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“What is the cocoon but a dark cabinet?”
Benjamin O. Flower, Print Culture and the Legitimisation of Fringe Science in the 1890s

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STUDIES IN BOOK CULTURE

"WHAT IS THE COCOON BUT A DARK CABINET?"

Benjamin O. Flower, Print Culture and the Legitimisation of Fringe Science in the 1890s

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ABSTRACT

This study examines how Boston editor and publisher Benjamin O. Flower used print culture to circulate and legitimise fringe science in the 1890s. Using evolutionary theory as a template for progress, he considered hypnotism and spiritualism – what he called "psychical research" – as the natural extension of environmental meliorism from the visible to the invisible. This article examines the transatlantic dimension of the idea of a "science of mind" and how it led Flower to formulate a spiritual and materialist conception of the influence of print. It describes the rhetorical strategies, the scientific procedures and institutionalisation policies he adopted in his quest to naturalise the invisible and subject it to the purview of methodological naturalism. Finally, it explores the epistemological foundations of Flower's redefinition of the boundaries of legitimate science.

RÉSUMÉ

Cet article analyse la manière dont Benjamin O. Flower, journaliste et éditeur à Boston, usa de la culture de l'imprimé pour diffuser et légitimer la science en marge, dans les années 1890. Se saisissant de la théorie de l'évolution comme d'une matrice du progrès, il considérait l'hypnotisme et le spiritisme – ce qu'il appelait la « recherche psychique » – comme le prolongement naturel, du visible à l'invisible, du méliorisme environnemental. L'article met en lumière la dimension transatlantique de l'idée d'une « science de l'esprit », et la façon dont elle conduisit Flower à formuler une conception spirituelle et matérialiste de l'influence de la culture de l'imprimé. Il décrit les stratégies rhétoriques, les procédés scientifiques et les politiques d'institutionnalisation qu'il adopta dans sa quête pour naturaliser l'invisible et le faire entrer dans le cadre du naturalisme méthodologique. Enfin, il explore les fondements épistémologiques de la redéfinition des frontières de la science que Flower appelait de ses vœux.

According to Boston editor Benjamin Orange Flower (1858-1918) late nineteenth-century America, racked with urban squalor, labour conflicts, political corruption and arrogant plutocrats, threatened to collapse. Radical reforms such as Populism, woman suffrage, direct legislation, or public ownership of utilities were necessary, but only spiritual regeneration could save the day and move the country forward. Flower turned to the science of his day to legitimise and fulfill this nonconformist vision.[1] His pioneers - whether economic, political or scientific - ranged from respected experts to any sort of panacea-monger and "crank," to use the common epithet at the time. As far as science was concerned, he relied on mainstream thinkers like Charles Darwin or Herbert Spencer, but also on fringe science. His work raised a major question pertaining to epistemology and power politics: who was to decide who the cranks were and where to draw the limit between science and pseudo-science?

Flower located the new theories he publicised within an evolutionary framework. Spencerian arguments and environmental meliorism provided a scientific backdrop to his "spiritual idealism."[2] One grand structuring botanical metaphor framed his (pseudo-)scientific theories. Scientific discoveries proved that, from the individual, to cities, the heavens and the hereafter, the world kept improving. Humans, if planted in a fertile ground, could not but grow and ascend toward the light like a "blade of grass" and, living an "existence of eternal progression," become increasingly "spiritualized" and enlightened.[3] Flower was part of a transatlantic intellectual lineage that straddled religion and science, and sought to gradually rationalise the body/mind relationship and turn it into a legitimate object of science. He combined the century-old theories of German physician Franz A. Mesmer, Scottish investigations of the interactions of the physical with the spiritual, and late nineteenth-century French experiments on the subconscious with American traditions, particularly the spiritualist craze that had been sweeping the country since the mid-century, and even more specifically, the obsession of Bostonians with mediumship. His story is therefore also a story of Boston. Flower and his network were heirs to the genteel activists peopling Henry James's novel *The Bostonians*, "all witches and wizards, mediums, and spirit-rappers, and roaring radicals."[4]

The story of Flower and of his network is also the story of how the definition of "science" was contested at the time. The emergence of

psychology as an academic discipline and the elevation of scientists into an autonomous and self-regulating elite community coexisted and competed with an older American tradition that saw science as a democratic activity and did not separate amateurs and experts into distinct spheres of competence. Both types of scientists took part in the transformation of the "popular psychology" of "animal magnetism" (Mesmer's key concept) into the new experimental psychology of the subconscious. However, for Flower (himself an amateur) and his network (a mixture of non-professional and established, albeit "fringe," scientists), a "natural" explanation ruled out supernaturalism but it did not exclude religion. Phenomena could be "both natural and religious." That interpretation clashed with the secular understanding of the new professional class of scientists.[5]

Far from the "secularisation thesis" (which posits the gradual decline of religion with modernisation) and the "conflict thesis" (which opposes science and religion), Flower's syncretic approach asserted that the more science advanced, the more it validated religious beliefs. The vanguard of scientific discoveries were in line with the spiritualising of religious thought, or what Catherine Albanese calls "metaphysical religions." [6] Mind and its powers – how it interacted with its environment – lay at the core of his vision. As a result, social ills and religious sins were read in therapeutic terms; both the individual and social body could be cured, and the remedy for Flower centered upon the new religio-scientific bricolage that he disseminated in print. "Psychical research" in particular represented the latest stage in the Spencerian evolution of science and belief.[7] Flower questioned its marginality and wanted to prove that "fringe" – or "cranky" – meant "ahead of its times" and "moral/ uncorrupted."

Opening up a respectable, slick magazine to unorthodox ideas was for Flower part of the remedy. He created *The Arena*, a "multiple-crusade magazine of general circulation" and a "journal of protest," in Boston in December 1889.[8] He edited it from 1889 to 1896 and then from 1900 to 1909. Psychical research featured regularly in his editorials. His company, "a standard for the radical publisher in America," published 206 imprints until it went bankrupt in 1896, issuing books that "commercial houses would not risk."[9] Among them, 16 dealt with fringe theories (appendix 1). Flower could focus all of his energy on regenerating the country, and he was able to put his principles before money because his publications and organisations

were funded by his brother, Richard, who had made a fortune thanks to a flourishing medical practice in Boston, and Gideon F.T. Reed, a "firm Spiritualist" who invested much of the money he had earned as a partner at Tiffany & Co. on Flower's visions of a "New Day."[10]

Following Flower's botanical metaphor, this study examines the American, British and French precedents Flower built upon to put forward his own version of a science of mind, spiritually re-engineer America and redefine the boundaries of legitimate science.

Mind: Hypnotism, "The Scientific Sensation of the Hour"[11]

Flower was "the most forceful exponent of the occult-tinged, pro-'woman,' reform-Darwinist perspective" that historian Beryl Satter calls "evolutionary republicanism," or, in other words, the idea that race perfection could save the republic.[12] Like many Progressives, Flower thought that modifying the environment could improve the "race" and solve the problems of modern, industrial cities. That is the "measureless influence" of home ("the fountain" of morality according to Flower), municipal housing, model tenements, public parks and playgrounds could regenerate their inhabitants, thereby putting an end to the diseases cursing American cities and homes: poverty, immorality, and criminality.[13] Flower extended the domain of environmental determinism and its therapeutic rhetoric beyond its urban setting and applied it to women's wombs. He published, for example, Sydney B. Elliot's *Aedoeology*, i.e. the science of prenatal influences.[14] Elliot and Flower believed that mothers' "mental impressions" literally determined the future of their children, and, so their logic went, of the nation. Flower favoured a printing and photography metaphor to convey the idea that women's wombs were the foundational locus of environmental meliorism – mothers had to *impress* the "plastic" minds of children with uplifting ideas, just like the duty of reform journalists was to impress readers with progressive ideas.[15]

According to Flower, one way to improve society and humankind was to spiritually engineer a morally regenerated individual thanks to the power of mind. Psychical research, notably spiritualism and mesmerism, was the key; it continued the progressive imprinting work started with *Aedoeology*.[16] In contrast, materialism and commercialism retarded the spiritual development

of the nation. Manipulations by designing politicians and plutocrats, as well as misrepresentations by the sensationalist press, misprinted citizens' minds, so to speak. Flower's remedy was to publicise the forward-looking "thought-molders" of his time.[17] He took the term literally. Intellectuals, scientists and reformers embodied the power of mind over other minds – they could *impress* uplifting ideas onto their readers. Flower perpetuated a long tradition that had started with Mesmer's "animal magnetism" and continued with American spiritualist Andrew Jackson Davis's principle of "invisible causation" – a spiritual fluid, "an omnipresent, unifying force in the universe that was simultaneously scientific and religious," flowed from one being to another.[18] He adapted this notion to the dissemination of ideas in society, thereby blending occult and medical discourses. Journalists acted as media and (spiritualist) mediums who interpreted new knowledge for the laity, and circulated healthy ideas "that may infect others" as Flower put it: "thought is contagious and people are thinking."[19]

Flower believed that, like other reformist ideas, scientific discoveries followed a typical evolutionary pattern. They were at first sneered at and "bitterly contested by those who 'knew they knew' that pioneer thinkers were mistaken," but breakthroughs were eventually accepted once "physical science" had triumphed "over inherited ideas." This is what had happened to Copernicus and Darwin.[20] The press actuated this process. Flower wanted to do the same thing for mesmerism and spiritualism by applying the scientific method to the "possibilities of the human mind." Not only had the mind power over other minds, but it also had "absolute power" over matter.[21] Flower referred to William James's work on "The Hidden Self" and French psychologist Pierre Janet's thesis in *De l'automatisme psychologique* as scientific evidence that disease could result from the "development of a fear arising from mental pictures photographed on the mind in former years."[22] In the same article, Flower expounded what psychical research owed to other French experimenters. Pr. J. Luys in Paris had successfully established the "power of hypnotism to bring out the hidden, unsuspected treasures of the mind," and argued that its untapped resources could be harnessed to control the body.[23] Hypnotism could abolish sensation and anaesthetise patients, as shown by French neurologists Jean-Martin Charcot and Hippolyte Bernheim. Charcot even demonstrated the power of mental suggestion over the body in a waking condition. In one experiment, study subjects were mesmerised into thinking that boiling water

was being poured onto them. They subsequently presented all the symptoms of burn injuries, although the water was actually cold.[24] Flower also summed up the many experiments conducted by the French hypnosis-centered Nancy school of neurology and psychotherapy. The Nancy school originated with Ambroise-Auguste Liébeault's work. He developed his medical approach to hypnosis by working on "animal magnetism."[25] A whole genealogy of the cooptation of occult phenomena by science can be traced from Mesmer to Liébeault and his partner Bernheim, and then onto more neurological (i.e. materialist) or psychotherapeutic approaches (i.e. spiritual, or mental, to use the word, devoid of any supernatural connotation, that early psychotherapists preferred). With psychical research, Flower refused to separate the spiritual (i.e. both mental and religious) from the materialist approaches. In his writings he moved seamlessly from the different meanings of "spiritual;" i.e. relating to the mind, to religion and to non-materialistic values. He did not take a stand on the debate between Charcot, who saw hypnosis as a physiological state, and the Nancy school, which considered it to be first and foremost psychological.[26] Adapting French research to pragmatic ends, Flower did not so much alter these competing ideas. Rather, he lumped them together and recontextualised them. He did not so much conduct science and study the mind as use the prestige of science to push for his spiritual reform agenda.

