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Corresponding author:

alessandro.porro1@unimi.it

A mid-19th Century tool for hypnosis

Alessandro Porro

Dipartimento di Scienze Cliniche e di Comunità. Università degli Studi di Milano, Italia

Giovanni Cesa-Bianchi

Dipartimento di Fisiopatologia Medico-Chirurgica e dei Trapianti. Università degli Studi di Milano, Italia

Carlo Alfredo Clerici

Dipartimento di Oncologia ed Emato-Oncologia. Università degli Studi di Milano, Italia

Lucie Biehler-Gomez

Dipartimento di Scienze Biomediche per la Salute. Università degli Studi di Milano, Italia

ABSTRACT

The authors examine a hypnosis instrument marketed in the 1860s by prominent Parisian instrument maker, Joseph Frédéric Benoît Charrière (1803-1876). This instrument holds significant historical value and warrants preservation for museological purposes. Serving as a tangible proof of the hypnotic “setting”, it represents a critical link between late mesmerism and early development of modern hypnosis.

Preserving such artifacts is crucial for understanding the evolution of hypnotic practices and the broader historical context of medical instrumentation. Charrière’s contributions to surgical tools are well-documented, and this instrument exemplifies the intersection of his work with the burgeoning field of hypnotism. The instrument not only illustrates the technological advancements of the period, but also reflects the shifting paradigms in therapeutic practices from mesmerism to modern hypnosis. As such, it is an invaluable piece for both historical and educational displays, offering insights into the practical applications and theoretical underpinnings of hypnosis in the nineteenth century.

Key Words: Hypnosis - Instruments - Joseph Frédéric Benoît Charrière (1803-1876)

Introduction

In the tumultuous ocean of neuroscience, can hypnosis be evaluated in terms of scientific evidence acquisition¹? To what extent²? And how comparably with other disciplines, entirely or partially neuroscientific^{3,4}, that have developed in recent decades⁵? In the history of hypnosis and the history of medicine, can points of contact be identified that diverge (in other words, that show unique characteristics), in any aspect, from the fields of psychotherapy or psychology *lato sensu*?

In the early 1990s, a volume emerged aiming to outline a general history of hypnosis⁶. This volume was received with mixed reactions, starting with the choice of the term “Hypnotism” instead of the more modern “Hypnosis”; nonetheless, it was considered a significant historiographical contribution.

In more recent times (2017), the Royal Society dedicated a special issue of its “Notes and Records” to the topic of hypnosis, demonstrating that the interest in this subject deserved reinforcement with interpretations appropriate to historiographical evolution. For instance, geographical emphasis on Italy⁷ correlated the two main schools of thought of the late 19th century—the Parisian school⁸ and the Nancy school⁹—while also necessitating an analysis of the long-term impact of their dichotomous scientific positions¹⁰. The leading figures of these schools were Jean-Martin Charcot (1825-1893) at the Salpêtrière for the Parisian school, and Ambroise-Auguste Liébeault (1823-1904) and Hippolyte Bernheim (1837-1919) for the Nancy school. Summarizing the evolution of theories and practices related to hypnosis, it is noted that the Nancy school considered hypnosis a normal psychological phenomenon interpretable through suggestion, whereas the Parisian school viewed hypnosis as a hysterical neurosis¹¹.

The evolution of hypnosis, from the period marking the transition from the Mesmeric concept of *animal magnetism*, starting from the 1840s, highlights specific applications. Firstly, in the surgical field, related to the development of anesthetic practices. In Europe, the first systematic ether anesthesia practices began in the spring of 1847. There was an immediate technical challenge in creating apparatuses suitable for controlled administration of anesthetic gas, requiring years of study and experimentation to resolve. In France, Joseph Frédéric Benoît Charrière (1803-1876) stood out in this activity^{12,13}.

However, the applications of hypnosis in surgery preceded the introduction of ether anesthesia (and later chloroform anesthesia). In April 1829, in France, Jules Germain Cloquet (1790-1883) performed a mastectomy on a patient using hypnotic anesthesia. Staying within the Mesmeric context, simultaneously with the spread of anesthetic practices, James Esdaile (1808-1859) successfully conducted surgical operations using hypnosis-induced anesthesia¹⁴. Esdaile was a pupil of John Elliotson (1791-1868), who also performed successful surgical operations with hypnosis-induced anesthesia within the Mesmeric context¹⁵.

