Charcot's Narcotic Dream, Part I

This is part 1 of 2 parts. Part 2 here.

by Norman Simms (November 2018)



One of Charcot's drawings made after an opium-fuelled dream, from Henry Meige's *Charcot artiste*.

Jean-Martin Charcot (1825-1893) is known as the father of French neurology and psychology based on his studies of hysteria at the end of the nineteenth century. His work at the Salpêtrière Hospital gave him the opportunity, not only to train many of the great names in modern psychiatry and

psychoanalysis, but to interact with a whole part of the populace who were not encountered in the Swiss and German exclusive mental asylums and private practices where Jung and Freud developed their ideas. Yet the male and female hysterics with whom he interacted allowed Charcot to have an immediate and profound influence on the popular and sophisticated cultures of the fin de siècle and into the twentieth century.

In many ways, Jean-Martin Charcot can be seen as the central node in a complex web of competing and contradictory intellectual and aesthetic ideas at the end of the nineteenth century, a controversial figure, much maligned, but also in his day recognized as the founder of modern neuroscience and even of psychoanalysis. Charcot became a caricature of himself,[1] the star of a crazy dream supposedly exploded when his disciples turned against him. His weekly leçons or séances at the Salpêtrière Hospital were performed before audiences composed of physicians, artists and journalists. Today, we are told, these teaching sessions reveal gender power relations, along with notions of a mental illness now declared obsolete.

In the last few years, Dr John C. Deadman, a leading psychiatrist in Ontario, Canada, has been arguing that it was precipitate to throw out the name and concept of "hysteria" in the years immediately following Charcot's death and the rise of Freudian psychoanalysis.

The name [hysteria] was wrong—based on aetiological concepts of another age. It was changed in the mid-20th century because it was clearly wrong and was also pejorative to women at a time when women were claiming an equal place in human society. But the clinical observations

of Jean-Martin Charcot, Pierre Janet and others of that period were rejected as well and we are left with a laundry list of related or unrelated symptoms that have been collected into what we call the borderline syndrome. It was formalized in the DSM-III on AXIS II as Borderline Personality Disorder but from an epistemological point of view, we are no closer to understanding it than we were in Charcot's time.[2]

More particularly, when Charcot died, there was a scramble to replace him, and his assistants and former students made efforts to achieve this honour, either by actually being appointed head of his service in the Salpêtrière itself or, in more theoretical terms, to propound an alternative to his ideas. As John Deadman told me a few months ago:

His students (Joseph Babinski, Pierre Janet, Sigmund Freud, Charles-Joseph Bouchard, Georges Gilles de la Tourette, Alfred Binet and many others) became the leaders in neurology and the emerging field of psychiatry in the early 20th century. Janet coined the term 'dissociation'. Freud developed psychoanalysis, Tourette studied involuntary movements and tics, Binet made the first practical measures of intelligence . . .[3]

But Charcot's own artistic personality, his calm domestic life and the sympathetic sensibility he manifested toward his patients remain to be fully discussed, especially his talent as a visual artist. One of those close to the Master during his final years has said of his drawings: J'ai trouvé dans cette plaquette peu connue d'Henry MEIGE, un épisode sans doute unique dans la vie de CHARCOT, le récit d'une expérience qu'il fit sur lui-même, en 1853; il voulut voir les effets de la fumée du Haschich. CHARCOT veniat de terminer son internat et avait vingt-huit ans. [4]

I have found in a little known leaflet by Henry Meige an episode no doubt unique in Charcot's life, the report of an experiment he performed on himself in 1853. He wished to see the effects of smoking hashish. Charcot had just completed his internship and was twenty-eight years old. [5]

Je transcris le texte d'Henri [sic] MEIGE: «Un soir, assisté d'un de ses collègues, docteur frais émoulu comme lui, il résolut d'expérimenter sur lui-même les effets du haschich et de noter ses impressions par écrit. Bientôt, sous l'influence du narcotique, un tumulte de visions fantasmagoriques traversa son esprit. Il se met à écrire en caractères de plus en plus étranges et difficiles à démêler: Quel désordre d'idées et cependant quel agréable festonnage . . . Impulsion involontaire et fantasque qui cependant n'est pas complètement soustraite à la volonté . . . Tout ce que je touche est environné d'une atmosphère électrique . . . et cependant . . . cependant».

