# Psychographics and the Materials of Time Measurement in Modern French Psychiatry

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During the last decades of the 19th century and the first decades of the 20th, French psychiatrists and psychologists, like their counterparts elsewhere in Europe and North America, tried to transform and invigorate the study and diagnosis of mental illness through new forms of inscription, measurement, and quantification. As Dr. Jacques Roubinovitch put it in 1900, the French alienist – as French psychiatrists were then called – could not be content with "vague psychology, all in words." Instead he must embrace the "objective examination of his patient, from head to feet" (Roubinovitch 1900: 23).[1] The aim was to translate the transience of mental signs into durable material records, which would in turn enable French psychiatrists to subject their patients' symptoms to increased standardization and order. Some of the instruments and techniques French clinicians and researchers used were borrowed from general medicine or imported from experimental physiology and psychology. Indeed, contact between French psychiatry and experimental psychology, as well as the appropriation of instruments and technologies from other more established areas of medical research, was often deliberate and formed part of a strategy meant to bolster the professional legitimacy of the field.[2] Other methods were "updated" versions of practices already present in psychiatry. Regardless of their origins, these approaches formed an essential part of a broader project initiated during the second half of the 19th century to establish the biological and physiological markers of mental illness with the intention of making French mental medicine more "scientific" (Basso/Delbraccio 2017: 268–269).

This chapter explores several examples of one particular dimension of French attempts at doing scientific psychiatry: the use of time as an "objective" measure in the study and diagnosis of mental illness. Examples include the identification and standardization of prognosis, or the temporal evolution of particular diagnoses; the "real-time" graphical inscription of physiological events concomitant to episodes of mania or depression; and the allotment of diagnostic and prognostic power to reaction time measurements. While the use of chronophotography and the serialized ordering of clinical drawings in psychiatric practice to standardize the temporal trajectory of hysteria has been relatively well documented (cf. Didi-Huberman 1982; de Marneffe 1991; Pichel 2017), the deployment of charting techniques, graphical inscriptions, and timekeeping instruments to similar ends remains under-examined by comparison. Though less visually provocative to 21st-century eyes than photographic images of interned asylum patients or Paul Richer's synoptic table of a "grand hysterical attack" (Richer 1885: Pl V), the visual materials produced by these paper technologies and graphical techniques can, in the end, hardly be called neutral. Though their champions upheld them as objective, these charts, tables, and visualizations were not mirror reflections of the "natural" realities of mental illness. Instead they reveal how the construction of material evidence in support of new theories about the temporal markers of insanity were also forms of reduction, unable to capture information about the patient experience of psychic distress in meaningful ways. They also intimate how the introduction of new data recording and laboratory techniques influenced the temporalities of psychiatric observation.

## Charting the Temporal Evolution of Mental Illness

Emmanuel Régis (1855–1918) was an eminent professor of mental medicine at the medical faculty in Bordeaux. In the 1880s he developed a series of charts for his students that represented the "typical" temporal evolution of what was then called circular or double-form insanity. Circular or double-form insanity were diagnoses introduced into French psychiatry in the mid-19th century by Régis' teachers, Jean-Pierre Falret (1794–1870) and Jules Baillarger (1809–1890), respectively. Today both psychiatrists are often credited as the first to identify and describe the form of mental illness now classified in the DSM-5 under bipolar disorders (cf. Sedler 1983;

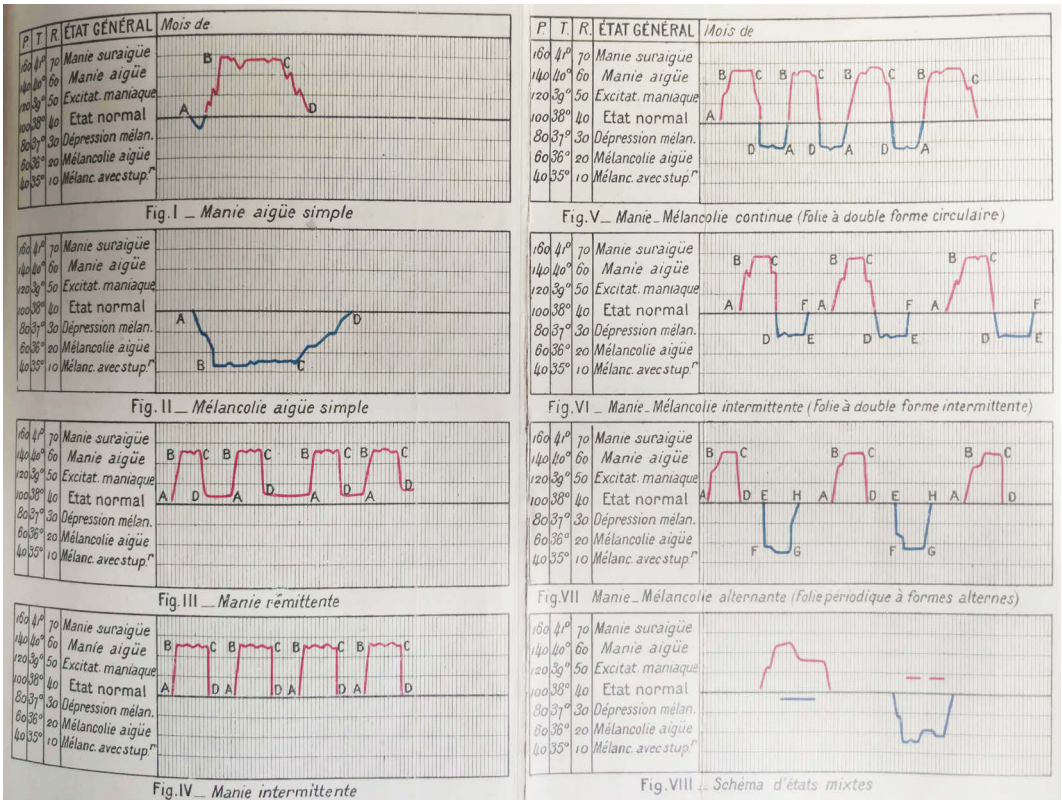
Pichot 2006). In the 1870s and '80s, however, the "natural" reality of these disease categories was still the subject of some debate, and Régis' visuals served as material evidence in support of Falret's and Baillarger's theories about the periodic and cyclical temporal structure of certain forms of intermittent insanity.

Though initially conceptualized for the classroom context to aid his students' understanding of mental illness classification, Régis' charts were also received by the French psychiatric community with early enthusiasm. Discussions at the Paris Medico-Psychological Society in 1884 reveal his colleagues' keen interest in the prognostic and clinical possibilities of charting mental illness in this new way (Motet 1884: 106–107). After this successful debut, Régis published these charts in his first textbook *Manuel pratique de médecine mentale* (1885 and 1892). They also appear in modified form in Régis' more famous *Précis de psychiatrie*, which became a classic text in French psychiatry during the first third of the 20th century with editions appearing in 1906, 1909, 1914, and 1923 (Camus 1918: 298–299; Morel 1996: 205)[3].

