductivity in *La frenología i sus glorias*. This mental faculty entails a “logical desire to extract deductions, to deduce inferences, to reason the means, to get to the point, to discover the object, to see the end, and the aversion to that which does not tend to go straight to the deduction of consequences, to the sequela, to the terminus, to the terminating object.”<sup>25(p776)</sup> According to Cubí’s taxonomy (Figure 2), individuality (faculty 9) and movementivity (faculty 15) are linked with present stimuli, causativity (faculty 46) with the past, and deductivity (faculty 47) with the future (deducing consequences); this constitutes “the fundamental basis, the beginning, the origin from which all our powers, our notions, and our logical ideas emanate.”<sup>25(p775)</sup>

Along with the theoretical contributions described in the preceding paragraphs, Cubí also proposes, in *La frenología i sus glorias*, the five elemental rules to follow when performing the practical examination of a head:

- Rule 1: the head is placed horizontally (facing the horizon).
- Rule 2: by visual inspection, an idea is formed of the individual’s temperament and natural language in a resting state. If a skull is being studied, natural language cannot be recognised.
- Rule 3: by visual inspection, an idea is formed of the general size or volume of the head, which is divided into three regions: intellectual, moral, and animal.
- Rule 4: by visual inspection, an idea is formed of the general shape or configuration of the head.
- Rule 5: the different combinations of organs are determined by visual and tactile inspection. Two fingers must be placed on the head, and light pressure must be applied to the cranium in order to properly determine its depressions and elevations (bumps).

Next, Cubí indicates that a phrenological examination may have several objectives: 1) to determine whether the subject is apt for a given occupation or job; 2) to determine whether the subject has committed a crime; 3) to establish what system of behaviour may be most appropriate for curing a bad habit; 4) to correct or improve the character; or 5) to deduce a talent or

character. In the latter case, examination must involve two parts: the analysis and the synthesis. In the analysis, the examiner determines the size of the 47 brain organs (small, medium, or large). Based on the data from this first part, the subject’s character or talent is described (synthesis).

#### The phrenological examination of Eusebio Güell

The report of the phrenological examination of Eusebio Güell spans four pages (Figures 3-6). The upper part of the first page (Figure 3) shows the fee paid for the examination (50 reales) and the place and date (Barcelona, 13 April 1868). It also shows the age of the subject (21 years). The printed heading states “CHARACTER AND TALENTS OF MR...,” and is completed in Cubí’s handwriting: “Eusebio Güell.” The following section of printed text is as follows: “as deduced according to a phrenological examination of his head, in conformity with the most advanced scientific knowledge, performed by MR. MARIANO CUBÍ I SOLER.”

The analysis (Figures 3-6) is reported in a table with three columns. The first column lists the “numbers of the mental faculties and organs manifesting them, according to the new nomenclature,” the second column indicates the “use, abuse, or inactivity of the faculties,” and in the third column appears the “size of the organs in the subject” (with three spaces for the examiner to indicate whether the organ is large, medium, or small).

Mental faculties are grouped according to the classification described in *La frenología i sus glorias* (although the terminology used does not fully coincide with that used in the latter work): class I, faculties of contact; class II, faculties of physical or external knowledge; class III, faculties of moral perception and action; and class IV, intellectual faculties. Each faculty may be “well used” (the object of itself), abused, or inactive. The document describes these three functional types as follows:

By “use,” “well used,” or being the “object” of a mental faculty, we refer to its useful and legitimate action. This is the case when the organ manifesting the faculty is medium or large and is properly directed by the other faculties.

By “abuse” of the faculty, we refer to the excessive development of the organ manifesting it, or the failure of other faculties to repress or direct it, whether through Religion or moral philosophy, experience, good precepts, etc.

A faculty is “inactive” when the organ manifesting it

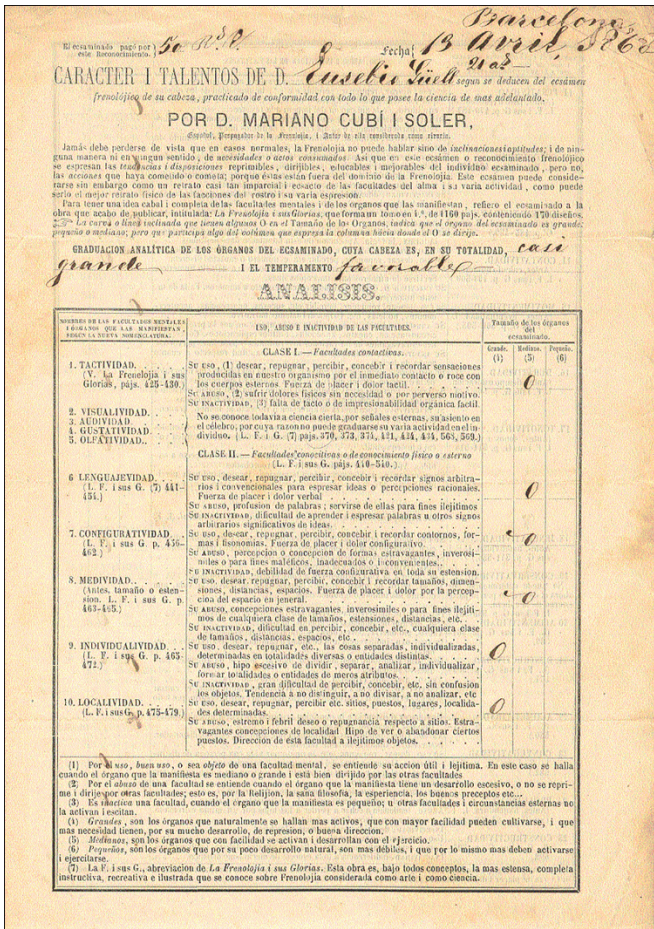


Figure 3. Report of Mariano Cubí's phrenological examination of Eusebio Güell (page 1).