I transcribe the text of Henry Meige: «One evening, accompanied by one of his colleagues, a doctor just graduated like himself, decided to experiment the effects of hashish on himself and to note down his impressions in writing. Soon, under the influence of the narcotic, a confusion of phantasmagoric impressions crossed his mind. He began to write in characters more and more strange and

difficult to distinguish: What a disorder of ideas yet what a pleasant festooning . . . Involuntary and fantastic impulsion which is yet never completely subservient to the will . . . Everything I touch is surrounded by an electrical atmosphere . . . and yet . . . yet."

Puis les mots deviennent illisibles, les jambages de lettres s'allongent démesurément, se tortillent en zigzags, en volutes, en arabesques, se transforment en dentelures de feuilles, en pétales de fleur, en motifs architecturaux . . . Alors plus d'écriture. La page entière se couvre de dessins: dragons monstrueux, chimères grimaçantes, personnages incohérents qui se superposent et s'enchevêtrent dans un tourbillon fabuleux rappelant les conceptions apocalyptiques de VAN BOSH et de Jacques CALLOT.[6]

Then the words become illegible, the down-strokes of the letters grow unmeasurably longer, twist themselves into zigzags, curls, arabesques, transform themselves into leafy indentations, flower petals, architectural motifs . . . Then more writing. The whole page is covered with drawings: monstrous dragons, grimacing chimeras, incoherent characters who intertwine with one another and entangle themselves in a fabulous whirlpool recalling those apocalyptic conceptions of Van Bosh and Jacques Callot.

Among the drawings are those made during Charcot's hallucinatory experiences while under the influence of hashish. His purpose was to experience for himself the temporary madness of substance abuse, as well as, for other intellectuals and professionals in the century following the Enlightenment, to explore the nature of the mind released from

the constraints of reason and science. It was also an attempt to get into the minds of the patients who presented with bizarre bodily displays, painful hallucinations and cries for understanding and help.

Dans cette fantaisie outrancière, que CHARCOT aimait à revoir après bien des années, écoulées, apparaissent, hypertrophiées par une volontaire expérience d'intoxication, toutes les aptitudes caricaturales dont il était naturellement doué. On y retrouve aussi le gout qu'il avait pour le fantastique». [7]

In this outlandish fantasy which Charcot loved to look at again after many years flowed by, there appeared, overly transformed by a voluntary experiment in intoxication, all the aptitude for caricature that he was naturally endowed with. We also note the taste he had for the fantastic.

By entering such a trancelike state of inebriation, where normal associations, analogues and significant relationships are broken apart and the syntax of ordinary feelings becomes muddled, he—unlike Sigmund Freud, who also followed with experimentations in hallucinogenic drugs—reveals his aesthetic, lyrical, and romantic imagination. It will be seen later that these visions and nightmares of his own imagination give empathy with the men and women seeking relief and support at the Salpêtrière. If they seem like grotesque cartoons and caricatures, then we shall have to examine these genres of illustration to see how and why they become Charcot's tools of analysis and treatment.

In his weekly public lectures on hysteria he displayed the suffering patients, and thereby Charcot seemed to enter into a complex and highly choreographed relationship with them, sharing their physical pains and imitating their gestures as manifestations of their inner torment. It was important for him to make the audience go beyond objective descriptions: to see, touch, and feel in themselves empathy. The hysterical models were neither sub-human creatures, sinners being punished by God or the Church, or even saintly beings tortured on behalf of the faith. They were men and women not understood (and often abused) by society and in need of humane medical help.

Through the Nebulous Haze and Mist

The study of hysteria, Charcot and the Salpêtrière, continues with a consideration of women who were cured by attention and care or who cured themselves through dance and writing out their own histories. [8] To do this, I look closely at the relationship between Charcot and art, his collections of prints and other illustrations, his performances in front of the professional and lay audiences, the way he mimicked various physical tics, hired clowns and acrobats to observe and demonstrate and had professional artists in collaboration with photographers sit next to sufferers and try to catch the onset and process of seizures, because he needed both kinds of pictures. He compared these contemporary sufferers with those suffering souls depicted over centuries of painting, sculpture and dance; victims of medieval and later torture, confused women caught in the contagion of demonic possession and ecclesiastical exorcism. Some of his books concentrated almost

exclusively on male patients in the hysteria wards, with lengthy case histories of their presentation and treatment, records of some individuals who came from or went on to asylums elsewhere in France and Europe. But most hysterics were women, the product of poverty, drunken fathers, abusive brothers, and worn-out mothers unable to provide protection or love.