The second domain could be what we now term *psychotherapeutic*.

Hypnosis and the History of Medicine

One could argue that even for historians of medicine (and not just those of psychology, psychotherapy, or science), the subject has long been and remains of considerable interest. This interest extends beyond the classic search for roots linked to Franz Anton Mesmer (1734-1815) and the transcendence of his ideas.

One notable work is the monographic issue of *ACTAS CIBA*, published in 1946 and dedicated to *Mesmerism*¹⁶. This issue was written by the Swiss physician René Edgar Kaech (1909-1989), who also held leadership roles in the *Union Mondiale des Écrivains Médecins*.

The monograph on Mesmerism was subsequently published in several languages: English, French, German, Spanish, Portuguese, Flemish, Swedish, and Italian. Typically, the reference texts for these monographic issues were simply translated into various languages and published at different times, with any additions being limited to brief *Complementary notes* specific to each country. For this analysis, the Italian edition was consulted¹⁷. This publication laid the groundwork for a profound historiographical analysis of the precursors to hypnosis within a historical-medical dimension, underscoring the significance of Kaech's historiographical reflections.

In relatively more recent times, two contributions on this topic by Loris Premuda (1917-2012) can be highlighted^{18,19}.

Regarding the editorial context, the journal curated by the CIBA pharmaceutical company of Basel remains a reliable historiographical reference. The Italian edition of the journal was directed by Luigi Belloni (1914-1989), a distinguished historian of medicine at the University of Milan²⁰.

Luigi Belloni, along with Moshè (Moisé) David Chaim (Arturo) Castiglioni (1874-1953) of the University of Padua, the aforementioned Loris Premuda, his successor at Padua, Piero Capparoni (1868-1947), and Adalberto Pazzini (1898-1975), can be considered among the foremost medical historians of the 20th century.

While the vast scientific literature on hypnosis is characterized by its biographical dimensions, disciplinary analysis, the updating of therapeutic proposals, and social repercussions (it is not the intention of the authors to address these issues specifically, even though they are of considerable importance^{21,22}), less historiographical attention has been given to the peculiar characteristics of the hypnosis "setting". This includes the instruments used by practitioners during hypnosis sessions.

This area is also of interest to museology, particularly in the preservation and valorization of medical instruments and objects as valuable historical sources. We therefore concur with the views expressed in 1949 by physician and medical historian Walter Artelt (1906-1976)²³, who underlined this value.

The instruments of hypnosis have not been particularly considered by neuroscientific historians or museologists sensitive to these themes²⁴. In a classic work²⁵ by Clark Leonard Hull (1884-1952) in 1929, a detailed and traditional description of the

Mesmeric “setting” is provided, related to the psychological aspects of its practice. Even in relatively recent times, the role of the “setting” has been analyzed, highlighting the relationships between the hypnotic and psychoanalytic “settings”²⁶, without specifically referring to the instruments used.

However, in Hull’s text, a brief mention is made of the tool wielded and used by Mesmer:

*[...] At the psychological moment, Mesmer would appear on the scene garbed in a brilliant silk robe. He would pass among the patients, fixing his eyes upon them, passing his hands over their bodies and touching them with a long iron wand [...]*²⁷

From this citation, we can begin to ask whether, after the Mesmeric iron wand, other instruments have been used in hypnotic practice. The answer is affirmative, and we encounter another prominent figure: the Scottish surgeon James Braid (1795-1860). He is credited with distinguishing Hypnotism from Mesmerism. Without delving into the broader debates regarding his role in the overall evolution of hypnosis, which could risk anachronism, we aim to highlight his proposal for using specific instruments in hypnotic techniques.