The end of the nineteenth century saw not only a tentative (and temporary) reconciliation between religion and evolutionary science in reform circles, but also the increasing professionalisation of science.[27] As a result, its very definition was in flux. The concepts "psychical," "psychological," and "neurological" were fluid terms, especially when it came to such an intangible object as the mind. Flower, for example, spoke of "psychical research" and sometimes of "psychological science."[28] The disciplines were not yet completely separated. Established scientists were starting to push for the modernisation, standardisation, and professionalisation of their activity and "create[d] a new role for themselves as guardians of the scientific worldview" by imposing a strict demarcation between genuine science and pseudo-science.[29] Flower and his network of intellectuals, on the contrary, wanted to subject this grey area to scientific scrutiny. Flower objected to the "pseudo-scientific" label. For him, conservative intellectuals feared innovations because they threatened their status, just like Populist reforms endangered plutocrats' domination. He asserted: "in the twilight zone of

belief, speculation, theory, and experimentation, privilege seeks to shackle nonconformist thought to outlaw the scientist, the philosopher, and the apostle of new truths, whose methods of practice do not conform to the dogmas of the privilege-bulwarked class."[30] According to Flower, to dismiss pioneers as "cranky" was merely a way of maintaining their position of power. Because of "conventionalism," conservative thinkers were therefore "slow to examine or give credence to anything which runs counter to accepted opinions or ancient thought."[31]

New theories had to be examined by using "critical methods in investigation" before being judged as non-scientific.[32] Since scientific advances kept broadening the field of knowledge, there was no reason to dismiss phenomena *a priori*, however unusual and unbelievable they might seem. For Flower, "a true scientist will take cognizance of the smallest facts" and conduct "careful, impartial, and exhaustive investigations."[33] Like William James, Flower also wondered why invisible experience ought to be ruled out since there were invisible things in the physical world.[34] Flower remarked:

> it is almost impossible for a physicist to accept a result of any experiment one factor of which is the human soul […] He will admit that he knows nothing of an acid or a salt – except that it does so and so; but when he witnesses a series of spirit phenomena he is quick to deny the reality of what he sees.[35]

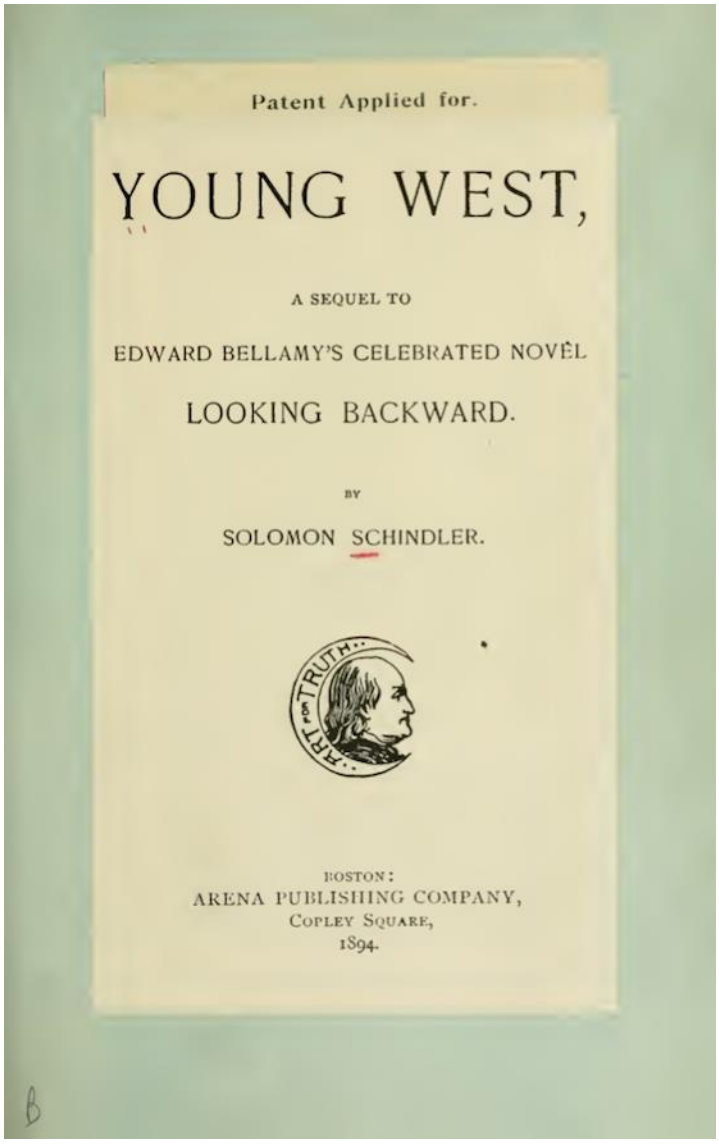
As French astronomer Camille Flammarion, a regular contributor to *The Arena*, advised: "let us deny nothing positively; let us study; let us examine; the explanation will come later."[36]

Flower never challenged the authority of science. On the contrary, he celebrated the "modern method of scientific inquiry" and employed arguments from authority figures.[37] He used the ideas of respectable scientists like Flammarion, James, Janet and Charcot, to name but a few, to legitimise what some perceived as cranky. He merely reversed the roles: he denounced established scientists who corrupted and distorted the scientific method, thereby indulging in pseudo-science, while he praised fearless investigators who embodied the true spirit of scientific inquiry and refuted the widespread "hostility of dominant thought."[38] For Flower, scientists were Promethean figures, "torch-bearers of advance thought."[39] Orthodoxy

– both scientific and religious – fraud, and the credulity of the masses accounted for mainstream opposition and that, for Flower, "prevent[ed] a candid and unbiased investigation of facts."[40] The episode of the so-called Bailly Commission in France in 1784 was a case in point. It had exposed and ridiculed the "overheated imagination of the mesmerists." According to Flower, the Commission, a classic example of unscientific treatment, took its toll on psychical research since its effects could be felt into the 1890s, even though it had clearly been prejudiced.[41] On the contrary, the end of the nineteenth century featured "eminent scientific thinkers" who had scientifically demonstrated Mesmer's intuitions. Early psychical research gave "surprising and definite results."[42] Stating that "the impossible is now demonstrated actuality," he urged scientists to further explore the unknown territory of mind.[43] Particularly telling for Flower were stories of conversion. Some "revelations" proved critics wrong. Scottish physician and surgeon James Braid, for example, started experimenting "to expose mesmerism," but he ended up demonstrating that it was a fact, as if he had been "converted" by the scientific method, so to speak.[44] His 1843 book *Neurypnology* was a tribute to the empirical method which always, sooner or later, triumphed over conservatism. The new treatment of psychical phenomena then demanded a name-change to adapt to its new scientific aura. New spiritualties had to be translated into an acceptable scientific idiom, which is why, according to Flower, Braid renamed mesmerism as "hypnotism." [45]

After the age of electricity, Flower believed scientists were entering "the age of psychological discovery," which was a new field based on the "willingness to recognize phenomena other than material."[46] Scientific advances implied spiritualisation, discoveries "of inestimable value to the race," and therefore moral progress.[47] The possibilities of the human mind revealed by research were "prophetic of the next great step in man's evolution."[48] Flower published utopian novels that made readers see this "next great step" – what Flower called the "grander ideal" come true.[49] In the 1890s, hypnotism was thought of as the passageway into utopia, thus revealing how deeply it shaped late nineteenth century imaginations. Edward Bellamy's 1889 bestseller *Looking Backward* had been the first work to use the hypnotism motif.[50] Flower published its sequel *Young West*, and another utopian novel, *Earth Revisited* – novels in which hypnotism also enables ordinary Americans to escape from the corruption of the Gilded Age and

awaken into a scientifically-organized and spirituality-arousing paradise.[51] Unlike eighteenth century novels, in which travellers often arrived in utopias because of natural disasters, utopian travellers in novels published by Flower are mesmerised into a model America; their arrival is often described as a literal and symbolical "awakening." The material book itself becomes the medium – or hypnotist – that rouses readers, and the new scientific field of hypnotism is "the moral agent" and the instrument of the awakening of "sleeping consciences."[52] The book literally made people see, all the more so in the case of *Young West* which materialised this innovative program. In his "Publishers' Notice," Flower called the attention of readers to "a novel feature in book-making": coloured margins (figures 1 and 2). Green, blue or yellow margins were first meant to relieve eyestrain. They were recommended by medical science and common sense.[53] Coloured margins also, literally, made readers see the message of the book. For Flower, the medium, then, is also the message.[54] The innovative materiality of the novel and the hypnosis-induced passage into utopia stand for a message of scientifically driven personal and social regeneration. Likewise, Flower equated the educational mission of *The Arena* with hypnotism; both were thought of in therapeutic terms. The uplifting power of his magazine work could stop the disease-breeding corruption of greed, vice and materialism. Flower also depicted the reformer as a hypnotist, in other words as a secularised, scientifically-informed minister who appropriated the "awakening" trope and updated the traditionally religious and personal Great Awakenings to the scientific age.



Patent Applied for.

YOUNG WEST,

A SEQUEL TO

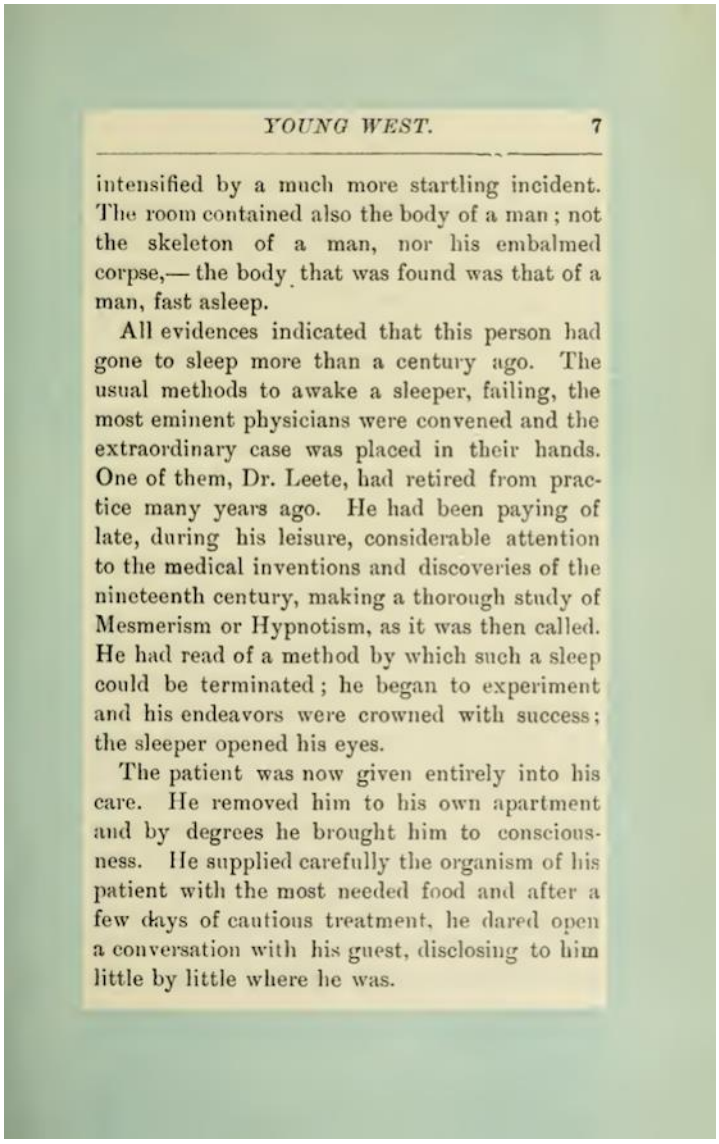
EDWARD BELLAMY'S CELEBRATED NOVEL

LOOKING BACKWARD.

BY

SOLOMON SCHINDLER.

BOSTON:
ARENA PUBLISHING COMPANY,
COPLEY SQUARE,
1894.



YOUNG WEST. 7

intensified by a much more startling incident. The room contained also the body of a man; not the skeleton of a man, nor his embalmed corpse,— the body that was found was that of a man, fast asleep.

All evidences indicated that this person had gone to sleep more than a century ago. The usual methods to awake a sleeper, failing, the most eminent physicians were convened and the extraordinary case was placed in their hands. One of them, Dr. Leete, had retired from practice many years ago. He had been paying of late, during his leisure, considerable attention to the medical inventions and discoveries of the nineteenth century, making a thorough study of Mesmerism or Hypnotism, as it was then called. He had read of a method by which such a sleep could be terminated; he began to experiment and his endeavors were crowned with success; the sleeper opened his eyes.

The patient was now given entirely into his care. He removed him to his own apartment and by degrees he brought him to consciousness. He supplied carefully the organism of his patient with the most needed food and after a few days of cautious treatment, he dared open a conversation with his guest, disclosing to him little by little where he was.