Charcot's work in collecting, reproducing, and creating grotesque drawings, historical masks of personality types, and studies of carnival disguises leads us to consider the man and his ideas as more than just another dominating male physician. He was part of the flowering of French caricature in the nineteenth century. [9] The place of these distorted faces and bodies through the fine arts, especially religious painting and fresco, bas-relief and carving, also leads us to the way he concentrated on recognition of pain in oneself and others and the awakening of empathy as part of treatment in the Salpêtrière. [10] Kobrin remarks on this phenomenon:

The distorted faces inscribed in the body the sense of aggression and rage that these abused women experienced. The sadomasochism of the way in which hysteria and Charcot were treated—the sweeping back and forth of aggression because he was so envied.[11]

To grasp the significance of this work in close scrutiny of facial gestures and bodily contortions we need to examine modern scientific analyses of the physiological processes of face recognition—and the associated structuring of nonrepresentational surfaces, visions and dream-work. One of the felt-needs in the nineteenth century was to observe bodies in motion, leading towards motion pictures; then to see the world from different perspectives in time and space-dioramas, magic lanterns, phantasmagoria. Slow motion panoramas, photography then merged with magnification and the microscopic exploration of the body. Kobrin reminds us that,"[w]hile volumes have been written about the observing eye and the other, here I wish to stress the aggression."[12] The mechanical invasion of intimate space came as a moral shock that shook social structures to their foundations, while the release of the mind's ontological secrets created unexpected relief from millennial layers of shame and quilt.[13]

It seems that painters and sculptors, dramatists and novelists, as well as dancers and singers were getting a better grasp on conscious and unconscious dynamics as the *fin de siècle* came into focus, than philosophers and scientists. Audiences flocked to the Moulin Rouge and the Folies Bergère to stare at the erotic energies let loose in the new dances, while many of those dancers had learned their routines in the Salpêtrière. The crazy pratfalls and slapstick of the emergent cinema showed society vulnerable to ordinary men and women's non-classical movements and gestures: to express their emotions on the silent screen, actors had to outdo each other in hysterical performances.

In themselves, as painted, drawn, and photographed, the hysterical patients at the Salpêtrière, seem like caricatures of the human body and imitations of the iconic roles they play in traditional European culture, especially in religion, the arts, and social life. The images function in the same way as the speech of fools and lunatics, that is, the strange babblings, as well as the illogical and pompous ravings of madmen and women, have always seemed to be parodies of normal discourse. Sometimes these delirious pronouncements seem mixed into grotesque combinations, at other times extended beyond common sense in comedy and farce, and even eventually understood in symbolic terms as the satiric exposé of secret and suppressed motivations. In terms of what is seen, recorded in illustrations and recollected as shared memories, the fantastical contortions, contractions and gyrations of the hysteric have seemed unbelievable—beyond what the human body was normally expected to do or be capable of, and there taken as either a descent into animal-like behaviours or the possession of the person by some demonic or angelic power, and therefore often presented as grotesque. Especially during the Reformation, as institutionalized and conventional authorities were challenged, such ravings, talking in tongues, as well as men and women indecorously falling down in ecstatic postures and similar manifestations of enthusiasm, these very hysterical signs could indicate the presence of the Holy Spirit in highly individualized and eccentric form. By the nineteenth century, moreover, this kind of enthusiasm could not only mark the irrationality of the undisciplined mind that had been oppressed by superstitions and ideology during the ancien régime and liberated by the Revolution of 1789, an irrationality that the new state would have to control and educate, but in poetic terms, that is, in the flush of Romanticism that followed the overthrow of the French monarchy, landed aristocracy and the Catholic Church, the very energy that would drive the nation toward its cultural destiny. Instead of the hysterics and the hysteria being something that the old order had used against the people, the

bourgeois regime would find in them—in the bizarre behaviours and in the delirium of lunatic speech—a way to understand the reality of nature and human nature. Such suffering souls were not to be punished for bringing such an affliction upon themselves or being too weak to resist the powers of evil, they were to be reformed, treated decently, and educated into useful citizenship. At the same time, their strange contortions and their free-flowing speech could be imitated by skilful artists, educated novelists, and sensitive musicians in order to make culture more natural and therefore more truthful.