Clark Leonard Hull also writes:

*[...] Braid is, likewise, notable for having developed a special technique for inducing the trance, a method still extensively used. His procedure was to have the subject look fixedly at some bright object which was held near and slightly above the eyes in such a way that the eye muscles were under a certain amount of strain. This technique was usually combined with verbal suggestion [...]*²⁸

Clark Leonard Hull provides insight into Braid’s method. Braid induced hypnosis by having subjects fixate on a bright object placed at a short distance from their eyes, without specifying a particular shape:

*[...] I now proceed to detail the mode which I practise for inducing the phenomena. Take any bright object (I generally use my lancet case) between the thumb and fore and middle fingers of the left hand; hold it from about eight to fifteen inches from the eyes, at such position above the forehead as may be necessary to produce the greatest possible strain upon the eyes and eyelids, and enable the patient to maintain a steady fixed stare at the object [...]*²⁹

Object, instrument, cultural heritage artifact

It seems we have returned to a starting point where the characterization of hypnosis instruments, if it ever existed, gradually faded even from historiographical memory. However, one source reminds us that a mid-19th-century hypnosis instrument can be recognized not only as an object or cultural heritage artifact to be preserved but also as an example of the development and generalization of hypnotic practice.

This source is a catalog from a Parisian company producing surgical instruments, featuring the iconography of an *Appareil à Hypnotisme (modèle Charrière)*. The claim of a model associated with the activities of Maison Charrière suggests the apparatus may have been patented.

Before detailing the instrument, we must define the relevance of the source we consulted, and the individuals connected to it. The source type consists in catalogs of industrial production of surgical (or medical) instruments: objects of use and consumption³⁰, with varied presence in public preservation institutions. Regarding the singularity or homogeneity of these industrial production catalogs of surgical (or medical) instruments, the former is a value, not a limitation. Although seemingly similar, each catalog possesses specificities that sometimes go beyond the commercial and technical choices of individual producers. Beyond compiling or consulting the catalogs for practical use, one can and should engage in a comparative analysis of these catalogs to derive methodological³¹, cultural, and technical insights.

This comparative analysis makes these volumes even more valuable; they represent a crucial link between experimentation and the dissemination of surgical (or medical) theories and practices³².

The key figures of interest are Joseph Frédéric Benoît Charrière and his son Jean Jules Charrière (1829-1865), the leading French surgical instrument makers of the 19th century. Joseph Frédéric Benoît Charrière is universally known for the catheter measurement scale bearing his name, but his contributions to the construction and improvement of surgical tools were immense in both quality and quantity^{33,34,35}.

The specific catalog we consulted is of great interest because the *Appareil à Hypnotisme* is highlighted and illustrated among those presented at the International Exhibition of 1862 in London, or Great London Exposition. It was recognized as a specific creation of Maison Charrière and not merely the realization of an instrument previously detailed by others³⁶.

The instrument

In Charrière's catalog, the *Appareil à Hypnotisme* is described as follows:

[...] *Il se compose d'une petite gaine en cuir verni, dans laquelle s'engage une pince à pression continue, en acier, qui reçoit une tige d'acier garnie de deux boules d'acier poli ; la tige s'incline à tous les degrés [...]*³⁷.

It is evident that the instrument derives from the description proposed by James Braid, as previously mentioned. However, by the time Charrière's catalog was published, Braid had already passed away, suggesting that this description was likely a specific development by others.

How can we identify the possible authorship of this elaboration?



Fig. 1. *Appareil à Hypnotisme (modèle Charrière)*. One might wonder about the identity of the depicted figure: he vaguely resembles Jean Nicolas Demarquay

A contemporary, chronologically organized repertory related to the scientific literature on hypnosis published in France may provide valuable assistance³⁸. This repertory was compiled by Alexis Dureau (1831-1904), a physician who served as the librarian of the *Académie de Médecine* in Paris starting in 1886. In it, a work by Jean Nicolas Demarquay (1814-1875) and Félix Giraud-Teulon (1816-1887), published in 1860³⁹, was cited and praised as follows: *Excellente étude, faits bien observés*⁴⁰.

This work thus answers our question, as the two authors are the creators of the instrument, which was specifically made for them by Charrière. They reaffirm the reference to James Braid and provide a detailed description of their instrument and its construction process:

[...] *Nous attendions donc les résultats d'une vérification qui devait sans doute se faire sur une grande échelle, quand un des chirurgiens les plus considérés des hôpitaux, M. le docteur Demarquay, voulut bien nous offrir de prendre part à ses propres essais sur la nouvelle méthode. Les dix-sept observations dont nous donnons ci-dessous les résumés essentiels, ont été recueillies, cette semaine même (8-15 décembre), sous les yeux du personnel scientifique de la Maison municipale de santé, dans le service de M. Monod. Les essais ont*

été faits, le premier jour, en se servant, pour objet brillant, d'un ophthalmoscope ; mais les jours suivants, afin d'écartier l'influence du regard de l'expérimentateur, obligé, pour maintenir l'instrument, d'avoir les yeux fixés sur ceux du sujet en observation, pour se dégager de l'élément volonté, fascination, suggestion de l'observateur, qui jouent un si grand rôle dans la rédaction du docteur Braid, M. Demarquay a apporté à l'instrumentation la modification suivante.