This section focuses on a specific example of Régis's charts, a figure entitled "Graphical Representation of States of Mania and Melancholy." It appears in the last two editions of Régis' *Précis de psychiatrie* (fig. 1). As the final version to appear in print, it represents the ultimate expression of Régis' vision for his charts. It also best demonstrates the standardizing impulse of these visuals and the charting method Régis imagined should accompany them. Part of a sizable chapter dedicated to differentiating mental illness by outbreak, the figure's location within the *Précis* also firmly situates it within the context of distinguishing between chronic and acute forms of mental illness, an opposition increasingly elaborated in French psychiatry during the second half of the 19th century (Lantéri-Laura 1972: 554) and one that had significant and lasting implications for notions of curability.

In the original text, "Graphical Representation of States of Mania and Melancholy" is printed as a full-page color inset composed of eight smaller diagrams. Each of these corresponds to a specific form of mental pathology, ranging from "simple acute mania" to "periodic insanity." Their side-by-side placement encourages comparison. Within each individual diagram, a central, slightly bolded, horizontal line represents the normal state as steady and invariable, suggesting that "normal" is a kind of unchanging and homogenous mode of being with no extreme variations in

Fig. 1: "Plate I. Graphical Representation of States of Mania and Melancholy" (Régis 1914: 324–325; Régis 1923: 340–341)




symptom or emotional intensity. In the text accompanying the chart, Régis writes that the vertical lines moving from left to right in each diagram are time markers – in this case, days – an indication that symptom distribution is meant to be plotted chronologically at strictly uniform temporal intervals (Régis 1914: 324). The well-formed curves in undulating lines of red and blue neatly order the temporal oscillations and evolution of symptoms according to each diagnosis. They emphasize – at the expense of qualitative details – what we might call the temporal shape of each pathology, a kind of visual structure that is created by recording changes in symptom intensity over time. As a chart that visualizes the "typical" or "ideal" versions of these forms of periodic insanity, this rendition of Régis' graphic was designed to train the expert eye (cf. Daston/Galison 1992, 2007) of medical students. With its help they would learn to compare, contrast, and quickly recognize the "particularities relative to the constitution and evolution" of these psychoses (ibid.: 327).

Régis' figure works to standardize the diagnoses of intermittent mania, circular insanity, and other forms of mental illness by illustrating their characteristic fluctuations in symptom intensity over time. It privileges temporal rhythms and patterns – in short illness course or prognosis – rather than a symptomology based, for example, on the content of a patient's delusions. In this way Régis' chart shares some parallels with the use of serial photography in publications that sought to standardize the clinical description of hysteria. As is well known, Jean-Martin Charcot (1825–1893) and his colleagues at the Salpêtrière asylum in Paris used sequentially ordered photographic images, as well as drawings of patients, to "prove" the existence of Charcot's four phases of a grand hysterical attack (cf. Richer 1885). Régis' "Graphical Representation of States of Mania and Melancholy" also highlights temporal trajectory, deploying well-ordered lines in near perfect symmetry to depict the "ideal" form of a variety of diagnoses.

While the charts published in his textbooks primarily served a teaching function to illustrate these ideal or archetypical cases, Régis also envisioned from the beginning that the basic technique of systematically charting a patient's symptom changes at regular intervals could have important clinical value (Régis 1885: 186). Even in the earliest version of his *Manuel pratique* he argued that the charts could be used as paper technologies in the daily observation of patients, "just as is done for fever" (ibid.). That Régis announced temperature charting as his inspiration is highly significant. In the wake of Carl Wunderlich's 1868 work on clinical thermometry, temperature charts became an important visual tool in general medicine, not only for teaching, but also for clinical care (Porter 1997: 345). Temperature charts soon peppered the pages of French medical textbooks (cf. Jaccoud 1870: 75).

Moreover, the method of fever charting had permitted physicians to ascertain that certain illnesses had distinct and identifiable fever patterns (Porter 1997: 678). No doubt Régis understood the power of equating his method with one that relied on numerical measurement and quantification. While eliding the fact that his technique did not use measurement instruments, but actually rested on the psychiatrist's individual subjective judgment to designate the intensity of a patient's symptoms, Régis visually aligned his charting technique to methods used in general medicine and physiology. As is observable on the left-hand side of the individual diagrams in figure 1, Régis included columns for the measurement and charting of pulse and respiration, as well as temperature, so that all measures could

Fig. 2: "Trace 6. Circular Insanity ..." (Ballet 1903: 606–607)

be visualized on one sheet of paper at the same time.[4] These specifications indicate that Régis wanted to establish the practice of charting the temporal evolution of symptoms as a parallel to other, more established, ways of medically observing, quantifying, and scientifically inscribing changes in patients' symptoms. Moreover, the "scientificity" of Régis' charts was further enhanced by their "physiological aesthetic" (cf. Brain 2015): not only did they look like temperature charts, but they also resembled the visual traces made by instruments used in the application of graphical recording instruments to clinical medicine and research (cf. Marey 1878), as we shall see below.

After their initial publication in his first textbook, Régis' charts and charting method influenced the way in which other practitioners shared and circulated medical case histories.[5] François-Léon Arnaud (1858–1927), a French psychiatrist who worked for much of his career at the private psychiatric clinic of Vanves (Morel 1996: 15), appropriated Régis' technique to create graphics for his chapter on periodic insanity in Gilbert Ballet's co-authored *Traité de pathologie mentale* (1903: 576–617).

