

# WILLIAM JAMES AND THE NATIONAL ACADEMY OF SCIENCES

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## *ABSTRACT*

*William James's 1903 election to the National Academy of Sciences has long been understood as well-deserved recognition for his scientific achievement and as evidence that other sciences had begun to accept the "new psychology" as a peer discipline. This note offers a detailed review of the complex course of events that led to James's election – presented within the context of the Academy's own history – that illustrates just how a variety of extra-scientific factors had a significant impact on this tribute. It closes with a review of James's own activities as an Academy member.*

## **WILLIAM JAMES AND THE NATIONAL ACADEMY OF SCIENCES**

Scholars have long known that William James was honored in 1903 by election to the National Academy of Sciences.<sup>2</sup> Early-20th-century observers agreed that this tribute embodied a real distinction for James and all he had accomplished. More generally, he and other American psychologists understood that this election also confirmed that at least some of their colleagues working in longer-recognized fields of science had begun to accept the "new psychology" – as many characterized their subject – as a scientific discipline.<sup>3</sup> Even today, in the late-20th and early-21st centuries, psychologists cite their peers' election to the Academy as evidence of their scientific stature and achievement.<sup>4</sup> That said, a fuller analysis of the Academy's history, of James's activities as a member, and, especially, of the details of his election sheds light on the significance of the event.

To be sure, James was not the first psychologist elected to the Academy. That honor belongs to James McKeen Cattell of Columbia University, elected in 1901, who during the preceding 15 years had built an international reputation as an experimenter. Cattell achieved laboratory results -- measuring, for example, the duration of a series of mental processes -- that

were more precise (if not necessarily more meaningful) than any previously obtained.<sup>5</sup> Those who nominated Cattell for membership emphasized this accomplishment,<sup>6</sup> and psychologists – including James – and their allies cheered such recognition for their science.<sup>7</sup> But another factor undoubtedly helped Cattell win election. Since 1895, Cattell had edited the weekly journal Science, which provided a forum that served (and still serves) the American scientific community exceptionally well.<sup>8</sup> Initially founded in 1880, previous incarnations had failed despite the sponsorship of, successively, Thomas A. Edison and Alexander Graham Bell. Where Edison and Bell had failed, Cattell succeeded, and his success in resurrecting it won him both admiration and, most probably, his election to the Academy. In the same way, as this note illustrates, extra-scientific factors also played significant roles in James's election.

The Academy itself was founded in 1863, ostensibly to provide scientific advice to the federal government during the Civil War. As historians of science demonstrated decades ago, however, its founding represented an attempt by the Lazzaroni, a small and informal group of Cambridge- and Washington-based scientists, to consolidate their preeminent position in (and perhaps even control of) the American scientific community.<sup>9</sup> Led by Alexander Dallas Bache, Director of the US Coast Survey and then the most prominent federal scientist, the group also included Joseph Henry, Secretary of the Smithsonian Institution, Charles H. Davis, later Director of the US Naval Observatory, and such eminent Harvard scientists as Louis Agassiz (the Swiss-born geologist and zoologist who first hypothesized the Ice Age) and mathematician Benjamin Peirce, later best known as the father of philosopher Charles Sanders Peirce. From the mid 1840s the Lazzaroni strove to improve the international standing of American science and by the middle of the 1850s they dominated the American Association for the Advancement of Science. They even forced the destruction of a complete print run of one volume of the Association's proceedings because it contained a paper that failed to meet their standards.<sup>10</sup>

They found such influence incomplete, however, as it did not include financial support for their scientific research. For that reason, they conspired with Massachusetts Senator Henry Wilson (later US Vice President during Ulysses S. Grant's second term) to have Congress pass – just hours before its 1861-1863 session closed – the legislation establishing the Academy. Although it did not include any direct appropriations, it paved the way for future federal support and named as members primarily those who the Lazzaroni saw as allies. But despite their success, these machinations won them enemies, especially among those (such as MIT President