Sur ses indications, M. Charrière nous a fait préparer une boule brillante en acier de 1 centimètre et demi de diamètre, montée sur une tige qui glisse elle-même, à frottement doux, dans une monture à charnière fixée sur un frontal ou diadème qu'une petite courroie assujettit autour de la tête. Par-là, les yeux du malade, amenés dans la convergence indiquée, n'étaient plus dérangés par aucune intervention extérieure pendant toute la durée des expériences : inutile d'ajouter quels résultats sont demeurés les mêmes, sur les mêmes sujets, par l'une et l'autre méthode expérimentale [...]⁴¹.

Regarding the mention of the ophthalmoscope and its use in the specific hypnotic context, Giraud-Teulon had developed a binocular ophthalmoscope model, marketed by the Parisian manufacturer Nachet.

The instrument by Jean Nicolas Demarquay and Félix Giraud-Teulon generated immediate interest upon its publication. Joseph Pierre Durand de Gros (1826-1900), under the pseudonym *Docteur. J. P. Philips*, reported on their instrument in 1860, quoting directly (at least in part) their words:

[...] je crois utile de donner ici la description d'un appareil de mire imaginé par MM: Demarquay et Giraud-Teulon. Cet instrument consiste en une boule brillante en acier d'un centimètre et demi de diamètre, montée sur une tige qui glisse elle-même, à frottement doux, dans une monture à charnière fixée sur un frontal ou diadème qu'une courroie assujettit autour de la tête [...]⁴².

It appears, without a doubt, that this is the instrument reproduced in the *Notice des instruments de chirurgie humaine et vétérinaire, appareils et coutellerie, de la Maison Charrière présentée à MM. les membres du Jury International de l'Exposition Universelle de Londres (1862)*.

This instrument of interest could be used both for inducing hypnosis for anesthetic purposes and for psychotherapeutic applications.

However, during the heated debate between the Nancy and Paris schools in the 1880s, while an instrument like the one produced by *Maison Charrière* might have lost its theoretical centrality, it could still retain a practical role.

The position of the *Appareil à Hypnotisme* in the history of hypnosis

How can we position this *Appareil à Hypnotisme* in the history of hypnosis? Is it just one of many (or few) proposed devices? If we are to acknowledge a special role for it, what might justify this attribution of uniqueness? An important figure from that era, George Gilles de la Tourette (1857-1904), can assist in this discussion. In 1887, he proposed an analysis of the hypnosis phenomenon, aligning with the Paris school and summarizing

procedures while emphasizing the importance of the “setting” (to use a modern term). In his description, we find a passage about the instrument we are analyzing:

[the traditional Egyptian operators] [...] *font tout bonnement de l'hypnotisme et du somnambulisme, à la manière de M. Braid, en faisant fixer le regard du sujet dans une boute de cristal; et, comme ils n'ont pas un Charrière pour leur confectionner quelque joli appareil, ils se contentent d'une de ces boules qui servent, dans certaines maisons, de lampe, en y mettant de l'huile [...]*⁴³.

This harsh criticism nonetheless confirms the role and importance played by *Maison Charrière* in disseminating Braid's practice of hypnosis, as Gilles de la Tourette's observation was made in 1887, twenty-seven years after its original formulation.

However, Gilles de la Tourette is not the author of the phrase. We can better contextualize this quote, as it is taken from a letter sent from Cairo by Elia Rossi Bey (1816-1891), personal physician to Halim Pasha (1831-1894)⁴⁴, to Jean Nicolas Demarquay and Félix Giraud-Teulon. This letter was published in their 1860 volume⁴⁵.

Indeed, Rossi Bey, a Ferrarese Jew, Mazzinian, and Carbonari, who was also a Freemason reaching the rank of Grand Master of the Rite of Memphis⁴⁶, reported that the Egyptian tradition had a procedure very similar to that proposed by Braid. Rossi, who also authored a work on medical geography⁴⁷, provided observations that, although critical, were contemporary with those of Demarquay and Giraud-Teulon.