By the close of the nineteenth century, the study of symptoms of hysteria could provide science with a means of understanding the human mind and soul. The disease itself was neither meaningless, random or interminable: by carefully describing the symptoms and how they arose in certain men and women, it would reveal the workings of the disturbed personality within the physical body; hysteria's stages of development and manifestation would reveal how individuals and groups absorb the inequalities, injustices and cruelties of society and turn them into exemplary acts of appeal for help and attempts to relieve the terrible agony of such hurt and anxiety, and then project the pains, frustrations, humiliations and fears into gestures and words that could be interpreted by Charcot and his associates. No longer would they be scorned as objects of derision or empty pity. Some of the sufferers could be cured in the sense of taking control of their bodies and using their strange convulsive behaviours in dance routines, or at the very least as useful workers in the hospital environment as cooks, washerwomen or, in some cases, care-givers and nurses. Their exemplary life-stories would be transformed into the characters and plots of novels, drama, or ballet, and their suffering transformed by literature and the other arts into insightful explorations of the unconscious

human psyche.

In his effort to describe and isolate this sickness of the soul which baffled medical scientists and moral philosophers for millennia, Charcot needed to make a number of epistemological separations in the conception of hysteria. To begin with, the origins and site of the diseases in the female anatomy, particularly the seemingly autonomous uterus, into an illness that manifests in men as well, and hence has little or nothing to do with the frog- or toad-like *hysteron* which gives the illness its common name was required. Then, a teasing apart of and re-assembling of the seemingly disparate and random symptoms from those nervous and muscle disorders that are of an almost purely physiological nature, such as epilepsy and what would be called Tourette's disease.

When Charcot lectured he displayed the patients with specific aspects of hysteria, the nurses and assistants bringing in each man and woman to whom the Master referred. The hysterical persons had been chosen because they were in one particular stage of the disease's development or had passed through it many times and could be easily prompted to show such a contortion of face or body on command, many of the patients carefully rehearsing these performances so as to please the doctors at the Salpêtrière and be noticed by the celebrities who attended Charcot's lectures. The Master carefully described the symptoms in words, imitated them in pantomime himself, and put on display some relevant historical painting or print to emphasize the universality of such symptoms. At times, a dancer from the Folies Bergère or the Moulin Rouge or an acrobat from a music hall or circus would come in to strike correct poses and demonstrate the transitional actions between the many symptomatic bodily changes from one stage of hysteria to another.

At the Salpêtrière, unlike the crowds who gawked at lunatics in Bedlem, the audience at Charcot's weekly leçons on hysteria attended out of general and professional curiosity. Medical students and dignitaries from other cities and nations came to hear the latest developments in the study of nervous diseases and to compare Charcot's views with their own treatments in Vienna, Berlin, London, Rome, and elsewhere. Painters, sculptors, actresses (such as Sara Bernhardt) and other artists attended these popular demonstrations of medical knowledge because they sought to refine their understanding of how the human anatomy expressed its experiences of emotional states in external actions. From early in the nineteenth century, scientific study of the functions of muscles and increasingly important, with skeleton became photography, then stop-speed cameras, and eventually cinematic devices providing increased means of observing and analysing bodies in motion.[14] In due course, near the end of the 1890s, development of x-ray photography added another refining touch to the growing arsenal of means of observations of the human form.

But Charcot and his colleagues were aware that daguerreotypes, while highly useful in the study of hysteria, were insufficient to capture all the subtleties of physiological events in their hysterical patients or to understand what caused the disease to first appear. Still photography shows the body in a fixed position, a single moment in the course of the dynamic of hysteria passing through the anatomy—while motion pictures or cinema until very recently gave an optical illusion of movement based on a series of flickering still photographs.

A trained assistant or resident doctor could double as a sketch-artist, however, and sit or stand close to a patient and make rapid strokes of the pencil, add shading, place some part of the body in focus rather than others, and, more clearly than a photograph, show the essential moment of transition from one distorted gesture to another. The nurse or doctor spending long hours of observation next to a patient's bed or worktable often, however, noted more subtle changes in the anatomy, particularly recording sounds, smells, and eye movements that signal the start of a particular convulsion or series of tics. These small gestures could be mimicked, too, both by the hysteric her or himself and the observing medical professional. Just as later some of the more astute neurotic patients who came to Sigmund Freud and his colleagues for help through psychoanalysis and were able to articulate and analyse their own symptomatic pains, dreams, and fears, describing events from within their own consciousness, so many of these hysterical persons in the Salpêtrière paid close attention to their symptoms, their onset and development, learned to recognize sequences, and gained a degree of control over their bodies through preparatory performances. In this way, persons who had been abused, neglected, and exploited in their childhood and adolescence, their whole sense of self denigrated, could find meaning, fulfilment and even pride in working with Charcot and his team of assistants. This is why many former patients stayed on in the hospital as cooks, cleaners, and, when trained, nurses, occasionally performing during the le?ons when their peculiar skills were needed. As Nancy Kobrin sees it, "They bonded to the institution as a result of unresolved transference 'issues',"[15] and would return again to find safety and meaning in their confused and insecure lives.