Figures 1 and 2: Title page of Solomon Schindler's *Young West*. In Bellamy's novel, Julian West, the main protagonist, is mesmerised, falls asleep and wakes up in the year 2000. On page 7 of Schindler's sequel, Dr. Leete (probably a pun on Lethe) manages to wake the utopian traveller by using mesmerism. After experiencing a symbolical death in a corrupt American, he comes back to life regenerated thanks to the "medical inventions and discoveries of the nineteenth century." Reprinted by permission of David M. Rubenstein Rare Book & Manuscript Library, Duke University.

Flower believed that print culture proved that "cranks" were actually pioneering scientists. In the ensuing public and scholarly debate – a PR campaign, actually – his magazine and publishing company were key elements, and rhetoric was his weapon, hence the name-change, the use of arguments from authority, and the emphasis on the scientific method.

Flower's campaign of legitimisation extended to other psychical phenomena. Given that mesmerism had been accepted by science, other "exiled truths" demanded "a fair hearing."[55] Phenomena like telepathy ("thought transference"), clairvoyance ("soul projection"), and automatic writing had to be "authoritatively demonstrated by critical comparative methods as other universally accepted truths in physical science."[56] The legal overtones in his articles are obvious. He insisted on evidence, and wanted to make a case and present facts to two juries: the scientific community and American citizens in general. For instance, according to Flower, telepathy, considered a "fraud" in the 1880s, had been established as a fact by the 1890s.[57] Spiritualism was another battleground, and since it posited that the mind could reach into the hereafter it was contested by both clergymen and scientists.

The Hereafter: Spiritualism as Psychical Research

Flower defined spiritualism as the possibility, "under certain circumstances," for "the spirits of those we call dead to manifest to the living."[58] For him, spiritualism was but the extension of Spencerian evolution into the hereafter. Natural laws implied "an existence of eternal progression" and there was no reason for him not to apply them to the spiritual world.[59] He asserted: "inside of thirty years," life after death could be "positively demonstrated to the majority of honest truth-seekers as any other scientific facts."[60] "Orthodox physical scientists," however, reduced spiritualism to fringe science, just like churchmen reduced it to "demonism."[61] Flower used print to prove the naysayers wrong. He frequently quoted Victor Hugo to condemn "scientists for their unscientific treatment of this subject"; as the French writer said: "to replace inquiry by mockery is very convenient, but not very scientific."[62] Because of the power of prejudice among hostile scientists, and because of the widespread fraud among mediums, it was necessary to prove what was true, and to expose fraud, while reinstituting the scientific approach that other scientists overlooked and sometimes perverted. Flower equated science with a "sifting process," in other words the ability to authenticate or expose phenomena.[63]

Flower thought of science in democratic and legalistic terms. He conflated the ideals and methods of science with those of courts of law and of the USA itself – only out of open debates could truth and consensus be found,

in other words "*e pluribus unum,*" applied to epistemology. He claimed that it was "only in the crucible of free discussion that we find the gold of truth" and the role of the press – the "real congress and senate of the people" – was to organise and accelerate this alchemical process.[64] Flower's ideas had been shaped by the nineteenth century tradition of Baconian science, as interpreted by Common Sense philosophy. The Baconian inductive method relied on sense data and common sense implied that citizens, expert or not, could see the facts plainly and reach an impartial conclusion by sharing their perspectives. He argued that anyone with an open mind could clearly see the facts, whether in the physical world or in the Bible, just as anyone with eyesight could see a tree. It followed then, at least in his mind, that scientific knowledge could be democratised. In Flower's opinion, this tradition opposed neither science and religion nor scientific and popular knowledge. True science consisted of the unbiased observation of the plainly observable facts of nature. Professionalisation and democratisation could go hand in hand. The lyceum lecture circuit and local newspapers popularised eminent scientists' discoveries, thus facilitating the extension of science to the laity.[65] At the end of the century, increasingly professionalised scientists, i.e. college-educated specialists working in laboratories, challenged this continuum between amateurism and expertise. Flower treasured the continuum and wanted to maintain the bridge between experts and the people. Just like juries who, under the guidance of professional judges, could understand what was at stake in a trial, or like citizens who, under the guidance of professional journalists, could understand politics, lay people could take part in scientific debates under the guidance of professional scientists. He believed that the press played the role of the bridge – the medium that democratised expert knowledge.[66]

Flower did not reduce "science" to the study of "the phenomena of the physical universe," the naturalistic modern definition that was gradually being established and imposed top-down by professional societies.[67] Rather, he used the early nineteenth century meaning of "science" as "knowledge" and extended the definition of "nature." He also focused less on objects than on method.[68] The scientific method meant, first of all, to be willing to conduct open, unbiased investigations of phenomena, even if, as William James had emphasised, this "radical empiricism" meant dealing with "all sorts of despised spiritualistic and unscientific ideas."[69] Flower investigated psychical phenomena all his life. His idea was to "classify well-authenticated

facts," accumulate "reliable data" and study "underlying laws," in other words to apply positivism to a new scientific field.[70] As he put it: "when we obtain a sufficient volume of sifted facts, the explanation will follow." Researchers ought not "to state conclusions and seek to bend evidence to fit [their] theories."[71] He optimistically believed that "earnest, sympathetic, and scientific investigation will in time reveal the truth."[72] In court-like debates, Flower took a stand, writing brief-like articles to plead the cause of psychical research. He used the same rhetorical strategies as for other psychical phenomena. "Spiritualism" became "psychical research," a more scientifically acceptable phrase. Spiritualism had declined as a popular phenomenon since reaching its highpoint in the 1850s. However, it had moved on to another stage, one of systematic investigation by world-famous "authorities" and professional organizations such as the English Society for Psychical Research (founded in 1882) and its American branch, the American Society for Psychical Research (initiated in 1885 by William James, psychologist G. Stanley Hall and pragmatist philosopher Charles S. Peirce among others).[73]

With regards to hypnotism, Flower's network spanned the Atlantic. It formed an alternative "community of inquiry" that wanted to expand the bounds of knowledge.[74] Flower published many articles by Camille Flammarion and by British naturalist Alfred Russell Wallace, co-discoverer of evolution with Darwin, as a way of showing that scientific investigations had proven spiritualism.[75] Wallace was the only scientist to be the focus of an entire chapter of Flower's memoirs. A social reformer as well as an eminent evolutionist, he represented the authority of legitimate science in Flower's writings.[76] He epitomised the scientist who, because he kept "his mind open to the truth," had moved from agnosticism to spiritualism. Flower also circulated writings by his network of intellectuals and friends, all of whom shared the same scientifico-religious outlook. Among them were Unitarian minister Rev. Minot J. Savage, novelist Hamlin Garland, Rabbi Solomon Schindler (who wrote the sequel to Bellamy's utopia published by Flower), and physician and educator Joseph R. Buchanan, the only professional scientist in the group. Most of them belonged to the Boston middle-class, the "medium-mad Bostonians" to use G. Stanley Hall's phrase.[77]

Flower sought to professionalise and institutionalise their experiments by setting up a scientific organisation, the American Psychical Society (APS). Its purpose was the "investigation of the phenomena of Modern spiritualism in accordance with the scientific method."[78] He explicitly modeled the APS on the English Society for Psychical Research and saw it as the spiritual heir of that society, especially as, by 1890, its American branch had ceased as an independent organisation. He also thought that the American Society for Psychical Research had treated spiritualism from an overly sceptical standpoint.[79] Flower became the APS Vice-President, while Savage, then Garland and eventually Tufts College physics professor Amos E. Dolbear presided over the society.[80]

With Savage, Garland, Buchanan, and the Unitarian Rev. T.E. Allen, Flower also founded a scientific journal in 1892, *The Psychical Review. A Quarterly Journal of the Psychical Science and Organ of the American Psychical Society*, which became part of a clubbing offer with *The Arena*.[81] The founders presented the journal as an "authoritative compendium of psychical news" from the "ablest scientific contributors."[82] From August 1892 to May 1894, they studied *séances* and psychography/automatic writing. The field experiments they conducted exemplified the scientific method. Careful observation, empiricism, emphasis upon facts before theories, proof by demonstration, and the classification of facts were supplemented by strict protocols established to avoid fraud. For instance, they fastened the medium's hands to their chairs and experimenters held silk thread to feel any suspicious movement. Flower also encouraged Garland to study *séances* held in Onset Bay, MA, near Cape Cod, a seashore resort centre for spiritualists. All of the experiments were related in the journal.[83] It was also important for Flower that some of his researchers be sceptical "to counteract the credulity" of Savage or his own biases, and that they not be bereaved. He wanted no "emotional bias" to interfere with their research. Schindler, Dolbear, and Garland played this role. Garland was won over by the many successful experiments carried out by the society. The new convert then devoted most of the rest of his life to psychic research.[84]

Flower's push for professional leadership testified to his determination to rationalise the "spiritual hothouse" that had agitated nineteenth century America and to raise the popular experiments that had heretofore characterised the "village enlightenment" to the status of unimpeachable,

global-scale science.[85] This normalisation process led to the organisation of a "Psychical Science Congress" as part of the World's Columbian Exposition. For psychical researchers, the idea was to "make the exposition complete" by adding spiritual innovations to technological advances; progress necessitated both.[86] APS researchers' discourses about spiritual energy were also informed by scientific and technological innovations of the time. For example, in one experiment report, Flower compared a psychic's trance to a "telegraph sounder" and "an electric battery"; her "body suggested a human dynamo."[87] The telegraph and the first tests of wireless telegraphy permeated their writings. They "disclosed a world of invisible forces that were able to act on physical reality without any apparent physical contact."[88] Flower thought scientists had to study these forces. As Savage put it, with a telegram, it was after all impossible to confirm with one's own senses "the veracity of the sender." Likewise, with spiritualism, what mattered more was not the "veracity" of the source, but "to know *whether I really get a message*" (Savage's emphasis).[89] Flower argued that since absolute certainty was impossible to reach, common sense demanded a pragmatic attitude. For him, science was a way to formalise this attitude.

Savage was "perhaps the first clergyman in America to accept evolution from the pulpit and attempt to reconcile religious and theological thinking in its light."[90] Like Flower, Savage believed that there was an "irrepressible conflict between two world-theories" – natural evolution and scientifically-engineered religious reforms that were opening "vistas of eternal progress" on the one hand, and, on the other hand, the orthodoxy of Bible literalists and narrow-minded scientists, i.e. artificial and reactionary hindrances that were bound to go extinct.[91] Savage extended his Darwin-based evolutionist optimism into the hereafter, and preached a faith in personal survival after death. He was willing to investigate new phenomena, and he embodied the "careful, critical spirit of modern science."[92] Flower hailed Savage's book on psychical research, *Psychics: Facts and Theories*, as "the most important recent work on psychical research." He claimed that the book described remarkable phenomena and gave "unimpeachable" evidence. It was dedicated to the "unprejudiced" William James.[93] Like Flower, Savage believed that if all inquirers were as fair as the renowned philosopher and scientist, then speedy results would follow. Like Flower, Savage was a Unitarian, and the meetings of the American Psychical Society took place at his Church of the Unity in Boston.[94] For both, Unitarianism and the

alternative sciences they championed boiled down to one principle: "truth for authority rather than authority for truth." In other words, the two men privileged experimental, empirical, inductive methods of scientific inquiry over orthodoxy and dogmatism, broad-mindedness over prejudice.[95] Both saw the limit between science and beliefs as definitely porous. Flower identified the boundary between science and pseudo-science in terms of methodology and attitude rather than in terms of objects.