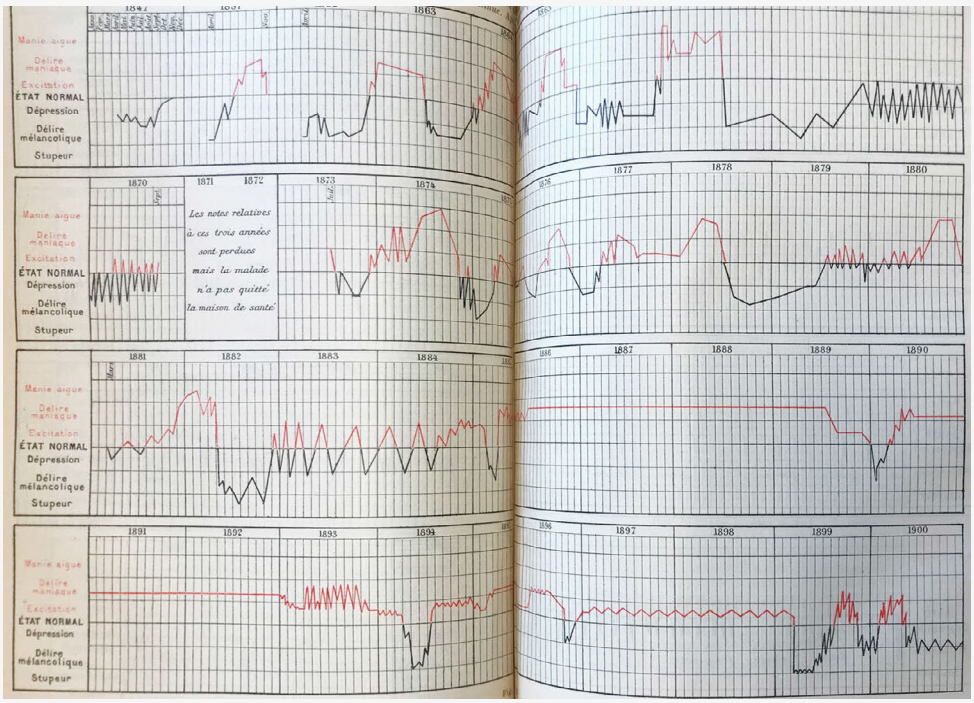


Figure 2, which was published as part of that chapter,[6] represents the illness course of a female patient identified simply as "M.B." from 1847 until her death in 1900. The textual information at the heading of the figure reads: "Trace. 6 – M.B. Woman born in 1826. Circular insanity began at twenty-one years, by a melancholic outbreak …" (ibid.: 606–607).

Contrary to the practice of charting directly from clinical observation as Régis had intended, Arnaud made his graphical inscription of M.B.'s symptoms after the fact, from written case notes.[7] Thus M.B.'s illness, which appears in figure 2 as a series of irregular spikes and dips in red and black, is actually a "translation" from the verbal to the visual. The chart stands in for the array of symptoms, behaviors, conversations, delusions, etcetera that would have made up a written account of M.B.'s case. Arnaud's linear rendering of M.B.'s medical history is an operation of both synthesis and abstraction. From verbal description to linear transcription, M.B.'s clinical picture is portrayed as a succession of points and sharp lines.

For Arnaud's like-minded colleagues in the early 20th century, the benefits of moving from words to lines were clear. Étienne-Jules Marey, the French physiologist, wrote extensively about the graphic method in medicine as a way to overcome the slippery, imprecise nature of language (Marey 1878: i). In a similar way, Arnaud validated forms of non-verbal charting as a kind of parallel to Marey's method, and thus as a step forward for the scientificity and objectivity of mental medicine. But for historians interested in trying to ascertain information about a patient's personhood or experience of illness, the move from description to transcription is a kind of loss. While revelatory of shifting methods in psychiatric charting and case sharing, these visual materials limit the possibility of obtaining information about who a patient was as a person even further.

But to the trained eyes of psychiatric experts circa 1900, Arnaud's image of M.B.'s illness was instantly legible as material and visual proof of M.B.'s circular insanity diagnosis. The act of reading a lengthy, detailed, textual account of her symptoms was unnecessary because the temporal shape of her illness immediately rendered her diagnosis apparent in the blink of an eye. Even if the chart didn't conform exactly to the idealized version of circular insanity from Régis' "Graphical Image of States of Mania and Melancholy," M.B.'s diagnosis and prognosis were instantaneously recognizable. Indeed, Arnaud provides no additional commentary to accompany the figure because he could assume that for his audience the figure was self-explanatory.

Régis' method and his textbooks' figures help demonstrate how French psychiatrists and pedagogues at the end of the 19th century developed paper technologies

and produced visual materials to support the idea that prognosis or temporal shape was a defining and objective characteristic of mental illness that could clarify both classification and diagnosis. In these images it was the different temporal patterns more so than the content or variety of symptoms which differentiated one form of mental illness from another. By visually demonstrating that it is only by regular, periodic, and orderly clinical charting in the long term that accurate diagnoses can be made, these figures establish each form of mental illness as a distinct temporal object – as a disease entity that is defined by fixed and recognizable temporal signposts. Thus, while Régis' *Précis* also included a significant number of photographs and drawings of patients, none offer as forceful a visual argument in favor of longitudinal clinical observation. Though most often associated with the work of the German psychiatrist Emil Kraepelin (1856–1926), diagnostic standards based on the temporal trajectory or "diachronic criterion" of a patient's illness were also essential to French psychiatry's continued "will to science" (Lepoutre 2012: 358). These charts also suggest certain tensions in the temporalities of psychiatric observation: on the one hand, Régis' charting method implies that accurate diagnosis can only be achieved through consistent clinical observation in the long *durée*. On the other hand, these charts condense the patient's medical history into something that can be "read" in a single glance, instantaneously.

## Psychophysiology in Units of "Microtime"

For his work *La tristesse et la joie* (1900), psychologist and doctor Georges Dumas (1866–1946) conducted clinical experiments on interned psychiatric patients at the Sainte-Anne Asylum in Paris. The experimental data he collected by subjecting patients diagnosed with mental illnesses to various kinds of testing formed the basis for claims Dumas would make about the expression of both "normal" and "morbid" emotions (Dumas 1900: 5). Not uncommonly for the period (cf. Carroy and Plas 1993), Dumas argued that the "most pathological and abnormal cases are interesting because they present in magnified form, the ordinary laws of the normal state" (Dumas 1900: 4). Indeed, Dumas was one among many French researchers in the years around 1900 who made the psychiatric space into a site for doing medical research and clinical experiments (cf. Danziger 1990). In the French asylum in particular, the "hysterical woman" served as the "frog of the laboratory" (Binet and Simon 1909: 120).

One of Dumas' "model" experimental subjects was a woman he identified as "Marie D." She was 39 and interned at Sainte-Anne, where she had been diagnosed with circular insanity. In *La tristesse et la joie* Dumas recounts certain elements of her medical and personal history in some detail. Born in December 1861, Marie had experienced several bouts of contagious illness as a child. She first menstruated at 13 and was married by 20. More recently she had suffered a miscarriage, as well as the loss of several of her children in their infancy (Dumas 1900: 31–32). Like Régis, Dumas was in favor (at least in theory) of longitudinal clinical observation for patients. He argued that it was more accurate accounting for the periodization of Marie's episodes of mania and depression that had allowed physicians to finally diagnose her correctly (ibid.: 33). Her first experience of mental illness, he writes, began with a bout of melancholy in the wake of the death of her twins. This melancholic phase was followed shortly thereafter by a period of mania. But because she had frequently been transferred from one institution to another – and because of the early irregularity of her alternating symptoms – Marie initially had been diagnosed with a whole catalog of different disorders: for example, melancholic depression, erotic excitation, and mental debility.

In order to confirm the legitimacy of her most recent diagnosis, Dumas also included a schematic diagram in his work, one that was not entirely dissimilar to those used in the aforementioned works by Régis and Arnaud. Marie, like other patients diagnosed with circular or periodic insanity, was considered especially "useful" as a subject for experimental medical research. As Dumas wrote, "[t]his woman … presents alternating periods of sadness and gaiety; it is thanks to her that I could undertake a large number of experiments" on these emotional states with the great "advantage of being able to compare between them" (ibid.: 31).