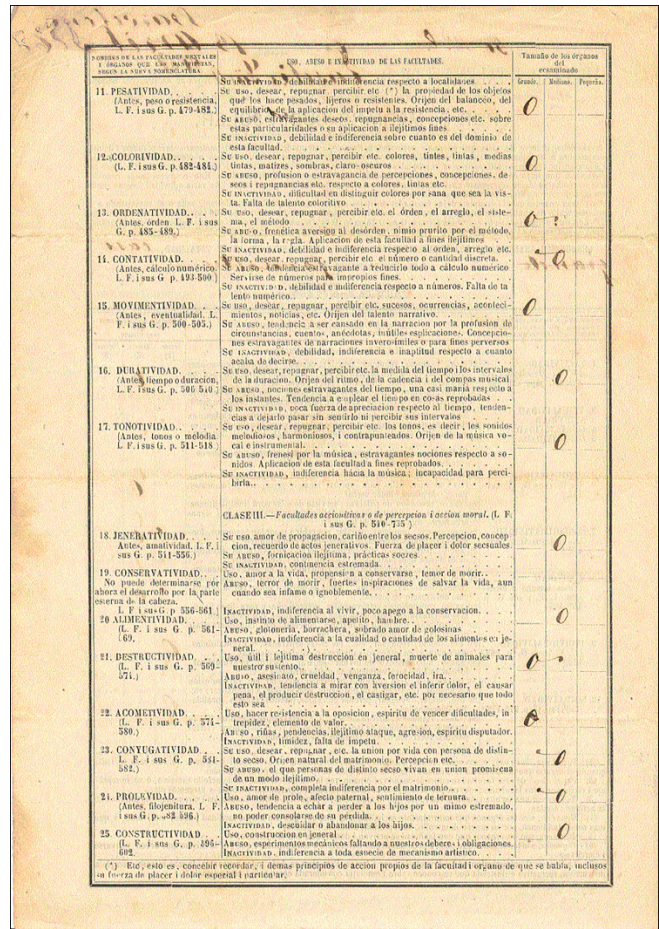


Figure 4. Report of Mariano Cubí's phrenological examination of Eusebio Güell (page 2).

is small, or other faculties and external circumstances do not activate or excite it.

The size of the brain organs and their functional repercussions are described as follows:

- Large organs are naturally more active and more readily cultivated, and due to their greater development are in greater need of repression or proper direction.
- Medium organs are easily activated and developed by exercise.
- Small organs are those that, due to their poor natural development, are weaker and therefore require greater activation and exercise.

The last page of the document (Figure 6) shows Cubí's handwritten synthesis. His conclusions on Eusebio Güell are transcribed below:

DISPOSITIONS, APTITUDES, OR TALENTS. Distinguished aptitude for practically applied natural and mechanical sciences. Aptitudes for diplomacy, dealing with people, and basis for fine judgement and fast understanding.

CHARACTER. Highly shrewd, discreet, just, mild, and sustained; firm, tenacious, and energetic when needed. Courtesy is not opposed by gallantry, nor mildness or affection by strength or serenity. He will not easily despair or falter.





The popularisation of Gall's *Schädellehre* in Anglophone countries led to the emergence of so-called practical phrenology. Practitioners, the majority of whom lacked medical training, conducted a multitude of activities to confer social legitimacy to this organicist "science." These activities included public and private cranioscopic (phrenological) examinations in exchange for a fee.<sup>27</sup> In the early days of practical phrenology, results were given verbally, with or without a handwritten document. These handwritten reports later gave way to standardised templates, reducing the cost of examination and enabling phrenologists to reach a broader population. Cubí, who trained in this "school" during his stint in North America, made it his mission to export his form of understanding and applying phrenology to the Iberian Peninsula. This influence is readily observed in Cubí's written work. Citing just one example, Fowler<sup>28</sup> published his book *Phrenology proved, illustrated, and applied* in 1836. On page 251, he describes how a phrenological examination should be performed, ending with the following suggestion: "In applying the fingers to the head, the balls should be used instead of the ends." Eight years later, in his *Sistema completo de frenología*, Cubí indicated that during the examination, "the flat part of the fingers, and never the tips, should be placed on the head."<sup>24(p462)</sup>

On another level, the document raises a series of questions: Was Cubí's report influenced by the socioeconomic status of his subject? Might his conclusions have affected Güell's future decisions? Did Güell have some objective in seeking examination, or was it purely the snobbery of an affluent young man of the time? Finally, it should be noted that there seem to be certain similarities between Cubí's synthesis and Güell's life and career. Unfortunately, any attempt to answer these questions would be pure conjecture and speculation.

In conclusion, from today's perspective, Cubí's examination of the young Güell lacked any scientific foundation. However, as a historical document, it constitutes a synthesis of practical phrenology as a system of work and a means of extracting conclusions.

### Conflict of interests

The authors have no conflicts of interest to declare.

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