"The Ascent of Life": Scientifically Driven Ethics and the Naturalisation of Psychic Laws

In addition to Spencer, Buchanan was a major influence on Flower. Buchanan had showed Flower that it was possible to study the mind scientifically.[96] Buchanan's books featured high in the "important works for thinkers" section of Flower's *Arena Literary Bulletin*.[97] According to Buchanan, geologists analysed traces of the past – mineral fossils – to "explore the history of the earth". Psychologists were their counterpart for the mind. They used a "mental telescope" to study "mental fossils" and to "explore the history of man."[98] According to *The New York Times*, Buchanan had demonstrated that "the sympathy between the mind and body is an exact science, and to this he had given the name of sarcognomy" and devised a method – "psychometry" – to measure the soul and to "determine the mental influence of persons" and "the psychic influence of any manuscript."[99] A reaction against phrenologists' static conception of the brain, Buchanan's principle of "impressibility" posited that the mind was constantly responding to outside physical and mental stimuli, i.e. "an active agent in constant rapport with the surrounding environment."[100] Flower's conception of "thought-molders" and of the awakening power of print may well be traced back to Buchanan's work. Flower took for granted that his readers understood Buchanan's theories as shown by his many references to them in his editorials without additional explanation. Like Buchanan, Flower sought to apply the scientific method to intangible objects. Like Buchanan, Flower thought that the discoveries being made on the fringe of matter and spirit could revolutionise science.[101]

For Flower, psychical research was also important in the history of science for it rationalised what was formerly considered supernaturalism and superstitions. Likewise, Buchanan described his aim as "bringing the

marvelous and mysterious under the jurisdiction of scientific law."[102] Flammarion concurred: "the scientific spirit of our age seeks with reason to clear all these facts from the delusive mists of supernaturalism, considering that there is really nothing supernatural and that nature, whose domain is infinite, embraces everything."[103] For established scientists, psychical research was invalid because, by its very definition, it blurred the boundary between matter and spirit. For Flower, psychical research testified to the power of science to conquer uncharted territories. Flower turned the secularisation thesis upside down. Driven by scientific advances, religion became increasingly secular and, at the same time, increasingly spiritual. Flower actually sought to demonstrate religion scientifically and to show that cutting-edge science and religion merged: "the great physical scientists have given man a new bible of biological truths, while psychologists and students of psychical science are opening to us year by year a new world in the realm of mind and are laying the foundation for a scientific religion."[104] Unitarianism had already "broadened and humanized the Christian faith" and transformed it from an austere religion of dogmas and creeds into a reservoir of moral values.[105] Psychical research was its logical continuation. Appropriating the language of Spencerian evolution, as well as that of thermodynamics, Flower defined "the coming religion" as a psychical, yet material, force pervading the universe, an update of Mesmer's magnetic fluid with a positivist twist. God became naturalised as "Love and Life-Essence of the universe […], a wise, order-loving, and conscious Energy, which through the tireless ages, step by step, leads life from the lowest forms on to heaven-inspiring man," and which expressed itself "through immutable law."[106] Spiritual growth, a democratised Ascension, was understood as a natural phenomenon, as humans were "drawn to Him as the sun draws upward the germination seed."[107]

Flower, therefore, sought to extend the domain of physical science into the invisible world – "nature" encompassed more than matter. Since the sixteenth century, science had naturalised the visible, material world.[108] In an age fascinated with "invisible force," the next logical stage was to submit "unknown natural forces" to the experimental method.[109] The aim was to naturalise the invisible, so that it fell within the purview of "methodological naturalism," that is, the notion that scientists should explain nature without recourse to the supernatural.[110] Moreover, Flower denounced what James called "authoritative scientism," the notion that scientists could decide

which objects were worthy to be studied and "rule out some phenomena as impossible a priori." On the contrary, Flower wanted to demonstrate that new discoveries about psychical laws could be studied scientifically.[111] For him, Henry Drummond, a Scottish evangelist and a natural scientist, had proved that natural law extended from the physical world to the spiritual world. In 1883, Drummond had published *Natural Law in the Spiritual World*, a work in which Drummond argued that "the scientific principle of continuity extended from the physical world to the spiritual."[112] He claimed that spiritual and natural laws were equivalent: it was "not a question of analogy but of Identity."[113] In 1893, Drummond's *Lectures on the Ascent of Man* placed altruism at the core of the survival of the fittest. For Flower, Drummond showed that "in proportion as love permeates the soul of man, he becomes godlike, and he makes life around him bright and fragrant."[114] In accordance with the perennial botanical metaphor, spiritual evolution was thought of in naturalistic terms. From then on, Flower often referred to the "law of love," which he understood as a scientific, positivistic law.[115] It became a staple of his rhetoric, a scientific update on the biblical Golden Rule, and his way of expressing the spiritual engineering he envisioned to reform and improve America.

Stinson Jarvis, a Canadian expatriate in New York, expounded on this plant-like spiritual and scientifically-driven ascent of mankind in his book *The Ascent of Life; or, Psychic Laws and Forces in Nature*. Flower published Jarvis' work in instalments and then in book form from December 1893 to May 1894.[116] He hailed it as a "monumental contribution to modern thought" which improved upon Darwin: Jarvis "takes up the thread where the great naturalist dropped it, and carries it further."[117] For Flower, Jarvis' book was another example of how psychic energy "tended to lift the mind of man from gross materialism to contemplation of the power of mind."[118] The soul evolved, developed from within and upward, soaring through operations of clairvoyance and mesmerism. According to Flower, Jarvis "confine[d] his methods to the limits which strict science require[d]," relying on hypotheses, observation, reason, and experimentation. Flower agreed with Jarvis' conviction that "the strictest science must extend its own methods into immaterial regions."[119] In Flower's opinion, Jarvis confirmed Drummond's ideas and proved that there existed "no jumps or chasms" in nature, only the continuity of universal laws from the worm to spiritual life, "the latest and highest known grade of life."[120] Jarvis therefore gave the "first chart of

an untravelled region" – that of the psyche – and, unlike any other book before, produced "*actual proof* of a life after human death" (Flower's emphasis).[121] Jarvis took pains to present his findings as natural, devoid of any trace of supernaturalism. According to Flower, Jarvis's conclusions did not "collide" with religion or science, but took "a new and further ground for both."[122] Jarvis's book was actually a product of the "therapeutic cult" of New Thought (i.e. mind cure), another "Boston craze."[123] The transatlantic dissemination of fringe science in Flower's publications thus reveals how he "spiritualized" science. Flower optimistically believed in science as a democratic, pragmatic activity that could "awaken" America and bring in utopia. He also perpetuated the New England tradition of mental healing which was, as Nick Mount has shown, rooted in the mid-century activities of mesmerist healer Phineas Parkhurst Quimby and popularised by the 1890s by Christian Scientists and a host of metaphysical healers in Boston.[124] This tradition provided a fertile ground for the acculturation of European experiments. Flower set French psychological research and British mind/body experiments into that fertile ground, thus turning the "science of mind" into therapeutic spiritualities with an aura of scientism, like New Thought.[125]

"What is the cocoon but a dark cabinet?": Science as Belief

Science was the legitimising tool at the turn of the century, even within religious circles. One problem remained though: who was to decide what was scientific or not? Flower took up the challenge and considered the epistemological foundations of science. More than a method, science was a way of looking at the world. That is why he considered books, particularly utopias, and his editorials, as the materialisation and fictionalisation of that particular way of looking at the world. No wonder, then, that he resorted to Common Sense philosophy, as its theory of perception determined its reasoning method:

> The methods of modern physical science have been of inconceivable value to humanity although they have not succeeded in broadening the vision of some physicists who are, I think, inclined to be as narrow and conservative in their views as certain theologians who assail the new discoveries in the field of physical science. It seems to be impossible for these scientists to see

> anything beyond matter, so that they, through "*unlimited scepticism,*" are rendered as thoroughly incompetent to investigate psychical phenomena as are those whose credulity blinds them to the value of employing critical methods in investigation (Flower's emphases).[126]

Flower often quoted Common Sense philosopher Dugald Stewart (1753-1828) who asserted: "unlimited scepticism is equally the child of imbecility, as implicit credulity." Stewart had studied the Bailly Commission's report of mesmerism, and that is why James Braid used this quote as the epigraph of his 1843 book *Neurypnology*. Both developed a "doctrine of the bond between mind and body," what Braid called "psycho-physiology."[127] For Flower, the Bailly Commission was indeed a historical "object-lesson" in "dogmatic incredulity," i.e. unlimited scepticism, which had impeded the scientific exploration of the invisible.[128] A genuinely scientific approach ought to avoid these two extremes. When scepticism becomes an absolute and a dogma, it freezes and "paralyze[s]" the process of experimentation, just like credulity makes investigations pointless.[129] True science, on the contrary, was reasonable scepticism, in other words, critical thinking enriched by open-mindedness. For Flower, the time was "ripe for an honest, fearless, scientific, and yet sympathetic investigation of psychical problems."[130] The necessary condition for scientific progress boiled down to one value – freedom. Without the willingness and the possibility to inquire further, no matter how "cranky" a hypothesis could be, science turned into dogma and cancelled itself. That meant returning to the "Dark Ages with its intolerance, prohibition, and class and creedal assumptions."[131] Impartiality and tolerance therefore ought to guide the scientific community. This explains why he praised books such as *The Ascent of Life* by Jarvis: Jarvis' book was based on experiments and critical inquiry but it was "intended to be put interrogatively;" there was "no dogmatizing."[132]

At a time when science was becoming increasingly professionalised and scientists tried to impose a definition of proper science, Flower and his alternative "community of inquiry" showed that the "fringe" label was debatable and a matter of belief and power politics. In other words, they raised a troubling question: who had the authority to decide who the cranks were? Flower argued that it was a complex problem because all scientific knowledge was provisional. All science was "fringe" at one time, and results

should therefore be considered as hypotheses that stimulate further inquiry and serve the betterment of mankind. As he put it in a conversation with Garland:

> *Is* there any such rock [the rock of science]? […] We take the so-called facts of science on faith. What theory explains all the facts of larvae turning into butterflies? What is the cocoon but a dark cabinet? It's only an hypothesis after all – something to work with. Until very recently only two hypotheses were possible: one that all the phenomena were fraudulent, or they were the work of spirits. There is now a third hypothesis. Certain investigators now claim that they are caused by forces we do not understand. I am not asking you to become a spiritualist. I am only asking you and Dolbear to examine, with open minds, the cases we send to you (Flower's emphasis).[133]

Flower therefore praised the scientific method, but also questioned science's claims of completeness and its "curse of infallibility."[134] While mocking the hubris and self-confidence of scientists, he was sensing the more modern approach to science that William James and other pragmatists were developing, an approach Karl Popper would later call falsifiability, in other words the possibility "for an empirical scientific system to be refuted."[135] The American Psychical Society had been set up to conduct experiments, to obtain sufficient data and to critically examine them in order to verify or refute theories about psychical forces in nature.[136] Flower also shared with pragmatists the "sense that inquiry could change the world" and the anti-elitist belief that inquiry "was accessible on meaningful levels to the rank-and-file membership of an educated, democratic society."[137] He emphasised the tentative and collective nature of knowledge and focused on "a modernist discourse of democratic liberation in which communities of inquiry tested hypotheses in order to solve problems."[138] Flower's network was one of these communities. However, Flower used this modern approach to science to demonstrate the validity of religious beliefs, a tactic which, from the standpoint of mainstream professional scientists, is ironic, as it violated the very premise of modern science: methodological naturalism.

Flower also remained trapped in a Whig conception of the history of science that posited an inevitable evolution toward rationalisation and

enlightenment. Scientists, like reformers, were, in his opinion, romantic, misunderstood Promethean figures that made progress possible. Since Flower perceived cranks to be pioneers, he syllogistically concluded that any nonconformist who produced a theory that fitted his optimistic belief in the possibilities of science had to be a new Galileo. In the same way that prejudiced believers in the Ptolemaic theory could not judge those who believed in the more advanced Copernican theory, "materialists" were incompetent to judge psychical researchers. Psychical research, that so-called anomaly dismissed by conservative scientists, reflected a type of "paradigm shift" – a revolution in science – and the two paradigms were incommensurable for Flower.[139] He compared the many torchbearers he promoted to Copernicus or Galileo: Whig history blended with Americanism. The recurrent pioneer imagery implied that the new, regenerated America was to be formed on the new frontier of the psyche.[140] Flower framed the history of science as if it were a form of morality play, pitting adventurous scientists on the side of enlightenment and moral regeneration against corrupt, reactionary pseudo-scientists who opposed truth and progress out of bias or ignorance. Natural evolution could not but doom the latter. His belief in freedom of inquiry and open-mindedness was therefore inhibited by a Manichean vision which *a priori* dismissed opposite arguments as inexorably out-dated and invalid, and opponents as *de facto* dishonest. According to Flower, any opposition to progress exposed prejudices and prejudices often aligned with personal interests. In truth, Flower exemplified the same lack of fairness for which he reproached his critics. As he willingly confessed, being a believer himself in psychical research made him biased, so that he *a priori* distrusted any idea that ran counter to his vision of progress and, for all his claims about establishing strict validation procedures, he tautologically focused only on evidence that proved his hypotheses. The notion that his own reasoning contradicted the scientific method escaped Flower.