In Dumas' research lab at Sainte-Anne, Marie was subjected to multiple kinds of physiological testing. To undertake these measurements Dumas used instruments borrowed from experimental physiology and graphical medicine, including Weber's compass, Marey's recording cylinder, the pneumograph, the sphygmograph, and the dynamometer (ibid.: 86, 91, 219, 220, 331).[8] While Dumas did use photography and electrical manipulations in his other works on facial expression and emotion (cf. Dumas 1906: 39), in his research for *La tristesse et la joie* it was physiological instruments in particular that enabled him to penetrate inside the pathological

Fig. 3: "Fig. 8. – Respiration of L. during an erotic hallucination. – 25 seconds" (Dumas 1900: 229)

body and mind. The purpose of this testing was to ascertain information about a patient's mental or emotional state by measuring physiological processes at moments of extreme emotional or mental distress.

The importance of temporality to physiological measurements and graphical medicine is well known (cf. Braun 1992; Brain 2015). In using various inscription devices, Dumas' aim was to fix ephemeral and unseen bodily and mental phenomena by graphically inscribing them into more stable material forms. These devices produced "objective" visual traces, each of which provided a durable record of normally invisible pathological processes as they unfurled in "continuous, real-time motions" (Porter 1997: 345). The material byproduct of these instruments could then be studied and interpreted by physicians and researchers after the fact. They furnished a kind of material archive of a patient's "morbid" states. Dumas used these traces to try and identify the degree of emotion experienced by an individual based on the intensity of that emotion's measurable physical concomitants during a specified temporal duration. Indeed, the duration of an individual's emotional response, and its relationship to the provoking cause of that emotion, was deemed by Dumas and other researchers as relevant to determining the difference between normal and pathological emotivity (Dumas 1900: 5–6; cf. Féré 1892).

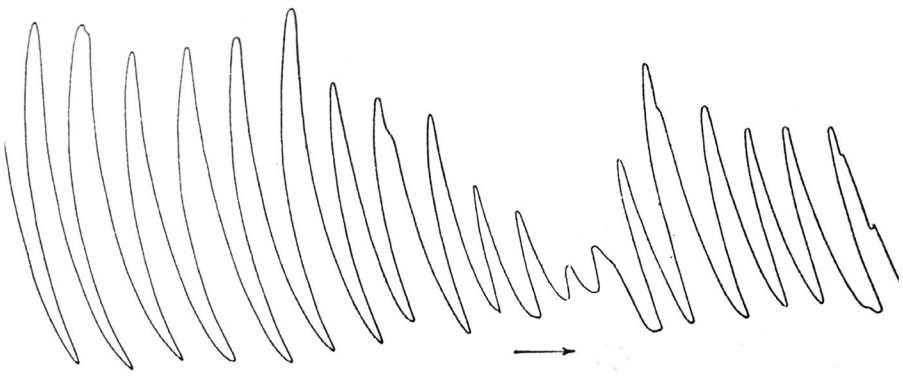


Figure 3 is one example of many that feature in Dumas's *La tristesse et la joie*. By taking often uniform-duration graphic recordings – in this case the rate of respiration of a patient identified as "L." during a 25-second "erotic hallucination" – Dumas created discrete temporal objects out of the psycho-physiological responses he recorded. These measurements not only isolated distinct bodily processes from the holistic experience of emotion, but also dissected emotional states into separate psycho-physiological events, subject to quantifiable interpretation, objectification, and experimentation.

We know that Marie found the presence of the graphical recording devices themselves particularly distressing; Dumas recorded that she called them "instruments of torture" (Dumas 1900: 91). The emotional events Dumas sought to objectify and measure were frequently provoked, as he often introduced patients at Sainte-Anne to particularly challenging or emotionally overwhelming situations, including unexpected and sudden visits from children or other family members (ibid.: 42). Dumas, in his chapter on the nature of sadness and joy, also reports trying to induce emotional responses from Marie by changing her internal physiology (circulation, respiration, pulse, etcetera). To do this he made her tonics of strong coffee, and administered massages, potassium bromide, and hypodermic injections of hyoscine, the latter of which he reported was a drug frequently used in Dr. Valentin Magnan's service at Sainte-Anne to put agitated patients to sleep (ibid.: 377–380).

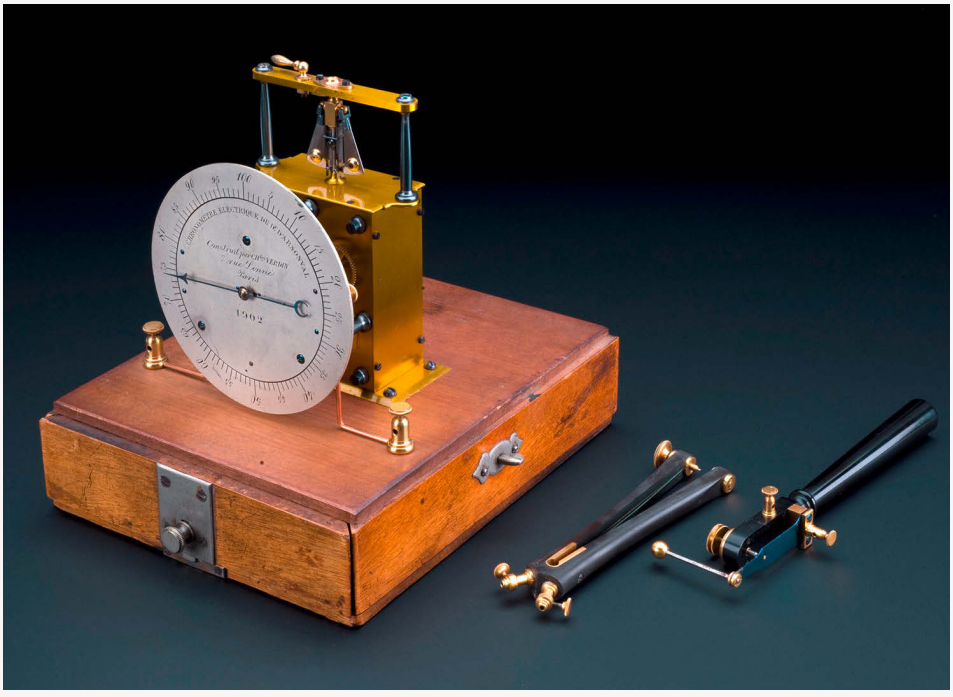
In addition to psycho-physiological experiments, Dumas also was intrigued by another relatively new research area in French psychiatry that was equally oriented around temporal analysis: the measurement of "psychic time" or "reaction time" (cf. Philippe 1899). Like other French psychopathologists including Charles Féré, Jean Philippe, and Victor Henri – who conducted reaction time experiments at the Salpêtrière asylum – Dumas was interested in the potential of mental chronometry for scientific psychiatry and psychology. For the proponents of mental chronometry, the duration of reaction or response times could reveal important information about "nervous activity and mental functions" (Philippe 1899: 42).