A group of women were able to take this ability several steps further, first in being able to go into the world to lead

relatively normal lives, aware of the imminence of an onset of a violent fit and either return to Charcot's section of the hospital or seek other medical aid; then turning their knowledge and control over hysterical symptoms, as Jane Avril did, into dance routines which they could display in music hall and café theatre.

In addition to being caricatures and grotesques, the displayed hysterical patients at the Salpêtrière ought to be seen in the light of two more recent scientific insights drawn from developmental neuro-anatomy and the importance of facial recognition to the developing human mind. [16]

Hysterical Dance and Self-Expression

Brought to doctors by her mother after a difficult childhood of poverty and abuse, abandonment, and neglect, Jane Avril, though still an adolescent, was placed among the older women who were used by Charcot as examples during his lectures. She watched and listened and saw the advantages of displaying herself in the service of the Salpêtrière. Jane Avril learned to dance in the Salpêtrière and was deemed to be cured after taking over control of her own body. [17] Toulouse-Latrec took her as a frequent model for his posters advertising the Moulin Rouge. [18]

Loïe Fuller came to Paris from the American Mid-West to Europe, chaperoned by her mother, to make her fortune with a new form of scarf-dance[19] and then developed a way to play with stage-lights to enhance the performance. Always vulnerable to seductive and manipulative men, her body seemed

protected by the magical weaving of the scarves and the strobe-like effects of the electric lights[20]

Like other female stars of *fin de siècle* music hall and cabaret in Paris who mimic and echo the symptoms made famous by Charcot's patients at the Salpêtrière, Jane Avril and Loïe Fuller represent a new way in which, on the one hand, women achieve success by taking over the cancan and similar



performances and, on the other, helping to push aside the outmoded notions of hysteria as divine punishment or moral degradation. Women now could run the dancing schools, direct the staging of their shows, and decide how far erotic or exotic performances could go before they lapsed into pornography.

Whereas Freud's patients in Vienna tended to be educated, wealthy, or at least middle class men and women with neuroses, that is, sophisticated and cosmopolitan characters, analysands who could argue and write on their own, often modifying and correcting the diagnoses or treatment of the doctors—those persons who presented at the Salpêtrière. Charcot's were lower-class, working people, washerwomen, house maids, and shop assistants, the characters of comedy and farce, if not raunchy "French novels".

Despite the propensity of some painters, sculptors and photographers to abuse their privileges as voyeurs of their models, as we read the memoirs and letters of these women it is possible to see a growing intellectual consciousness in their assessment of what the men were doing. It also seems that like painters and sculptors, dramatists, and novelists in the final decades of the nineteenth century were getting a better grasp on conscious and unconscious dynamics. Musicians and dancers, too, more than most philosophers and scientists of the period, gained insight into the way the body could express deep and often hidden aspects of the mind. The new style of dancing permitted individuality to emerge—or to be created—at a level never before anticipated, except when controlled by religious standards. One thinks of Isidora Duncan performing nude in her shows, and of the sensation audiences felt when seeing Serge Diaghilev leaping across the stage at the Ballet Russe.



In a sense, the hysterical performances at the afternoon

lessons in the Salpêtrière looked like the magic shows to be found earlier in music hall and vaudeville theatres. But this is a case of life imitating art and not vice versa. What Charcot and his associates could demonstrate to the learned audience and through them to the general public was a new sense of bodily movements and control over the things the body was capable of achieving. It was a trend away from classical ballet, courtly masks and other academic and regimented expression. Though some of the women were reacting to hypnotic suggestions made by the Master and his assistants, they were also more and more freeing themselves from the expected postures dictated by middle class morality. In a sense, they were guiding the authorities, setting the styles and finding a way to physical and psychical freedom.

[1] As we shall show in the second part of this essay, Charcot's use of caricature is an important tool in his study of hysterical persons and their behaviours. We will then discuss Ernst Kris and E.H. Gombrich, "The Principles of Caricature" *British Journal of Medical Psychology* 17 (1938) 319-42.