Flower's "community of print and association" mobilised serious researchers, reformers and all sorts of eccentrics; according to him, it made "profound impressions on a receptive public."[141] His personal and business archives have been destroyed; any appraisal of the reception of his endeavours remains therefore tentative.[142] Evidently, the democratisation of science that he called for remained limited. His generic "people" were *de facto* divided because of his dual role as editor of a magazine for the public

and of a journal for scientists. They were also passive when compared to Promethean scientists. His readers were invisible, save as a rhetorical incantation, and they were confined to the middle class. Dauchy and Company, an advertising agency, indicated in its Newspaper Catalogue that the high-priced *Arena* (a 50-cent monthly in the age of the ten-cent magazine) logically reached well-off middle-class families "who appreciate a live magazine that is up with the times."[143] That claim seems to be confirmed by the Muncie (Indiana) Public Library circulation records. Even if *The Arena* did reach a few service or blue-collar workers (eight out of 49 patrons), most borrowers belonged to that world of physicians, lawyers and merchants targeted by the few advertisements dotting *The Arena*.[144] Advertising in his periodical marketed the same household conveniences featured in major magazines at the time, commodities that promoted modernity like Pear's Soap, Dr. Scott's Electric Razor, Quaker Oats, various brands of bicycles and typewriters. *The Arena* "flattered readers for their progressive ideas" and provided the middle-class with "cultural maps" of a new world.[145] Flower actually wanted to show that psychical research ought to be put on such a map, a map which, ironically, could also turn fringe science into another consumer good. After all, Flower could vaunt the scientific nature of an article about "remarkable cases" while promoting it in red letters above the *Arena* masthead as "wonderful ghost stories" or advertise a "symposium" with the catchphrase: "Do People See GHOSTS?" Such "sensationalism" was shameful according to the Boston spiritualist newspaper *Banner of Light*.[146] As to the "profound impressions" on the general public, no extant record substantiates such a claim. It sounds more like another testimony to his stubborn optimism and an illustration of sociologist Claude Fischer's quip: "a social trend is whatever is happening to a newspaper editor and the editors' friends."[147]

While Flower's work did have an impact on intellectual circles, he did not seem to be particularly successful at bridging the gap between the scientific community and cranks. Both spiritualists and scientists wanted to distance themselves from psychical research and even agreed when it came to asserting their respective spheres of influence. The *Banner of Light* explained that most APS members were ministers and therefore incompetent "to judge science." The newspaper also dismissed their investigations as redundant (British experts like Wallace or William Crookes had already proven the validity of psychic phenomena) and as a way for clergymen "on

the edge of doubt" to cope with the decline of faith and church attendance.[148] Even if professional medical journals noticed a "revival of psychical research" and set up "psychological sections," they remained circumspect and saw the trend as an object of study, not as a movement to embrace.[149] In the *American Journal of Psychology*, G. Stanley Hall went further. He denounced the APS as part of a transatlantic trend of dressing occultism "in the smart new garb of modern science" and he contrasted it with the "new psychology" that was not attempting to "confirm any old longings [i.e. talking to dead loved ones] or new theories," but to reach conclusions that would "give us a vastly loftier and more adequate notion of all that can be called psychic."[150] Psychologists, "stationed at the periphery of science," were anxious to assert their status as scientists and "embraced the mission of surveying and defending the limits of science itself."[151] Relegated to the fringe of public discourse and compelled to create their own alternative institutions, Flower and his network sought to be recognized as mainstream middle-class intellectuals. They wanted to enjoy the intellectual authority that befitted their social position and the advanced nature of their ideas. Normalising cranky ideas was, for them, also a struggle for social acceptance. Their efforts were self-defeating, however, since Flower ambivalently strove for intellectual and social rehabilitation while romantically positing outcast status as the necessary condition and the only true badge of scientific and political avant-gardism. Besides, since established scientists wanted to nurture the nascent partnership among big business, universities and the government that aimed to reorganise knowledge and would come to "engineer and manage a new America," Flower and his fellow intellectuals failed to realise that their radical Populist condemnations of corporations and of the "college trust" also doomed their chances of co-optation by legitimate science.[152]

A swan song for a time when the boundaries of science were not yet strictly fixed, the sciences of the mind testify to the varieties of scientific experience at the time. However incantatory, Flower's call to re-democratise science carried radical implications. Such thrilling possibilities should not obscure the fact that Flower's legitimisation program remained performative. Flower conducted and published many experiments when he wrote for *The Psychical Review* but, above all, he conducted science with words. He failed to realise that one of the limits of a conception of science based on procedures and methods is that the conception risks being reduced to the trappings of

science. Flower and his network of researchers actually expressed a desire for utopian communication between the living and the dead through spiritualism, and between minds through hypnotism and telepathy. Whether fringe science shaped or merely reflected his aim as a journalist, i.e. as a "thought-molder," remains unclear, but it did contribute to his quest for the ideal *medium* to educate readers and reform society.

Flower announced that *The Arena* was "the first review to give the thoughtful magazine readers a strong series of papers from thinkers of recognized ability and world-wide fame, on the psychical phenomenon."[153] Each issue in the 1890s featured several articles on the subject. Garland noted that the years after 1895 were "unproductive": the American Psychical Society slowly disintegrated, their journal died, and Flower lost control of *The Arena*.[154] After the death in April 1892 of his major patron, Gideon Reed, growing tension had emerged between Flower and Reed's widow. The 1893 depression and the alleged loss of advertising revenue following Flower's support for the radical candidacy of William J. Bryan in the 1896 presidential election took its toll on his publishing ventures. In 1896, Flower was forced out as editor. The bankruptcy of the Arena Publishing Company put an end to his use of print to advance reform and psychical research.[155] Thereafter, he reoriented his interests away from psychical research and hypnotism towards New Thought and Christian Science (i.e. faith healing). A connection to science was instrumental for the former and tangential, at best, for the latter.[156]

Flower's personal reorientation away from experiments provides a window on a growing cultural divide in turn-of-the-century America. Metaphysical religions like New Thought perpetuated the more popular tradition of democratised science, but redefined it into a formula for spiritual elevation intended for the middle-class. By 1910, the advent of a purely physiological, German-inspired, laboratory-centred approach to psychology within academia eventually discredited psychical research and marginalised figures like James, Janet and all the other American, French and British investigators referred to in this article. Popular beliefs such as spiritualism even became the object of a new scientific field – the psychology of (self-)deception.[157] Flower's trajectory, and the debates about psychical research, reveal, therefore, several shifts in the American cultural setting at the time. The controversy over what science considered to be appropriate methods

and research subjects was instrumental in creating the modern, naturalistic view of science as exclusively the study of physical phenomena in order to determine physical causality. In other words, the mind or any other spiritual forces could not act on matter. From then on, nonphysical phenomena were assigned to the realm of popular belief. These debates contributed to the emergence of a science/ religion divide. Moreover, the process of intellectual and cultural distinction between science and belief deepened the rift between experts and "the people." The controversy also created a stark intellectual and social divide between psychical researchers and "true" scientists. After successfully discrediting psychical research as a legitimate science, the "true" scientists proclaimed their mainstream status and imposed it on society at large while foisting the "fringe" label on their opponents.

BIOGRAPHICAL NOTICE

Jean-Louis Marin-Lamellet is a PhD candidate at the Lumière University in Lyon, France. His research interests are Gilded Age and Progressive Era America, American cultural and intellectual history and the history of the book and journalism. His PhD research focuses on the intellectual biography of Boston reform editor Benjamin Orange Flower (1858-1918). Flower's atypical trajectory – from champion of progressive causes to anti-Catholic crusader – serves as a case study of the "strange theoretical combinations" which, according to historian Robert Wiebe, define Progressivism (Robert H. Wiebe, *The Search for Order, 1877-1920* (New York: Hill and Wang, 1967), 153).

Notes

[1] See for example the conclusion of Flower, "The Coming Religion," *The Arena*, 8 (October 1893): 647-56; "Physical Science in the Nineteenth Century," 26 (August 1901): 178-90. Unless otherwise stated, magazine articles referenced in this paper are all extracted from *The Arena*.

[2] Flower, *Progressive Men, Women, and Movements of the Past Twenty-five Years* (Boston: The New Arena, 1914), 167, 169.

[3] Flower, "Editorial Notes. A Broader View of Education," 2 (September 1890): 508; "The Coming Religion," 648. For other examples of his use of a botanical metaphor, see "The Next Step Forward for Women; Or, Thoughts on the Movement for Rational

Dress" 6 (October 1892): 636; "Religious Thought in Colonial Days as Mirrored in Poetry and Song," 7 (December 1892): 74; "Revolutions in Religious Thought During the Nineteenth Century," 26 (November 1901): 599; "Topics of the Times. Nature and Art as Factors in Growth and Enjoyment," 26 (December 1901): 657.

[4] Henry James, *The Bostonians* (1886; repr., New York: Modern Library, 2003), 5, 251-347. For instance, when a *Brooklyn Daily Eagle* journalist announced that psychical research had been imported into the United States, he exclaimed that it took root "in Boston of course!" "The Psychical Review. Old Mediumistic Friends Appearing in New Garbs," *Brooklyn Daily Eagle*, July 29, 1892, 3.

[5] Ann Taves, *Fits, Trances, and Visions: Experiencing Religion and Explaining Experience from Wesley to James* (Princeton: Princeton University Press, 1999), 5-6. Catherine L. Albanese, *A Republic of Mind and Spirit: A Cultural History of American Metaphysical Religion* (New Haven: Yale University Press, 2007), 257-71.

[6] Albanese, *A Republic of Mind and Spirit,* 13-16. For the "conflict thesis" see Ronald L. Numbers, *Science and Christianity in Pulpit and Pew* (Oxford: Oxford University Press, 2007), 3-4; Craig James Hazen, *The Village Enlightenment in America : Popular Religion and Science in the Nineteenth Century* (Urbana: University of Illinois Press, 2000) 1-3; John William Draper, *History of the Conflict Between Religion and Science* (New York: D. Appleton, 1875), Andrew Dickson White, *A History of the Warfare of Science with Theology in Christendom* (New York: D. Appleton, 1896). For a historiography of the "secularisation thesis," see Philip S. Groski, "Historicizing the Secularization Debate: An Agenda for Research," in *Handbook of the Sociology of Religion*, ed. Michelle Dillon (Cambridge: Cambridge University Press, 2003), 110-22; Steve Bruce. *Religion and Modernization: Sociologists and Historians Debate the Secularization Thesis* (Oxford: Oxford University Press, 1992), 170-94; Alan Aldridge, *Religion in the Contemporary World: A Sociological Introduction* (Cambridge: Polity Press, 2013), 35-95.

[7] Flower, "Editorial. Present Day Tendencies and Signs of the Times. Interesting Psychical Phenomena," 7 (January 1893): 244-49, reprinted as "Psychical Cases and Reflections from Periodical Literature," *The Psychical Review*, 1 (February 1893): 281-86. Hamlin Garland, *The Shadow World* (New York, London: Harper & Brothers, 1908), 9.

[8] Frank Luther Mott, *A History of American Magazines, Volume IV: 1885-1905*, 1st ed. (Belknap Press of Harvard University Press, 1957), 410, 415.

[9] Roger Eliot Stoddard, "Vanity and Reform: B.O. Flower's Arena Publishing Company, Boston, 1890-1896. With a Bibliographical List of Arena Imprints," *Papers of the Bibliographical Society of America* 76, nº 3 (1982), 280. Flower's reputation as a radical was well known at the time. For a contemporary testimony, see Hamlin Garland, *A Son of the Middle Border* (1917; repr., New York: Penguin Books, 1995), 329.