Doctor and polymath Jacques-Arsène d'Arsonval (1851–1940) had designed a special chronometer in the mid-1880s for explicit use in the physiological and neurological clinic (d'Arsonval 1886: 236). Unlike the Hipp chronoscope, which was the timekeeping object of choice in German experimental psychology laboratories,

Fig. 4: D'Arsonval electric chronometer, Paris, France, 1902. Credit: Science Museum, London. Attribution 4.0 International (CC BY 4.0)

d'Arsonval's time-measurement device was light, portable, and easy to manipulate (by 19th-century standards). Using an electric current to start and stop the movement of a hand on a dial, it served to measure intervals of extremely short duration at up to 1/100th of a second. Though it was considered less precise than the Hipp chronoscope, its convenience and flexibility soon made it the time-measurement device of choice for French experimental psychology (cf. Nicolas/Thompson 2015). In particular, its portability enabled practitioners to enlist it within a clinical setting, and soon after its invention French researchers began to debate and discuss the diagnostic and prognostic value of reaction time testing for psychiatry (cf. Henry 1894; Canales 2009).

Though Dumas didn't have a specialized chronometer at his disposal when he was conducting research for *La tristesse*, it turned out that two of his colleagues, Édouard Toulouse (1865–1947) and Nicolas Vaschide (1874–1907), had already conducted reaction time experiments on Marie only a few years earlier in 1897. Dumas reported on their experiments at length and also referred readers to their publication.



Apparently, the testing was conducted at 10 in the morning in the psychology laboratory at Sainte-Anne. Using d'Arsonval's chronometer to measure the duration of her reactions, Toulouse and Vaschide asked Marie to respond to auditory stimuli that were presented at irregular rhythms so that she couldn't anticipate them. To suppress both the conscious and unconscious influence of visual perception, the operators of the experiment were separated from Marie's view with a screen. According to Dumas, Marie had also been trained ahead of the official start of the experiments (Dumas 1900: 46).

Of particular interest to Dumas and other researchers was the question of reaction time measurements and their relationship to attention. With a few exceptions, it was assumed by many psychopathologists during this period that shorter reaction times indicated a higher degree of attention and thus were an indication of "better" mental health. To accompany this discussion, Dumas included a graph that visually illustrated the numerical values of a series of Marie's reaction times. For Dumas, this graph of Marie's results, including the minor irregularities in duration of her reactions, demonstrated that Marie's responses were always "voluntary" rather than automatic or unthinking. Dumas also used the graph to illustrate that during periods of depression, the ability to maintain attention was diminished (ibid.: 46–48).

From the measurement of psycho-physiological responses to the testing of reaction times in hundredths of a second, Dumas's research area investigated the pathological mind-body relationship in units of "microtime" (Canales 2009: x). Unlike in Régis's charting method, Dumas's approach to pathological emotivity was one centered on real-time recording and distinct, relatively short-term events. And yet, while Dumas was clearly committed to the use of instruments and quantitative measurements for the purposes of his study, he was not entirely disinterested in the emotional lives and personal histories of the patients at Sainte-Anne on whom he conducted these tests. At least in the case of Marie, Dumas did pay some attention to Marie's life experiences and how she described her illness. Very interestingly, he was even intrigued by Marie's perception of passing time and her inability to coherently integrate and make sense of her past, present, and future. In recounting one of their conversations, Dumas remarks that she was not able to go back into her memory to the things that might be bothering her; she had no thoughts of the past, nor did she fear the future (Dumas 1900: 43–44). "While certainly she can remember other periods of sadness and other joys … her current sadness is so profound … that she cannot conceive of its end" (ibid.: 44). Stuck in a kind of eternal present, Marie accepted the "fatal rhythm" of her diagnosis (ibid.).

## The Medical Analysis of Writing

Originally a line of investigation opened in France by Dr. Louis-Victor Marcé (1828–1864), the medical analysis of writing was increasingly pursued by French alienists during the end of the 19th century (Artières 1998: 61–64). For example, according to prominent French psychiatrists Alix Joffroy (1844–1908) and Jules Séglas (1856–1939), texts written by patients could have diagnostic and prognostic potential (cf. Séglas 1892: 244; Ballet 1903: 926–930). Joffroy divided the medical analysis of pathological writing into two different categories; the first, called *calligraphie*, dealt with the actual material execution of writing, and included elements such as the dimensions and formatting of the letters, the appearance of trembling or other motor coordination issues, as well as the general appearance of the composition. The second category, *psychographie*, denoted psychic "stigmata" as revealed in writing: unusual expressions, modifications in style, hyperbolic language, omissions or repetitions of letters, syllables, and words – all of which might reveal the different affective states or delirious ideas of patients, as well as deficits in logic, memory, or attention (Ballet 1903: 926–930).

One of the most complete but little-studied treatises dedicated to both kinds of graphical pathologies, *Les écrits et les dessins dans les maladies nerveuses et mentales* (1905) was written by Dr. Joseph Rogues de Fursac (1872–1942), a French alienist who had collaborated with Georges Dumas a few years earlier on an article about anxiety (Dumas 1900: 10). Following the research done by his predecessors, Rogues de Fursac understood writing as the ideal material byproduct of the pathological mind and body. An interface between somatic and psychic, writing samples – when interpreted by a trained clinician – could become a powerful tool in the "neuro-psychiatric clinic" (Rogues de Fursac 1905: v). Moreover, in the case of some illnesses, namely general paresis, Rogues de Fursac argued that writing samples alone were often sufficient to make a diagnosis (ibid.: vii, 262). While Rogues de Fursac's optimism about the diagnostic power of writing samples was more tempered for other illnesses, he nevertheless believed that all psychic conditions and diseases – from excitation and melancholia to intermittent insanity and epilepsy – modified the material and intellectual nature of one's writing.