[2] John C. Deadman, Sam Sussman and Norman Simms, Invisible Insanity: A Study of Deinstitutionalization in 20th Century Canada (in-progress), p. 14. Deadman was Consultant in Psychiatry for the Ontario Ministry of Health, Principal Program Adviser in the Mental health Division. He was Medical Director of the Whitby Psychiatric Hospital and is now Chair of the Section on the History and Philosophy of Psychiatry of the Canadian Psychiatric Association.

[3] John C. Deadman, personal note July 2018.

- [4] George Guillain, J.-M. Charcot, 1825-1893. Sa Vie- Son Œuvre (Paris: Masson et C^{ie} , 1955) p. 27. Guillain is drawing on the leaflet he describes as Henry Meige, Charcot artiste. Plaquette de 45 pages. Masson et C^{ie} , Editeurs, Paris. « Cette plaquette ne fut pas mise en vente. »
- [5] All translations are my own unless otherwise noted.
- [6] Guillain, *J.-M. Charcot*, p. 27.
- [7] Guillain *J.-M. Charcot*, pp. 27-28.
- [8] Rhona Justice-Malloy, "Charcot and the Theatre of Hysteria" The Journal of Popular Culture 28:4 (1995) 133-138.
- [9] Lorenzo Lorosso, "French Caricaturists" Neuroscience by Caricature in Europe Throughout the Ages online at http://neuro-caricatures.eu/french-caricaturists.
- [10] Francesca Benuzzi, Fausta Lui, Martina Adrizzi, Marianna Ambroscchia, Daniels Ballotta, Sara Righi, Giusseppe Pagoni, Vittorio Gallese and Carlo Adolfo Porro, "Pain Mirrors: Neural Correlates of Observing Self and Others' Facial Expressions of Pain" Frontiers in Paychology 9:1825 (2018). Doi:10.3389/fpsyg.2018.08125.
- [11] Nancy Hartvelt Kobrin, personal email 16 October 2018. Note how the intense concentration on the pain of others awakens in him not just a passive sympathy but an active empathy for the other, a connection the women (and some men) whom he put on display during his lectures felt—their respectful desire to provide him with the performances he required. Cp. Colin Ross, "Sexual Trauma at the Salpêtrière" Journal of Psychohistory 43:4 (2016) 277-287; he cites only secondary sources and unacknowledged translations. We have gone to original documents and contemporary commentaries, especially memoirs of former patients of Charcot.

- [12] Nancy Hartvelt Kobrin, personal email 16 October 2018.
- [13] Kobrin adds her personal response to these phenomena: "It is so interesting. I associated to how Freud's work became reduced to and labelled "the talking cure". In contrast, you show how Charcot was trying to grapple with the nonverbal becoming verbal. In my analytical practice, the idea of a whole hour and someone listening to you as the object of concern really feeds narcissism that also inevitably is intertwined with borderline states." Henry Meige, *Charcot artiste* (Paris: Masson et Cie, 1925).
- [14] Rae Beth Gordon, "From Charcot to Charlot: Unconscious Imitation and Spectatorship in French Cabaret and early Cinema" Critical Quarterly 27:3 (2001) 515-549.
- [15] Nancy Hartvelt Kobrin, personal email 16 October 2018.
- [16] Eric R. Kandel, The Age of Insight: The Quest to Understand the Unconscious in Art, Mind, and Brain from Vienna 1900 to the Present (New York: Random House, 2012). As we shall see in Part 2, the latest developments in neuro-anatomy investigate how the brain goes beyond mere facial recognition—and what constitutes a face—to the particular role that caricature's exaggerations and distortions are a vital part of how the neuronal system translates theses recognitions into active components of memory, emotional experiences and rational decision-making.
- [17] Jane Avril, Mes mémoires (Paris: Phébus, 2005).
- [18] "Toulouse-Latrec and Jane Avril Beyond the Moulin Rouge: Exhibition at the Courtauld Institute, 16-18 September 2011" Daily Telegraph online at https://courtauld.ac.uk/gallery/ what-on/exhibitions-displays/archive/toulouse-lautrec-and-jane-avril-beyond-the-moulin-rouge.
- [19] Loïe Fuller, Fifteen Years of A Dancer's Life, with some Account of her Distinguished Friends (London: Herbert Jenkins,

1913).

[20] Rhonda K. Garelick, *Electric Salome: Loïe Fuller's Performance of Modernism* (Princeton, NJ: Princeton University Press, 2007).

[67] Leduc, Narrativité de l'essai, p. 55.

[68] Leduc, Narrativité de l'essai, p. 3.

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