[10] Hamlin Garland to James A. Herne, 21 November 1890, *Selected Letters of Hamlin Garland*, ed. Keith Newlin and Jospeh B. McCullough (Lincoln: University of Nebraska Press, 1998), 69. "Obituary. Gideon F. T. Reed," 5 (April 1892): xxxiii. "Untitled article," *The Banner of Light*, 71 (April 16, 1892): 1. Howard Francis Cline, *The Mechanics of Dissent: Benjamin Orange Flower and his Arena, the Story of a Man and his Magazine* (Senior Honors Thesis, Harvard, 1939), Harvard University Archives, 91.

[11] Flower, "Editorial Notes. The Scientific Sensation of the Hour," 2 (August 1890): 380.

[12] Beryl Satter, *Each Mind a Kingdom: American Women, Sexual Purity, and the New Thought Movement*, 1875–1920, (Berkeley: University of California Press, 1999), 188.

[13] Flower, "Editorial Notes. Home Influence and The Child," 3 (March 1891): 506.

[14] Flower, "Books of the Day. *Aedoeology*," 7 (April 1893): viii-ix. Sydney Barrington Elliot, *Aedoeology : A Treatise on Generative Life: Including Pre-Natal Influence, Limitation of Offspring, and Hygiene of the Generative System* (Boston: The Arena Publishing Company, 1893).

[15] Flower, *Civilization's Inferno, or, Studies in the Social Cellar* (Boston: The Arena Publishing Company, 1893), 115.

[16] Flower, "Hypnotism and Its Relation to Psychical Research," 5 (February 1892): 331.

[17] Flower, *Progressive Men*, 22, 153.

[18] Sally Morita, "Unseen (and Unappreciated) Matters: Understanding the Reformative Nature of 19th-Century Spiritualism," *American Studies* 40, 3 (Fall 1999): 100, 103, 113.

[19] Flower, "Editorial Notes. A Transition Period," 3 (December 1890): 124.

[20] Flower, "Hypnotism and Its Relation to Psychical Research," 318; "An Earnest Word to Our Readers," *The Psychical Review*, 1 (August 1892): 94.

[21] Flower, "Hypnotism and Its Relation to Psychical Research," 316, 331.

[22] *ibid*., 322, 324.

[23] *ibid*., 325.

[24] *ibid*., 326-27.

[25] *ibid*., 321, 330. For a discussion of the European roots of hypnotism and its acculturation in the United States, see Robert C. Fuller, *Mesmerism and the American Cure of Souls* (Philadelphia: University of Pennsylvania Press, 1982), 1-15. R. Laurence Moore, *In Search of White Crows: Spiritualism, Parapsychology, and American Culture* (New York: Oxford University Press, 1977), 142.

[26] Donald Robertson ed., *The Discovery of Hypnosis - The Complete Writings of James Braid, the Father of Hypnotherapy* (UKCHH Ltd, 2009), 43, 54-55.

[27] Numbers, *Science and Christianity*, 53

[28] Flower, "Editorial Notes. Psychological Problems," 2 (September 1890): 509-11.

[29] Deborah J. Coon, "Testing the Limits of Sense and Science: American Experimental Psychologists Combat Spiritualism, 1880–1920," *American Psychologist* 47, 2 (1992): 143,150.

[30] Flower, *Progressive Men*, 300.

[31] Flower, "To the Friends of Psychical Science," 238.

[32] *ibid*., 238.

[33] Flower, "The Scientific Sensation of the Hour," 380-81.

[34] About James, see Coon, "Testing the Limits of Sense and Science," 147.

[35] Hamlin Garland, *Forty Years of Psychic Research; A Plain Narrative of Fact* (New York: Macmillan, 1936), 71.

[36] Flower, "The Scientific Sensation of the Hour," 380-381. Flower often quoted the French scientist in his own articles. Flammarion wrote several pieces in *The Arena*: "The Unknown. Part 1," 4 (June 1891): 10-24; "The Unknown. Part 2," 4 (July 1891): 160-71; "New Discoveries in the Heavens," 5 (November 1891): 1-11; "New Discoveries on the Planet Mars," 3 (February 1891): 275-90; "Unknown Natural Forces," 19 (May 1898): 632-38.

[37] Flower, "Interesting Psychical Phenomena," 247.

[38] Flower, "Hypnotism and Its Relation to Psychical Research," 320.

[39] Flower, "The Scientific Sensation of the Hour," 380.

[40] Flower, "Hypnotism and Its Relation to Psychical Research," 320.

[41] Flower, "Hypnotism and Its Relation to Psychical Research," 320; "The Coming Religion," 655. For an account of the work of the Commission, see Robert Darnton, *Mesmerism and the End of the Enlightenment in France* (Cambridge, Mass.: Harvard University Press, 1968), 62-65. The phrase "overheated imagination of the mesmerists" is Darnton's.

[42] Flower, "Hypnotism and Its Relation to Psychical Research," 320.

[43] *ibid*., 316. Flammarion concurred: "the *unknown* of yesterday is often the reality of to-day." Flammarion, "New Discoveries in the Heavens," 2 (Flammarion's emphases).

[44] Flower, "Hypnotism and Its Relation to Psychical Research," 321.

[45] *ibid*., 321. James Braid, *Neurypnology or the Rationale of Nervous Sleep Considered in Relation with Animal Magnetism Illustrated by Numerous Cases of its Successful Application in the Relief and Cure of Disease* (1843; repr., New York: Arno Press, 1976), 4-5.

[46] Flower, "The Scientific Sensation of the Hour," 381.

[47] Flower, "An Earnest Word to Our Readers," 94. Flower praised "the value of hypnotism as a moral agent" – drunkards had been "redeemed" and "criminal propensities in children (…) modified" thanks to the power of mind. Flower, "Hypnotism and Its Relation to Psychical Research," 332-33.

[48] *ibid.*, 316.

[49] Flower, "The Scientific Sensation of the Hour," 381.

[50] Edward Bellamy, *Looking Backward, 2000-1887* (Boston: Houghton, Mifflin & Co., 1889).

[51] Byron Alden Brooks, *Earth Revisited* (Boston: The Arena Publishing Company, 1894). Solomon Schindler, *Young West: A Sequel to Edward Bellamy's Celebrated Novel "Looking Backward"* (Boston: The Arena Publishing Company, 1894).

[52] Flower, "Hypnotism and Its Relation to Psychical Research," 333; *Civilization's Inferno,* 191. About the wave of utopian literature in the 1890s, see Kenneth M. Roemer, *The Obsolete Necessity: America in Utopian Writings, 1888–1900* (Kent, OH: Kent State University Press, 1976); Jean Pfaelzer, *The Utopian Novel in America, 1886–1896: The Politics of Form* (Pittsburgh: University of Pittsburgh Press, 1984).

[53] Flower, "Publishers' Notice," in Schindler, *Young West*, unnumbered page.

[54] Marshall McLuhan, *Understanding Media: The Extensions of Man* (1964; repr., Cambridge, MA: The MIT Press, 1994), 7.

[55] Flower, "Hypnotism and Its Relation to Psychical Research," 318.

[56] *ibid.*, 316, 334.

[57] Flower, "The Scientific Sensation of the Hour," 381.

[58] Flower, *Progressive Men,* 187.

[59] Flower, "A Broader View of Education," 508.

[60] Flower, "Editorial Notes. Is This You Son, My Lord," 2 (November 1890): 761; "Books of the Day, Notable Books for Thoughtful People," 8 (August 1893): xiv; "The Coming Religion," 655.

[61] Flower, *Progressive Men*, 183; "Inspiration and Psychical Phenomena among our Latter-Day Poets," 7 (February 1893): 378.

[62] Flower, *Progressive Men,* 183-87; "The Scientific Sensation of the Hour," 380; Flower, "Inspiration and Psychical Phenomena among our Latter-Day Poets," 383-84.

[63] Flower, "Books of the Day, *Psychics: Facts and Theories* by Savage," 7 (April 1893): xv. Flower emphasised the centrality of investigation and the possibility to combine spiritualism and science; that this was part of the collective imagination of his time is shown by this other thread in the tangled transatlantic story of "psychical research": Arthur Conan Doyle, the creator of Sherlock Holmes, would also use his experimental skills in demonstrating spiritualism at the beginning of the twentieth century. Arthur Conan Doyle, *The History of Spiritualism 2 Volume Set* (1926; repr., Cambridge: Cambridge University Press, 2011).

[64] Flower, "Notes and Announcements. Praise for the Arena," 2 (November 1890): unnumbered page; "Consensus of Opinion on a Recent Notable Case," 230; "Notes on Living Problems of the Hour. Liberty of Citizenship Imperiled. A Consensus of Opinion on a Recent Notable Case. Introductory Statement by the Editor," 2 (July 1890): 230.

[65] The Scottish Common-Sense philosophy "dominated the philosophical curriculum for much of the nineteenth century." International Association for Scottish Philosophy, "Dugald Stewart 1753-1828," accessed March 31, 2014, http://www.scottishphilosophy.org/dugald-stewart.html. About popular science, Baconianism and Common Sense, see Hazen, *The Village Enlightenment in America*, 8-16; Numbers, *Science and Christianity*, 22. About Common Sense philosophy and its impact on American thought, see Mark A. Noll, "Common Sense Traditions and American Evangelical Thought," *American Quarterly* 37, n°2 (1 July 1985): 216-38. Alexander Broadie, "The Impact on America: Scottish Philosophy and the American Founding," in *The Cambridge Companion to the Scottish Enlightenment*, ed. Alexander Broadie (Cambridge, UK: Cambridge University Press, 2003), 316-17. Sophia A. Rosenfeld, *Common Sense: A Political History* (Cambridge, Mass.: Harvard University Press, 2011).

[66] Flower, "Hypnotism and Its Relation to Psychical Research," 317.

[67] Oxford English Dictionary, s.v. "science," http://www.oed.com. According to the OED, this is "the most usual sense since the mid-19th cent. when used without any qualification."

[68] Ironically enough, the extension of the realm of "nature" reveals more a *belief* in the scientific method rather than its actual application: "Baconianism was much stronger as a scientific mind-set than a strict scientific method. Few had come to terms with the inconsistency of being a Baconian and believing so firmly in something with which the sense had no direct access. Ironically, this myopia demonstrated just how deeply trusted the senses were." Hazen, *The Village Enlightenment in America*, 107.

[69] William James, letter to his sister Alice, July 6, 1891, *The Letters of William James* (New York: Cosimo, 2008), 310. Jackson Lears, *Rebirth of a Nation: The Making of Modern America, 1877-1920* (New York: Harper, 2010), 238. About James and spiritualism, see also Coon, "Testing the Limits of Sense and Science," 147.

[70] Flower, "Two Interesting Cases," *The Psychical Review*, 1 (May 1893): 326.

[71] Flower, "Interesting Psychical Phenomena," 248.

[72] Flower, "Two Interesting Cases," 326.

[73] Flower, "Hypnotism and Its Relation to Psychical Research," 319; *Progressive Men*, 187-88.

[74] David A. Hollinger, "The Problem of Pragmatism in American History," *In the American Province: Studies in the History and Historiography of Ideas* (Baltimore: Johns Hopkins University Press, 1989), 32.

[75] Flower, "A Consensus of Opinion on a Recent Notable Case," 230. Flower often referred to the British scientist in his own articles. Wallace's articles in *The Arena* were numerous, dealing with "psychical research" but also with economic and social problems of the day. Another "eminent scientist" and investigator of psychical phenomena that Flower kept mentioning was British analytical chemist William Crookes. Unlike Wallace, Crookes did not, however, write in Flower's periodicals. Alfred Russel Wallace, "Are There Objective Apparitions?" 3 (January 1891): 129-46; "What are Phantasms, and Why Do They Appear?" 3 (February 1891): 257-74; "Human Progress: Past and Future," 145-59. His most famous papers on economic and social issues are: "The Social Quagmire and the Way Out of it. I. The Farmers," 7 (March 1893): 395-410; "The Social Quagmire and the Way Out of it. II. Wage-Workers" 7 (April 1893): 525-42; "The Railways of the Nation," 37 (January 1907): 1-6. Flower, "Hypnotism and Its Relation to Psychical Research," 319; "Psychography: Remarkable Cases," *The Psychical Review*, 1 (August 1892): 32.