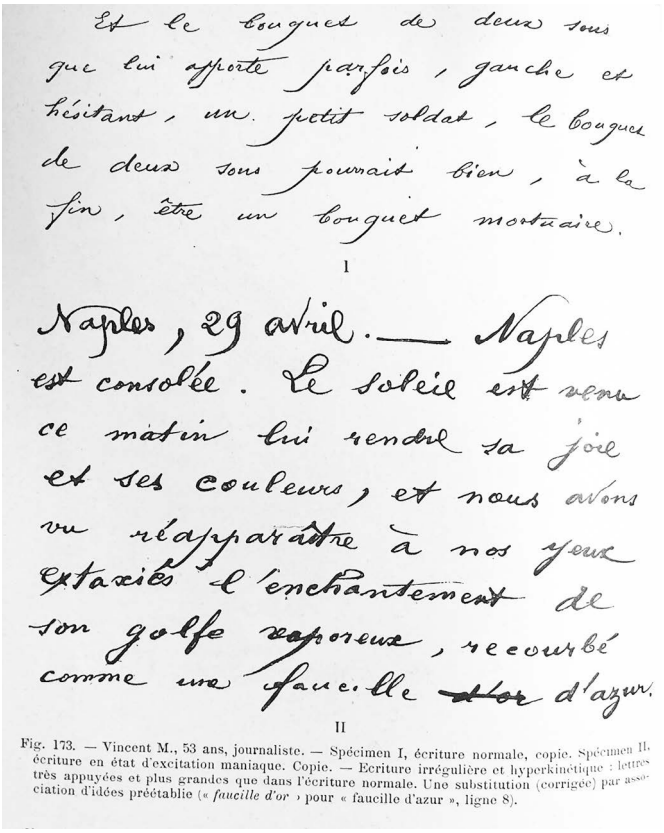
*Les écrits et les dessins dans les maladies nerveuses et mentales* opens with a chapter on methods and then proceeds to investigate writing samples produced by patients grouped according to a wide variety of diagnostic categories including hysteria,

epilepsy, dementia praecox, neurasthenia, manic depressive insanity, and what Rogues de Fursac called "attention deficit" (ibid.: 303). The primary aim of the book was clinical (Morel 1996: 209), namely to expose readers to as many different examples as possible, to a kind of "museum" of pathological writing (Rogues de Fursac 1905: 9–10). To this end Rogues de Fursac reprinted 232 figures in his text, as well as multiple writing samples from the same patient. Most – including figure 5, a spontaneous writing sample featuring "childish drawings" by a patient identified as Vincent M. – were reprinted in actual size (ibid.). Each of the figures in Rogues de Fursac's monograph appears with a caption. These indicate information including the name and age of the patient, their level of education and/or occupation, their diagnosis, and the type of writing sample. In the caption to figure 5, for example, we learn that Vincent was a 53-year-old man and a journalist.

For Rogues de Fursac, the objectivity and material durability of writing samples made them at least as valuable as photography from a clinical perspective (ibid.: iv–v). Photography in psychiatric practice during the end of the 19th century (like in other sciences) had largely taken on the status of an "objective" measure (cf. Daston/Galison 2007). It was often used to illustrate and prove the existence of certain physical stigmata or physiognomic characteristics associated with particular conditions (cf. Dagonet 1876; Londe 1893). Thus, while by today's standards the medical analysis of handwriting seems far from objective, the fact that Rogues de Fursac explicitly linked the medical analysis of writing samples to photography was an unambiguous statement in the early 20th century. It is a testament to his belief in the practice's scientific credibility.

Perhaps cognizant of potential detractors' arguments, however, Rogues de Fursac also spent a significant amount of space in the forward to his book differentiating the medical analysis of writing from what he refers to as graphology. "Graphology," writes de Fursac, "differs from the medical analysis of writing in both its object and its method" (Rogues de Fursac 1905: vii). One of the most relevant differences is that where the graphologist limits himself to the study of "spontaneous writing," the doctor also submits his patients to writing tests and to "provoked writing." Dictation exercises provided the basis for testing pathologies of memory, whereas the ability of a patient to copy texts was considered a measure of attention

Fig. 5: "Fig. 172. – Vincent M., 53 years, journalist. – Acute mania. – Spontaneous writing – General disorder … Childish drawings" (Rogues de Fursac 1905: 199)



Et le bouquet de deux sous
que lui apporte parfois, gauche et
hésitant, un petit soldat, le bouquet
de deux sous pourrait bien, à la
fin, être un bouquet mortuaire.

I

Naples, 29 avril. — Naples
est consolée. Le soleil est venu
ce matin lui rendre sa joie
et ses couleurs, et nous avons
vu réapparaître à nos yeux
extasiés l'enchantement de
son golfe sinueux, recourbé
comme une faucille ~~d'or~~ d'azur.

II

Fig. 173. — Vincent M., 53 ans, journaliste. — Spécimen I, écriture normale, copie. Spécimen II, écriture en état d'excitation maniaque. Copie. — Ecriture irrégulière et hyperkinétique : lettres très appuyées et plus grandes que dans l'écriture normale. Une substitution (corrigée) par association d'idées préétablie (« *faucille d'or* » pour « faucille d'azur », ligne 8).

Fig. 6: "Figure 173. – Vincent M ... Specimen I, normal writing, copy. – Specimen II, Writing during a state of manic excitation. Copy. – Irregular and hyperkinetic writing ..." (Rogues de Fursac 1905: 200)

(ibid.: 1–6). Thus, by also aligning his method with experiments and experimentation, Rogues de Fursac situated the medical analysis of writing as potentially more valuable than pure empirical observation, and even hinted at its superiority to the documentary photography of psychiatric patients.

For one, photography – because of its technical requirements – was a more involved process. The collection of writing samples was advantageously low-tech by comparison. No special lighting, chemicals, or expensive equipment were required – just paper, quill, and ink. Photography also often necessitated that patients be moved from one ward of the hospital to another. Writing samples, on the other hand, could be taken *in situ* without modifying or moving the patient. Most importantly, Rogues de Fursac also stressed that writing was the material byproduct of "neuropsychiatric activity" (ibid.: v), and therefore significantly more dynamic than the static and momentary image captured by a photographed pose. Emanating from inside, rather than from the bodily surface, writing was actually a graphic action of a particular duration that could externalize not only the mind-body connection in real time, but also "the richness or the poverty of [a patient's] ideation" (ibid.: 3). To validate their worth, writing samples where ideas and emotions were of primary interest were not photographically reproduced in the text, but typographically transcribed from the patient's own handwriting into typeface. For Rogues de Fursac these texts helped demonstrate that the subject matter of a patient's writing was also significant and could reveal "carefully dissimulated deliriums" or "the origin of certain behavioral anomalies" (ibid.: 3).

In this particular specimen (fig. 6) Rogues de Fursac offers two side-by-side samples to encourage comparison. The caption states that Vincent composed the top sample prior to a manic episode, and the second one during it. This before and during contrast is especially important. It serves to accentuate that what makes writing samples especially useful is their ability to provide a clinician with a point of entry into current and contemporaneous neuropsychiatric activity, not dissimilar to Dumas' psycho-physiological measurements of patients interned at Sainte-Anne. Moreover, by collecting multiple as well as different types of specimens – from spontaneous writing to dictations and copying exercises – the physician could "follow the evolution of an illness, from the point of view of its severity and the form of its outbreaks" (ibid.: vi).