William Barton Rogers) who they kept from membership. Other non-Lazzaroni scientists who could not be excluded – such as Harvard botanist Asa Gray, who was just then establishing himself as Darwin’s major American proponent – began objecting more than ever before to the presumptions of Bache and Peirce and Agassiz and the others. And even their ally Joseph Henry resented their exclusion of the Smithsonian’s Assistant Secretary Spencer F. Baird.<sup>11</sup>

Such soon-well-known animosities and Bache’s death in 1867 restricted the possibilities of winning new federal support for science and limited the Academy’s influence on federal science policy for several years. But despite this unpromising start, through the decades that followed, as the Academy recognized the most distinguished men of science of the Gilded Age, it gradually grew in stature. American scientists came to realize no other US-based institution recognized research achievement as well as it did, and that election to the Academy represented a unique (and not-easily-gained) form of respect by their peers.<sup>12</sup> To be sure, some younger scientists liked to quote the answer given to a member of the US House of Representatives, who had asked what the Academy did: “The members write obituaries of each other when they die, and it is a pity that they have so little to do.”<sup>13</sup> But even they accepted election to the Academy when the call came.

In 1865, William James had no inkling that he would ever be called. In that year, he embarked on a scientific expedition to Amazonian Brazil, led by Louis Agassiz, one of the Academy’s founders. During the next few decades, however, as the Academy steadily grew in stature (if not influence), so too did James’s scientific reputation. He had previously attended Harvard’s Lawrence Scientific School, earned his Harvard M.D. in 1869, began teaching anatomy and physiology at Harvard in the early 1870s, and in 1881 started publishing physiological studies of human beings. He also began focusing his attention on psychological concerns – at first commenting on the work of Herbert Spencer, among others -- and through the 1880s he developed an influential theory of the emotions and wrote on such significant psychological topics as cognition and space perception. His psychological studies culminated in 1890 with the publication of *The Principles of Psychology*, an epoch-making two-volume study that essentially set the course for much American psychological research during the next few decades.<sup>14</sup>

The *Principles* secured James’s scientific reputation, and through the 1890s and immediately afterward American (and other) scientists recognized his achievement. In 1892, he

was one of the founders of the American Psychological Association and served as its third President in 1894.<sup>15</sup> As an eminent student of psychical phenomena, he became president of the British-based Society for Psychical Research in 1896.<sup>16</sup> In 1902, he was elected an Honorary Member of the New York Academy of Sciences<sup>17</sup> and in 1906 he served as President of the American Philosophical Association. (Indeed, his ready acceptance of these positions refutes claims that James spurned such recognition and supports R. W. B. Lewis's argument that he welcomed -- or at least agreed to -- such honors, even in "his declining years."<sup>18</sup>) And in 1903, American psychologists unanimously chose him as the most eminent practitioner of their science.<sup>19</sup>

James probably knew of the National Academy of Sciences and the distinction that membership in it conferred from the early 1880s, or even earlier. At least two of his closest friends -- Harvard colleague Alexander Agassiz and Charles S. Peirce -- were sons of the organization's founders. They both were Academy members themselves, as both had better than respectable scientific credentials: Agassiz was an eminent geologist and in the 1870s Peirce had produced extraordinary studies of gravity for the US Coast and Geodetic Survey, the successor to Bache's agency. Nonetheless, their fathers' scientific statures and the personal networks that these reputations opened for them undoubtedly helped lead to their own elections.<sup>20</sup> (Even today, highly talented young scientists weigh Academy networking possibilities in considering offered faculty positions.) And by the end of the 1890s, the younger Agassiz and Peirce each began working (though probably independently) to secure James's election.