[76] Flower, *Progressive Men*, 235-53. The example of Wallace sheds another light on the "making of Science (with a capital 'S')" and on "how the boundaries of science came to be drawn." For an analysis of Wallace's "conversion" and eventual "ostracism" because of his interest in spiritualism, see: James Moore, "Wallace in Wonderland," *Annals of the History and Philosophy of Biology* 11 (2006): 139-54.

[77] G. S. Hall to J. Jastrow, February 9, 1920, Hall Papers quoted in Coon, "Testing the Limits of Sense and Science," 147. Savage, Garland, Schindler, and Buchanan all contributed regularly to *The Arena*, writing about social, economic, political, literary, religious or occult issues. Schindler and Garland confined psychical research to the scientific journal the group founded, *The Psychical Review*, whereas Savage and Buchanan wrote about the subject both in *The Arena* and *The Psychical Review*. Minot J. Savage, "A Reply to Mr. Hawthorne," 3 (May 1891): 641-57, 680- 691; "Psychical Research. Some Interesting Cases," 5 (March 92): 405-15; "Psychical Research. Some Interesting Cases. II.," 5 (May 1892) : 669-80; "Psychical Research. More Cases Still," 6 (September 1892): 420-33; "Psychical Research. Status and Theories," 6 (November 1892): 677-91. Joseph R. Buchanan, "The Scientific Theosophy. Part I.," 15 (December 1895): 59-66; "The Scientific Theosophy. The Dawn of a New Civilization Part II.," 15 (February 1896): 425-38.

[78] "Constitution of The American Psychical Society," *The Psychical Review*, 1 (August 1892): 33.

[79] Flower, *Progressive Men*, 188. William James, *Essays in Psychical Research. The Works of William James. Vol. 16*, ed. Frederick H. Burkhardt, Fredson Bowers, and Ignas K. Skrupskelis. Introduction by Robert McDermott (Cambridge, MA, and London: Harvard University Press, 1986), 385 Moore, *In Search of White Crows*, 133-66. Howard Kerr, *Mediums and Spirit-Rappers and Roaring Radicals. Spiritualism in American Literature 1850-1900* (Urbana: University of Illinois Press, 1972), 220. Taves, *Fits, Trances, and Visions*, 207.

[80] "Proceedings of The American Psychical Society. Third General (Annual) Meeting, Jan. 13, 1892," *The Psychical Review*, 1 (August 92): 33-35; "Meeting. February 3, 1893," *The Psychical Review*, 1 (May 1893): 385.

[81] The journal is accessible online at http://pds.lib.harvard.edu/pds/view/31415994. Flower also contributed to the review. For a complete list of articles about psychical research by Flower, his friends and fellow researchers, and therefore an overview of the scope of their work, see appendix 2. Only Flammarion did not write in *The Psychical Review*.

[82] Flower, "An Earnest Word to Our Readers," 94.

[83] Flower, "Report of Dark *Séances*, with a non-professional psychic, for voices and the movement of objects without contact. Thirty-second sitting, December 10," *The Psychical Review*, 2 (November 1893 and February 1894): 170. The August 1893 issue of *The Psychical Review* featured a series of "Report[s] of Dark *Séances*" by the different contributors to the journal. Garland, *Forty Years of Psychic* Research," 14, 27-30, 42-44, 71, 77-93. For a summary of evidence of psychical phenomena, see Garland, *Forty Years of Psychic Research*, 381-82.

[84] *ibid.*, 1-4; *The Shadow World*, 9. When *The Shadow World* came out in 1908, Flower's review in *The Arena* testified to the accuracy of Garland's experiences and eulogised his book, celebrating it as the "most popular presentation of certain psychical phenomena, together with views and explanations by world-famous savants, that has yet been published" (Flower, quoted in Garland, *Forty Years of Psychic Research*, 186-87).

[85] Hazen, *The Village Enlightenment in America*, 1-3. Jon Butler, *Awash in a Sea of Faith: Christianizing the American People*, Studies in Cultural History (Cambridge, Mass.: Harvard University Press, 1990), 2.

[86] "The Psychical Science Congress," *The Psychical Review*, 1 (May 1893): 331.

[87] Flower, "Report of Dark *Séances*," 171-74.

[88] Simone Natale, "A Cosmology of Invisible Fluids: Wireless, X-Rays, and Psychical Research Around 1900," *Canadian Journal of Communication* 36, 2 (2011): 273, accessed March 31, 2014, http://www.cjc-online.ca/index.php/journal/article/view/2368.

[89] Savage, "A Reply to Mr. Hawthorne," 691.

[90] Paul F. Stuehrenberg, "Christian Responses to Charles Darwin, 1870-1900. An exhibit at the Yale Divinity School Library - February-June 2009," accessed March 31, 2014, http://divinity-adhoc.library.yale.edu/Exhibits/Darwin.htm.

[91] Flower, "Books of the Day," 6 (June 1892): xxxvi-xli. Minot J. Savage, *The Irrepressible Conflict Between Two World-theories. Five Lectures Dealing with Christianity and Evolutionary Thought, to Which is Added "The Inevitable Surrender of Orthodoxy,"* (Boston: The Arena Publishing Company, 1892); *Psychics: Facts and Theories* (Boston: The Arena Publishing Company, 1893), iii, v. *The Irrepressible Conflict* became a success for The Arena Publishing Company and was reprinted the same year. *Psychics: Facts and Theories* was a collection of Savage's papers written for *The Psychical Review*.

[92] Flower, "Books of the Day," 7 (April 1893): xv.

[93] Flower, "Notes and Announcements," 7 (March 1893): xxiv.

[94] "Proceedings of The American Psychical Society," 33.

[95] Flower, *Progressive Men*, 163.

[96] Cline, *The Mechanics of Dissent*, 30-31.

[97] See, for, "*Arena Literary Bulletin*," 2 (November 1890): unnumbered page.

[98] Joseph R. Buchanan, *Manual of Psychometry: The Dawn of a New Civilization*, 4th ed. (Boston: F.H. Hodges, 1893), 3-4, 73.

[99] "A Discourse on Seven Sciences; Cerebral Physiology, Cerebral Psychology, Sarcognomy, Psychometry, Pneumatology, Pathology, and Cerebral Pathology," *The New York Times*, March 17, 1878.

[100] Fuller, *Mesmerism and the American Cure of Souls*, 53-54.

[101] Flower, "Psychological Problems," 509-11.

[102] Joseph R. Buchanan, "The Coming Cataclysm of America and Europe," 2 (August 1890), 301.

[103] Flower, "Psychological Problems," 509-11. Flammarion's approach prefigured most of the arguments developed by Flower: "*Spiritualism is not a religion, but a science*, a science of which we as yet scarcely know the a,b,c. The age of dogma is past. Nature includes the Universe, and God himself, who was in old times conceived of as a being of similar shape and form as man, cannot be considered by modern metaphysics as other than *Mind in Nature*" (Flammarion's emphasis). Camille Flammarion, *Oration Delivered at the Grave of Allan Kardec* (Paris: Didier, 1869), in Flammarion, *Mysterious Psychic Forces: An Account of the Author's Investigation in Psychical Research, Together with Those of Other European Savants,* uncredited English translation (Boston: Small, Maynard and Company, 1907), 31. William James shared with Flammarion and Flower the idea of an infinite nature. For James, the "incompleteness of visible nature" suggested "a vaster realm of spiritual freedom." John Higham, "The Reorientation of American Culture in the 1890s," *in* John Higham, *Hanging Together: Unity and Diversity in American Culture* (New Haven, London: Yale University Press, 2001), 193.

[104] Flower, *The Century of Sir Thomas More* (Boston: The Arena Publishing Company, 1896), 290. Many members of his network agreed with this program, most notably Buchanan, who wanted "to give the law of progress, and the religion scientifically true." Joseph R. Buchanan, "The Scientific Theosophy. Part II.," 438.

[105] Flower, "Revolutions in Religious Thought During the Nineteenth Century," 602.

[106] Flower, "The Coming Religion," 648-49.

[107] Flower, "Is This You Son, My Lord," 761.

[108] Numbers, *Science and Christianity*, 40-55.

[109] Lears, *Rebirth of a Nation*, 238. Flammarion, "Unknown Natural Forces," 632.

[110] Numbers, *Science and Christianity*, 40.

[111] *ibid*., 40. Coon, "Testing the Limits of Sense and Science," 147.

[112] Numbers, *Science and Christianity*, 33. *Encyclopædia Britannica,* 11th. ed., s.v. "Drummond Henry."

[113] Henry Drummond, *Natural Law in the Spiritual World* (London: Hodder and Stoughton, 1883): 11.

[114] Flower, "Editorial Notes. The Greatest Thing in the World," 2 (September 1890): 512.

[115] Flower, "The Coming Religion," 648-49; "Editorial. Jesus, the Church and the World's Fair," 6 (July 1892): 250. Critiques of social Darwinism were quite mainstream: pooh-poohed by the scientific elite, reformers were prompt to appropriate the language of science to legitimise their utopian visions, just like laissez-faire advocates had taken up and, arguably, distorted Darwin's ideas. In an essay, Bellamy proposed a revised version of Darwinism replacing "the law of necessity with the law of love." In Charles Sanders Peirce's article "Evolutionary Love," the pragmatist philosopher explained that love, in the words of Matthew Hartman, "furnishes the motive and the telos of evolution." Matthew Hartman, "Utopian Evolution: The Sentimental Critique of Social Darwinism in Bellamy and Peirce," *Utopian Studies* 10, 1 (January 1, 1999): 26, 41.

[116] Stinson Jarvis, "The Ascent of Life. Part I," 9 (December 1893): 1-25; "The Ascent of Life. Part II," 9 (January 1894): 176-88; "The Ascent of Life. Part III," 9 (February 1894): 370-81; "The Ascent of Life. Part IV," 9 (March 1894): 482-91; "The Ascent of Life. Part V," 9 (April 1894): 601-18; "The Ascent of Life. Part VI," 9 (May 1894): 725-45; *The Ascent of Life; or The Psychic Laws and Forces in Nature* (Boston: The Arena Publishing Company, 1894).

[117] Flower, "Prospectus of the *Arena* for 1894," 9 (December 1893): xliv, xlvi.

[118] Flower, "The Coming Religion," 655.

[119] Flower, "Prospectus of the *Arena* for 1894," xlvi.

[120] *ibid*., xlvi.

[121] *ibid*., xlv-xlvi.

[122] *ibid*., xlvi.

[123] Nick Mount, *When Canadian Literature Moved to New York* (Toronto: University of Toronto Press, 2005), 84. The phrase "therapeutic cult" is Nick Mount's. The expression "Boston craze," quoted in Mount, comes from a history of New Thought by one of its leaders, Horatio Dresser.

[124] Mount, *When Canadian Literature Moved to New York*, 84.

[125] For more details about the history of New Thought and Christian Science, see Albanese, *A Republic of Mind and Spirit*, 285-314.

[126] Flower, "To the Friends of Psychical Science," 238.

[127] Dugald Stewart, "The Unity of the Sciences," in Alexander Broadie, *The Scottish Enlightenment Reader* (Edinburgh: Canongate, 1997), 55. Braid, *Neurypnology*, title page. Robertson, *The Discovery of Hypnosis*, 19.

[128] Flower, "Hypnotism and Its Relation to Psychical Research," 320.

[129] Flower, "Books of the Day *As It is to Be* by Cora Linn Daniels," 7 (March 1893): xiv.

[130] Flower, "An Earnest Word to Our Readers," 95.

[131] Flower, *Progressive Men*, 304. The "civilization-moulding struggle" between "progress under the aegis of freedom" and monopoly and "conservative, privilege-seeking restriction" defined Flower's vision of science but also of politics in general. He fought against monopolies on knowledge but also against economic monopolies because both led to "moral or intellectual stagnation" (*ibid.*, 300).