Rogues de Fursac used this time-stamping method to engage in the periodization and regimentation of psychiatric and neuropsychiatric diagnoses. This is especially visible in his analysis of patients diagnosed with general paresis, epilepsy, and hys-

teria. In the chapters on these categories, the captions accompanying the writing samples often include additional temporal information. For example, in the case of patients with epilepsy, the general frequency of seizures, the length of time since the most recent seizure, and the duration of time it took the patient to write the sample are often included. Rogues de Fursac even argued that using writing samples taken from patients at varied increments post-seizure (for example, at 15 minutes, 30 minutes, 45 minutes, etcetera) had enabled him to periodize four successive phases in the time of seizure recovery, all according to "deficiencies" visible in handwriting and execution. Rogues de Fursac named these stages: "complete mental automatism," "relative automatism," "simple mental deficits," and finally, "lucidity" (ibid.: 100). This kind of temporal periodization is equally at work in Rogues de Fursac's discussions of general paresis. Writing tests such as dictation or copying exercises provide material evidence of the slow decline and de-evolution of the patient's prognosis. Texts written by patients with general paresis become increasingly "infantile" and "clumsy," analogous to "the writing of illiterates" (ibid.: 112).

Rogues de Fursac saw the periodic and frequent collection of writing samples as a way to monitor neuropsychiatric activity not only at discrete moments, but also over the longer term. "To cite but one example," he wrote, "the symptoms of periodical psychosis are reflected in writing with such an exactitude that the study of collected specimens [of writing] during the course of diverse outbreaks [in the same patient] permit one to frequently establish the clinical characteristics of each" (ibid.: vi). Rogues de Fursac also suggested collecting writing samples from the patient's past, which could then function as the basis for a retrospective medical case history. This archive of documents would establish "unalterable material evidence" of an individual's "pathological history," and this objective record could help stave off, according to Rogues de Fursac, the "non-negligible subjective element" in clinical observation which might differ according to the "doctrinal tendencies" of the practitioner (ibid.: v). Though medical dossiers of psychiatric patients from this period do contain letters and other handwritten documents, it is difficult to know how frequently clinicians turned to this kind of analysis. And yet while Rogues de Fursac writes that most of the writing samples from his book came from patients whose care he oversaw, he nevertheless thanks colleagues working at other institutions, including Gilbert Ballet and Alix Joffroy, for sharing their patients' writing samples with him (ibid.: x). This reference to the sharing and circulation of patient texts suggests that the medical interpretation of writing was a more common practice than we might initially imagine.

But the 232 figures in Rogues de Fursac's monograph also provide an opportunity for a different kind of interpretation. Where Rogues de Fursac used patient-authored texts as the unalterable evidentiary proof of pathology – the material data with which to construct a body of medical knowledge – a historian might consider the possibility of understanding these figures in ways that Rogues de Fursac would have disallowed: as time-capsules of subjectivity, patient experience, and even, agency. If Rogues de Fursac was convinced that the content and genre of his patient's spontaneous writing samples often matched their particular condition, perhaps these "pathological histories" can also be read against that prescription. For example, Rogues de Fursac argued that patients with persecutory delirium often wrote letters in the form of juridical or legal documents (ibid.: 264–267). Instead of this, what if we interpreted these documents as examples of patients advocating for themselves and their rights in whatever ways they could. Rogues de Fursac also identified "psychopaths" as having a particular weakness for writing poetry (ibid.: 267). Alternatively, we might see these documents as evidence that some patients still maintained the will to express their creativity, even in the face of internment. And finally, whereas Rogues de Fursac reads one of his patient's lists of assorted medical ailments as a sign of hypochondria (ibid.: 258–259), perhaps we can see a patient taking control of their own medical narrative.

## Conclusions

Régis, Dumas, and Rogues de Fursac sought to analyze the temporal dimensions of mental illness in both increments of "microtime" and across the long *durée*. In separate ways and using different technologies and techniques, their methods produced temporal objects out of the different elements they sought to isolate and examine – prognosis, psycho-physiological processes, and neuropsychiatric activity. The measurements they performed and the methods they endorsed produced a plethora of papers, charts, curves, and lines – the kinds of documents that fill archival files and published psychiatric treatises. Time manifests itself in many material forms, but we don't always think about paper and ink in their materiality. The examples discussed above help remind us that paper had (and has) material power. Not only does it serve as "evidence" in the construction of medical and psychiatric knowledge, but it also structures and influences clinical spaces and temporalities, including the temporalities of psychiatric observation.

Thus, to chart and follow the temporal trajectory of mental illness, to isolate psychophysiological events using graphical medicine, and to interpret a patient's past, present, and future through writing samples, all necessitated different kinds of interactions between patient, doctor, the psychiatric space, and the temporalities of the clinic. Régis' charts – though based on the practice of fever monitoring – imply a synthetic gaze, the ability to combine and reduce symptomology to a relationship between intensity and duration. Though in theory an argument in favor of longitudinal clinical observation, Régis' charts also made retrospective diagnosis possible in the blink of an eye. They reduce a patient's medical history to a mere instant. Dumas' graphic traces necessitated the poking and prodding of bodies, physical contact, and the utilization of measurement instruments. His experiments focused on correlating real-time changes in physiological processes to the simultaneous unfurling of emotional events, but they also reveal how patients in asylums were subjected to multiple experiments over long periods of time, sometimes even over the course of years. Rogues de Fursac's collection of writing samples dictated that all areas of the asylum or clinic were places where clinical observation and testing could take place. Nor was a patient's past off limits; with the analysis of old writing samples the physician could travel back in time, to the beginning of one's "pathological history."

# Notes

1
All translations are my own.

2
For the classic accounts of French psychiatry's professionalization during the 19th century, see Dowbiggin (1991) and Goldstein (1987).

3
The enumeration of these editions is slightly convoluted. In spite of the title change, Régis' 1906 version of the *Précis de psychiatrie* is listed as a 3rd edition, presumably following the 1885 and 1892 editions of his *Manuel pratique de médecine mentale*.

4
Régis added these columns for the first time in the second edition of *Manuel pratique de médecine mentale* (cf. Régis 1892: 220).

5
Régis' charting method was also the subject of a lively debate between French and German psychiatrists in 1906–7. See chapter 1 of my PhD dissertation, "Time to Cure: Psychiatry, Psychology, and Speed in Modern France, c. 1880s–1930s."

6
Special thanks to Nicole Topich at the Oskar Diethelm Library, New York, for providing me with this photograph.

7
Note that part of the chart is missing. In its place, Arnaud signals: "the notes relative to this period (1870–1872) are lost, but the patient did not leave the clinic" (Ballet 1903: 606).

8
Weber's compass was used to measure tactile sensitivity; Marey's recording cylinder was used in a variety of experimental designs to record graphical inscriptions; the pneumograph was used to measure respiration; the sphygmograph was used to measure pulse; and the dynamometer quantified and measured muscular strength. For more information on these instruments see Nicolas (2017, 2018).

# Bibliography


Artières, Philippe (1998): ***Clinique de l'écriture. Une histoire du regard médical sur l'écriture,*** Paris: La Découverte.

Ballet, Gilbert (ed.) (1903): ***Traité de pathologie mentale***, Paris: Octave Doin.