Late in 1896 James spoke at a meeting of the American Society of Naturalists -- an umbrella organization for all natural sciences -- on the life and career of Louis Agassiz, and in April 1901 his subject's son Alexander became Academy President. Soon thereafter Agassiz asked James if he would accept election to the Academy. (James said yes.)<sup>21</sup> In the meantime, Peirce -- by then practicing philosophy independently in Milford, Pennsylvania -- informed James's wife Alice of his extensive behind-the-scenes activity.<sup>22</sup> These efforts involved -- at least as Peirce reported them -- first, establishing a precedent for psychology by supporting Cattell's nomination as "one the scientific character of whose papers could not be denied by the narrowest specialist."<sup>23</sup> Peirce next shifted his own Academy membership from the Committee on Mathematics & Astronomy to the Committee on Anthropology, through which Cattell's nomination had passed. Peirce then began lobbying other members "to see that William James

was put in, -- *not*, you understand, for *his* sake, because I don't think it would particularly strengthen him, but because I thought it would strengthen the Academy." (This comment probably reflected both remnants of an earlier generation's uneasiness about the Academy and Peirce's own personal history of strained relations with some of the Academy's most influential members.) Cattell added his efforts soon after he joined the Academy. He began to compile a nomination dossier for James, and asked James for a list of his major "scientific" publications. James's response to Cattell listed four papers, and concluded that "the only scientific fact of nature I ever predicted and verified is that if you whirl a frog ~~clockwise~~ and stop him, he will point his nose in the direction in which you have whirled him!" He also wondered why Cattell asked for this information: "I am more mystified that ever."<sup>24</sup>

On 17 April 1902, six Academy members formally proposed James for membership. (Ten other scientists were also nominated at the time.) James's nominators included, first, Cattell (joined by his Columbia colleague anthropologist Franz Boas), three of James's Harvard colleagues (Agassiz, embryologist Charles S. Minot, and astronomer Edward C. Pickering), and Johns Hopkins Medical Dean William Henry Welch, who later served as the Academy's President in the mid 1910s.<sup>25</sup> In April 1903, as six of these nominees (including one future Nobel Prize winner) apparently did not then gather enough support for further consideration, the Academy formally voted on five of them, along with two others who had apparently been nominated earlier. And despite James's strong support from his eminent and well-respected nominators and his own scientific standing, as the Academy at large discussed his qualifications that April, "his election was vigorously opposed because of his attitude toward telepathy and spiritualism." Cattell then rose and pointed out that the Academy already included among its members individuals who believed in the Immaculate Conception and the Resurrection. He concluded that, as "the Academy would not reject the greatest psychologist in the world on the ground that he was a Methodist or a Catholic, . . . William James should not be rejected no matter what his views on telepathy and spiritualism." Several years later, the eminent biologist Theodore Gill summarized Cattell's remarks -- "If we do not reject a man who believes in the Immaculate Conception we should not reject a first-rate man, even if he believes in ghosts" -- and concluded, "Cattell's speech got my vote." And as the Academy's Minute Book records, "Mr. William James, having received two-thirds of the votes cast . . . was declared elected." (So too were four of the six other candidates.) In the 1930s, Cattell confirmed Gill's account but asked

not to be quoted, as “the discussion of the qualifications of members of the academy is supposed to be strictly confidential.”<sup>26</sup>

As noted, James welcomed the honor of his election. But he never was an active member of the Academy and seems to have attended its meetings only rarely.<sup>27</sup> No wonder few recent biographies of James even mention his Academy membership.<sup>28</sup> In 1906, he even forgot that had been appointed to an Academy committee considering a particular issue and, indeed, had forgotten what the issue was.<sup>29</sup> In 1908 he nominated John Dewey for Academy membership – Dewey was elected two years later -- and James also argued informally that the organization should support the publication of one of Peirce’s books. But even as he discussed Dewey’s qualifications he noted that his own major “relations” with the Academy was “to peddle out the distinction [of membership] to other people” and that he was seriously considering resigning his own membership.<sup>30</sup> He finally resigned formally in March 1909, noting that, if he remained a member, his “only active relations to the Academy would probably be the voting (or neglecting to vote) for the addition of new members, or the writing of some one’s necrological notice, or inflicting upon someone the burden of writing mine.”<sup>31</sup> James died only 17 months later.