[132] Flower, "Prospectus of The Arena for 1894," xliv.

[133] Garland, *Forty Years of Psychic Research*, 15-16.

[134] Flower, "*As It is to Be*," xiv.

[135] Karl Popper, *The Logic of Scientific Discovery* (1935; repr., London, New York: Routledge Classics, 2002), 18.

[136] Flower, "To the Friends of Psychical Science," 238.

[137] Hollinger, "The Problem of Pragmatism in American History," 34-35.

[138] James T. Kloppenberg, "Pragmatism: An Old Name for Some New Ways of Thinking?," *Journal of American History* 83 (June 1996): 101, doi: 10.2307/2945476. However, Flower cannot be considered as a pragmatist *per se*, as he did not think truths could be "plural"; he still believed in (Platonic) Truth, as shown by the motto of The Arena Publishing Company (cf. figure 1) or his mantra "truth for authority rather than authority for truth." He was a sort of "reluctant modernist," aware of the possibilities and limits of science, indignant at the arrogance of scientism but still rooted in nineteenth century idealism. Hollinger, "The Problem of Pragmatism in American History," 34. George Cotkin, *Reluctant Modernism: American Thought and Culture, 1880-1900* (New York, Toronto, New York, 1992).

[139] Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 4th ed. (Chicago: University of Chicago Press, 2012), 6, 103.

[140] Flower, "Hypnotism and Its Relation to Psychical Research," 320; "An Earnest Word to Our Readers," 94.

[141] Sidney G. Tarrow, *Power in Movement: Social Movements and Contentious Politics* (Cambridge UP, 1998), 50-51. Flower, "The Coming Religion," 655.

[142] Our personal investigations have confirmed this destruction. I would like to thank librarians, archivists and scholars in various Boston universities and from across the United States (via the SHARP-L forum), as well as Flower's descendants, antique booksellers and genealogists in Boston for their help in trying to locate the missing papers (unfortunately, to no avail).

[143] Cline, *The Mechanics of Dissent*, 71. Mott, *A History of American Magazines*, 3-10.

[144]"What Middletown Read" database, Ball State University, accessed May 30, 2014, http://www.bsu.edu/libraries/wmr/search.php#advanced. Advertisements never exceeded 20 pages, a far cry from mass-market magazines at the time (more than 150 pages for *McClure's Magazine* for instance). Flower's patrons provided most of the capital for his publications.

[145] Richard Ohmann, "Diverging Paths. Books and Magazines in the Transition to Corporate Capitalism," in *A History of the Book in America. Volume 4. Print in Motion. The Expansion of Publishing and Reading in the United States, 1880-1940*, ed. Carl F. Kaestle & Janice A. Radway (Chapell Hill: University of Carolina Press, 2009), 110-13. Mott, *A History of American Magazines*, 25-28.

[146] See, for instance, the cover page of the May 1892 issue. Minot J. Savage, "Psychical Research. II. More Remarkable Cases," 5 (May 1892): 669-680. "Sensationalism," *The Banner of Light*, 72 (February 18, 1893): 4.

[147] C.W. Nevius, "Kids flock back to parents' nest," *SFGate*, March 11, 2006, accessed August 14, 2014, http://www.sfgate.com/bayarea/nevius/article/Kids-flock-back-to-parents-nest-2502349.php#src=fb.

[148] Hudson Tuttle, "A New Move," *The Banner of Light*, 68 (February 21, 1891): 1.

[149] See, for instance, "The Revival of Psychical Research," *Medical Record*, 43(May 13, 1893): 593; "Psychological Section," *The Medico-Legal Journal*, 10, 1 (1892): 317-18, 413.

[150] George S. Hall, "Psychological Literature. IV Psychic Research," *The American Journal of Psychology*, 7 (October 1895): 140-42.

[151] Coon, "Testing the Limits of Sense and Science," 150.

[152] *The Arena* - modern in taste, highbrow and genteel in tone, radical in politics - was an unusual magazine at the time, a mixture of the Populist press, older elite monthlies like *The Atlantic* and popular monthlies like *McClure's*. It did not rely on advertising as much as the mass-market monthlies. Flower, nonetheless, relied on a magazine to criticise and fight corporate America while magazines "played a leading role in the corporate revolution." Ohmann, "Diverging Paths," 115. Olivier Zunz, *Why the American Century?* (Chicago: University of Chicago Press, 2000), xi. Thomas E. Will, "A Menace to Freedom: The College Trust," 26 (September 1910): 244-57.

[153] Flower, "Notes and announcements," 3 (May 1891): xxxi.

[154] Garland, *Forty Years of Psychic Research*, 123.

[155] Flower, *Progressive Men*, 109. Cline, *The Mechanics of Dissent*, 106.

[156] Aside from Jarvis, Flower promoted the work of New Thought writer Henry Wood because it expounded the "laws of mental healing" or *Ideal Suggestion Through Mental Photography* to use the name of one of Wood's books that Flower reviewed. Wood rejected supernaturalism. He claimed that it was "under natural law that cure is effected." Christian Science was the only religion that was based on "scientific deductions from the Scriptures," in the words of William D. McCrackan, a regular contributor to *The Arena* who would become the first Reader of the Boston Mother Christian Science Church in 1905. Besides, matter, for scientists like Thomas Huxley, was an "unknown Something" and for McCrackan, this was tantamount to the Christian Scientists' vision of God. However, Christian Science submitted science to spiritual aims. Its "law of God" rested on a supernatural premise. Flower, "Books of the Day, *Ideal Suggestion Through Mental Photography* by Henry Wood, 8 (June 1893): xii-xiv. Henry Wood, "Healing Through Mind," 4 (October 1891): 530-42; "Medical Slavery Through Legislation," 8 (November 1893): 680-89. Flower reprinted one article in pamphlet form: Henry Wood, *Healing Through the Mind. Great Papers in Pamphlet Form, VII* (Boston: The Arena Publishing Company, 1892). William D. McCrackan, "The Strength of Christian Science - A Final Word," *The North American Review*, 173 (October 1901): 535; "Mistaken Criticism of Christian Science," *The Independent,* July 23, 1903, 1736.

[157] Taves, *Fits, Trances, and Visions*, 250-60. Coon, "Testing the Limits of Sense and Science," 149.

Appendix 1: Books and imprints dealing with "psychical research" and other fringe theories published by The Arena Publishing Company.

Brooks, Byron Alden. *Earth Revisited*. Boston: The Arena Publishing Company, 1894.

Buchanan, Joseph Rodes. *The Cosmic Sphere of Woman. Great Papers in Pamphlet Form, VIII*. Boston: The Arena Publishing Company, 1892.

Cocke, James Richard. *Hypnotism: How It is done; Its Uses and Dangers*. Boston: The Arena Publishing Company, 1894.

Dalton, Joseph Grinnell. *The Spherical Basis of Astrology, being a comprehensive table of houses for latitudes 22° to 56° with rational views and suggestions, explanations and instructions, corrections of wrong methods, and auxiliary tables*. Boston: The Arena Publishing Company, 1893.

De La Camp, Otto A. *A Spiritual Tour of the World in Search of the Lines of Life's Evolution*. Boston: The Arena Publishing Company, 1896.

Elliot, Sydney Barrington. *Aedoeology: A Treatise on Generative Life; Including Pre-Natal Influence, Limitation of Offspring, and Hygiene of the Generative System*. Boston: The Arena Publishing Company, 1893.

Henderson, Eliza Easter. *A Guide to Palmistry*. Boston: The Arena Publishing Company, 1893.

Holley, George Washington. *Magnetism: Its Potency and Action with Suggestions for a New Cosmography and a New Celestial Geography*. Boston: The Arena Publishing Company, 1894.

Jarvis, Stinson. *The Ascent of Life; or The Psychic Laws and Forces in Nature*. Boston: The Arena Publishing Company, 1894.

Knapp, Mary Clay. *Whose Soul Have I Now?* Boston: The Arena Publishing Company, 1896.

Knowles, Edward Randall. *The Supremacy of the Spiritual.* Boston: The Arena Publishing Company, 1895.

Newton, Richard Heber. *Dogmatism of Science. Great Papers in Pamphlet Form, VI*. Boston: The Arena Publishing Company, 1891.

Savage, Minot Judson. *Psychics: Facts and Theories*. Boston: The Arena Publishing Company, 1893.

Schindler, Solomon. *Young West; A Sequel to Edward Bellamy's Celebrated Novel "Looking Backward."* Boston: The Arena Publishing Company, 1894.

Weil, Samuel. *The Religion of the Future or Outlines of Spiritual Philosophy Theories*. Boston: The Arena Publishing Company, 1894.

Wood, Henry. *Healing Through the Mind. Great Papers in Pamphlet Form, VII*. Boston: The Arena Publishing Company, 1892.

Appendix 2: Articles about psychical research by Flower, his friends and fellow researchers published in *The Psychical Review* (organised by author and then chronologically).

Allen, T.E. "Editorial. Mental Causation. A Review of *Ideal Suggestion through Mental Photography*." 2 (August 1893): 84-88.

Buchanan, J. R. "The Science of Psychometry." 1 (December 1892): 101-05.

--- "The Science of Psychometry. Part II." 2 (August 1893): 23-29.

--- "Psychometry, The Divinity in Man." 2 (November 1893 and February 1894): 137-43.

Dolbear, A.E. "Implications of Psychical Phenomena." 1 (August 1892): 7-15.

--- "Report upon Psychography." 1 (August 1892): 35-37.

--- "Two Hypotheses as to the Cause of Psycho-Physical Phenomena." 1 (August 1892): 38-39.

--- "Report upon Spectral Well of Virginia." 1 (February 1893): 197-202.

--- "Implications of Psychical Phenomena. Part II." 1 (February 1893): 211-14.

--- "Implications of Psychical Phenomena. Part III." 2 (August 1893): 1-7.

--- "The Relations of Physical and Psychical Phenomena." 2 (November 1893 and February 1894): 11-17.

Flower, B.O. "Psychography: Remarkable Cases." 1 (August 1892): 28-32.

--- "An Earnest Word to Our Readers." 1 (August 1892): 92-95.

--- "Psychical Cases and Reflections from Periodical Literature." 1 (February 1893): 281-86 (reprinted from an article from the January 1893 issue of *The Arena*).

--- "Two Interesting Cases." 1 (May 1893): 324-26.

--- "Report of Dark *Séances*, with a non-professional psychic, for voices and the movement of objects without contact. Thirty-second sitting, December 10." 2 (November 1893 and February 1894): 170-74.

--- "To the Friends of Psychical Science – A Serious Word on the Work of our Society." 2 (November 1893 and February 1894): 237-39.

Garland, H. "Report upon Psychography." 1 (August 1892): 43-44.

--- "Experiment in Psychography." 1 (December 1892): 136-37.

--- "Sounds, Voices, and Physical Disturbances in the Presence of a Psychic." 1 (February 1893): 226-29.

--- "Report of Dark *Séances*. Eight sitting, November 10." 2 (November 1893 and February 1894): 155-58.

Savage, M.J. "Assured Results in Psychical Science and the Present Outlook." 1 (August 1892): 1-6.

--- "Causes of Psychical Phenomena, Order in which to Assume." 1 (August 1892): 44-45.

--- "Facts before Theories," 1 (August 1892): 45.

--- "Testimony Concerning Psychography." 1 (August 1892): 45-46.

--- "Address," 1 (August 1892): 46.

--- "Address of President Savage. Psychical Cases." 1 (August 1892): 46-50.

--- "Psychical Cases and Reflections from Periodical Literature." 1 (December 1892): 158-69.

--- "Psychical Research: Status and Theories (summary)." 1 (May 1893): 266-73 (reprinted from a November 1892 issue of *The Arena*).

Schindler, S. "Beliefs of Cabalist and Spiritualist the Same." 1 (August 1892): 39-40.

--- "Report upon Psychography." 1 (August 1892): 41-43.

--- "Experiment in Psychography." 1 (December 1892): 131-35.

Wallace, A. R. "Psychography in the Presence of Mr. Keeler." 1 (August 1892): 16-18.

Wood, H. "A Corrected Standpoint." 2 (August 1893): 30.

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