Basso, Elisabetta/Delbraccio, Mireille (2017): "Introduction: la psychiatrie en ses archives, entre histoire et épistémologie." In: ***Revue d'histoire des sciences*** 2, pp. 255–273.

Binet, Alfred/Simon, Théodore (1909): "Hystérie." In: ***L'Année psychologique*** 16, pp. 67–112.

Brain, Robert (2015): ***The Pulse of Modernism: Physiological Aesthetics in Fin-de-Siècle Europe***, Seattle/London: University of Washington Press.

Braun, Marta (1992): ***Picturing Time: The Work of Etienne-Jules Marey (1830–1904)***, Chicago/London: University of Chicago Press.

Camus, Paul (1918): "Le professeur E. Régis (1855–1918)." In: ***Paris médical*** 30, pp. 298–299.

Canales, Jimena (2009): ***A Tenth of a Second: A History***, Chicago/London: University of Chicago Press.

Carroy, Jacqueline/Plas, Régine (1993): "La méthode pathologique et les origines de la psychologie française au XIX siècle." In: ***Revue internationale de psychopathologie*** 12, pp. 603–611.

Dagonet, Henri (1876): ***Nouveau traité élémentaire et pratique des maladies mentales***, 2nd edition, Paris: Librairie J.B. Baillière et fils.

D'Arsonval, Jacques-Arsène (1886): "Chronomètre à embrayage magnétique pour la mesure directe des phénomènes de courte durée." In: ***Comptes rendus des séances de la Société de biologie et de ses filiales*** 38, pp. 235–236.

Daston, Lorraine/Gallison, Peter (1992): "The Image of Objectivity." In: ***Representations*** 40, pp. 81–128.

Daston, Lorraine/Galison, Peter (2007): ***Objectivity***, New York: Zone Books.

De Marneffe, Daphne (1991): "Looking and Listening: The Construction of Clinical Knowledge in Charcot and Freud." In: ***Signs*** 17/1, pp. 71–111.

Didi-Huberman, Georges (1982): ***Invention de l'hystérie: Charcot et l'iconographie photographique de la Salpêtrière***, Paris: Éditions Macula.

Dowbiggin, Ian (1991): ***Inheriting Madness: Professionalization and Psychiatric Knowledge in Nineteenth-Century France***, Berkeley/Los Angeles: University of California Press.

Dumas, Georges (1900): ***La tristesse et la joie***, Paris: Félix Alcan.

Dumas, Georges (1906): ***Le sourire (psychologie et physiologie)***, Paris: Félix Alcan.

Féré, Charles (1892): ***La pathologie des émotions. Études physiologiques et cliniques***, Paris: Félix Alcan.

Goldstein, Jan (1987): ***Console and Classify: The French Psychiatric Profession in the Nineteenth Century***, Cambridge: Cambridge University Press.

Henry, Charles (1894): "Le rôle du temps dans les phénomènes psycho-physiologiques." In: ***La Lumière électrique***, 20 Janvier, pp. 101–112.

Jaccoud, Sigismond (1870): ***Traité de pathologie interne***, Paris: Adrien Delahaye.

Lantéri-Laura, Georges (1972): "La chronicité dans la psychiatrie française moderne. Note d'histoire théorique et sociale." In: ***Annales. Economies, Sociétés, Civilisations*** 27/3, pp. 548–568.

Lepoutre, Thomas (2012): "Introduction and Translation (Part 2) of 'De la non-existence de la monomanie' by Jean-Pierre Falret (1854)." In: ***History of Psychiatry*** 23/4, pp. 488–495.

Londe, Albert (1893): ***La photographie médicale, application aux sciences médicales et physiologiques***, Paris: Gauthier-Villars.

Marey, Étienne-Jules (1878): ***La méthode graphique dans les sciences expérimentales et principalement en physiologie et en médecine***, Paris: G. Masson.

Morel, Pierre (1996): ***Dictionnaire biographique de la psychiatrie***, Le Plessis-Robinson: Synthélabo.

Motet, Auguste-Alexandre (1884): "Méthode graphique appliquée à l'étude de la folie à double forme." In: ***Annales médico-psychologiques*** 12, pp. 104–107.

Nicolas, Serge (2017): "Weber's compass and the measurement of the threshold of tactile sensitivity:

Alfred Binet's critical approach to esthesiometry." In: ***L'Année psychologique*** 117/1, pp. 41–85.
Nicolas, Serge (2018): ***La mesure de la vie mentale. Les premiers instruments emblématiques de la psychologie de laboratoire***, Paris: Université Paris Descartes.
Nicolas, Serge/Thompson, Peter B. (2015): "The Hipp Chronoscope Versus the D'Arsonval Chronometer: Laboratory Instruments Measuring Reaction Times that Distinguish German and French Orientations of Psychology." In: ***History of Psychology*** 18/4, pp. 367–384.
Philippe, Jean (1899): ***Technique du chronomètre d'Arsonval pour la mesure des temps psychiques***, Paris: Georges Carré et C. Naud.
Pichel, Beatriz (2017): "The Backstage of Hysteria: Medicine in the Photographic Studio." In: ***Remedianetwork***, January 16, https://remedianetwork.net/2017/01/16/the-backstage-of-hysteria-medicine-in-the-photographic-studio/, accessed October 22, 2019.
Pichot, Pierre (2007): "Tracing the origins of bipolar disorder: From Falret to DSM-IV and ICD-10." In: ***Journal of Affect Disorders*** 96/3, pp. 145–148.
Porter, Roy (1997): ***The Greatest Benefit to Mankind: A Medical History of Humanity***, New York: W.W. Norton & Company, Inc.
Régis, Emmanuel (1885): ***Manuel pratique de médecine mentale***, Paris: Octave Doin.
Régis, Emmanuel (1914): ***Précis de psychiatrie,*** Paris: Octave Doin.
Richer, Paul (1885): ***Études cliniques sur la grande hystérie ou hystéro-épilepsie***, Paris: Adrien Delahaye et Émile Lecrosnier.
Rogues de Fursac, Joseph (1905): ***Les écrits et les dessins dans les maladies nerveuses et mentales***, Paris: Masson et Cie.
Roubinovitch, Jacques (1900): ***La pathologie mentale à la fin du XIX siècle***, Paris: Jean Gainche.
Sedler, Mark J. (1983): "Falret's Discovery: The Origin of the Concept of Bipolar Affective Illness." In: ***American Journal of Psychiatry*** 140/9, pp. 1127–1133.
Séglas, Jules (1892): ***Des troubles du langage chez les aliénés***, Paris: J. Rueff.
Toulouse, Édouard/Vaschide, Nicolas (1897): "Temps de réaction dans un cas de mélancolie circulaire." In: ***Comptes rendus des séances de la Société de biologie et de ses filiales*** 49, pp. 616–617.

A number of the ideas and arguments presented here are further developed in my PhD dissertation.