The inclusion of the *Appareil à Hypnotisme* in the production line of *Maison Charrière* underscores its importance and diffusion (and commercialization). It was a significant validation of the instrument and the associated practice by France's leading manufacturer of surgical instruments.

What other instruments for hypnosis can we find in the literature?

The challenge is to find validated sources, not just authors' descriptions proposing individual instruments for early scientific evaluations. Often overlooked or undervalued in historical terms, dictionaries or encyclopedic collections can be helpful, especially when recognized as the result of critical elaborations and evaluations. In the entry *Hypnotisme et Mesmérisme*⁴⁸ from Charles Robert Richet's (1850-1935) *Dictionnaire de Physiologie*, authored by Julian Leopold Ochorowicz (1850-1917), of great interest *per se* and for the reconstruction of the history of hypnosis, we find an enumeration of methods for inducing hypnosis and instruments, one of which resembles the instrument of our interest: *le miroir rotatif de Luys*.

Julian Leopold Ochorowicz, active in psychology with spiritualist and occultist (which would be defined today as parapsychologic) interests between Varsavia, Lviv (Lemberg), and Paris, described Luys' instrument, which Papus (pseudonym of Gérard Encausse (1865-1916), physician and esotericist) also detailed:

[...] *Miroir rotatif. L'emploi du miroir rotatif du D^r Luys, est, à notre avis, préférable à tous les autres moyens comme sécurité et rapidité. Nous conseillons surtout le miroir à une seule*

tête et recouvert de cuivre nickelé. Le constructeur est M. robillard. On place le miroir à hauteur des yeux du sujet et à environ 0m50 d'éloignement, en s'assurant que le scintillement lumineux passe bien devant les yeux [...] ⁴⁹.

The reference is to hunting decoys called *specchietti per le allodole*, which relied on the rotation of mirrors reflecting sunlight ⁵⁰.

Jules Bernard Luys (1818-1897) made significant contributions to neuroanatomy and neuropsychiatry ⁵¹.

Among the methods and instruments cited by Ochorowicz, we also find the bouchon de carafe used by Braid as a reflective object:

[...] *Un fil de platine rougi par l'électricité de Strohl, le bouchon de carafe de Braid, le disque hypotaxique de Durand De Gros, le miroir rotatif de Luys, les pentagrammes droits et renversés de Papus, la pression sur le vertex de Charcot, la plaque chauffée de Berger, la machine électrostatique avec faradisation unipolaire de Weinhold, le courant galvanique de Eulenburg, l'aimant caché dans la poche de Maggiorani et les applications iso et éthcronomes de Durville [...] ⁵²*

The heated platinum wire was the basis for the functioning of the thermocautery, invented by Claude André Paquelin (1836-1905), commonly used in surgery at the time.

Conclusions

What further reflections can we propose regarding the instrument made by *Maison Charrière*, from an operational and instrumental perspective?

One aspect could be the necessity for the operator to have both hands free for certain procedures requiring illumination, such as laryngoscopy and otorhinolaryngology surgeries. Another consideration could be the availability of a light source with specific characteristics (e.g., pinpoint focus) that is easily maneuverable; in this specific case, note the unconventional initial use of the ophthalmoscope. In all these situations, fixing the instrument with a headband not only solved operational problems but also allowed for particularly effective visual contact, leaving the operator's hands free for other concurrent actions. The vulcanization of rubber or the tanning of leather made it possible to create a durable and suitable headband.

Additionally, the inclusion of the *Appareil à Hypnotisme* in the production and commercialization context of medical-surgical instruments underscores its significance. Unfortunately, we do not have data on the production and sales of Charrière's *Appareil à Hypnotisme*; however, the explicit claim of the elaboration (*modèle Charrière*) suggests that it was more than just a mere prototype.

Finally, in analyzing the evolution of disciplines related to what we now term *hypnosis*, it is essential to consider material sources as cultural heritage to be preserved and valued, as well as testimonies of stages, ideas, moments, practices, and methodologies.

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Alessandro Porro: ORCID 0000-0003-2783-1831

Carlo Alfredo Clerici: ORCID 0000-0002-4289-057X

Lucie Biehler-Gomez: ORCID 0000-0001-6674-7850