James’s final analysis of his “relations” echoes (probably unknowingly) the thrust of the joke that younger scientists told about the Academy about 30 years earlier: “The members write obituaries of each other when they die, and it is a pity that they have so little to do.” But less than a decade later, as the nation faced the crisis of the First World War, a young astrophysicist – George Ellery Hale of the Carnegie Institution of Washington, the Mount Wilson Observatory, and (what was then) Throop College of Technology in Pasadena, California – led the revitalization of the Academy through the establishment of its “operating arm,” the National Research Council.<sup>32</sup> By 1920 its influence on American science had grown at least a thousandfold and today – with its sibling institutions, the National Academy of Engineering and the Institute of Medicine – it plays a significant role in setting national science policy. If James had lived he likely would have avoided any role in this transformation. But as noted, at least some early-21st-century American scientists try to shape their careers in ways they think will lead to their elections to the Academy. And psychologists in particular welcome such recognition and like to brag that, with their elections, they are following in the footsteps of William James.

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## NOTES

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<sup>2</sup> E.g., Ralph Barton Perry, *The Thought and Character of William James*, 2 vols. (Boston: Little, Brown, 1935), vol. 2, p. 422; Rexmond C. Cochrane, *The National Academy of Sciences: The First Hundred Years, 1863-1963* (Washington: National Academy of Sciences, 1963), p. 175. Cf. “Business Meeting of the Academy, Washington, April 23, 1903,” Minute Book of National Academy of Sciences, National Academy Archives, Washington, DC.

<sup>3</sup> [Charles S. Peirce], “The National Academy Meeting,” *The Nation* 76 (30 April 1903): 349-351; “Scientific Notes and News,” *Science*, n.s., 17 (1 May 1903): 716-717; William James to James McKeen Cattell, 4 May 1903, Cattell papers, Manuscript Division, Library of Congress, Washington, DC. See also *The Correspondence of William James*, edited by Ignas K. Skrupskelis and Elizabeth M. Berkeley, 12 vols. (Charlottesville: University Press of Virginia, 1992-2004) [hereinafter *CWJ*], vol. 10, p. 603.

<sup>4</sup> K. Fisher, “NAS Plots New Course at Full Speed,” *APA Monitor*, May 1982, pp. 14-15.

<sup>5</sup> Michael M. Sokal, “Scientific Biography, Cognitive Deficits, and Laboratory Practice: James McKeen Cattell and Early American Experimental Psychology, 1880-1904,” *Isis* 101 (2010); in press.

<sup>6</sup> Ira Remsen (National Academy Home Secretary) to John Shaw Billings, 5 February 1901, 20 February 1901, Cattell to Billings, 13 February 1901, 20 February 1901, all Billings papers, New York Public Library, New York, NY; Billings to Cattell, 13 September 1897, 6 February 1901, 16 February 1901, all Cattell papers; “National Academy of Sciences. Nominations, made in 1900, to be voted on at the April Session, 1901,” National Academy Archives.

<sup>7</sup> Frederic P. Keppel to Cattell, 19 April 1901, Simon Newcomb to Cattell, 19 April 1901, Edward Wheeler Scripture to Cattell, 26 April 1901, James Mark Baldwin to Cattell, 6 May 1901, James to Cattell, 10 May 1901, all Cattell papers; Cattell to Simon Newcomb, 20 April 1901, Newcomb papers, Library of Congress; Nicholas Murray Butler to Cattell, 22 April 1901, Butler papers, Columbia University Archives, New York, NY; James to Peirce, 2 May 1902, *CWJ*, vol. 10, pp. 37-38.

<sup>8</sup> Sokal, “*Science* and James McKeen Cattell,” *Science*, n.s., 209 (4 July 1980): 43-52.

<sup>9</sup> A. Hunter Dupree, “The Founding of the National Academy of Sciences – A Reinterpretation,” *Proceedings of the American Philosophical Society* 101 (1957): 434-440; Dupree, *Science in the Federal Government: A History of Policies and Activities to 1940* (Cambridge, MA: Belknap Press of Harvard University Press, 1957), pp. 135-141; Lillian B. Miller, *The Lazzaroni: Science and Scientists in Mid-Nineteenth-Century America* (Washington: National Portrait Gallery, 1972).

<sup>10</sup> Dupree, *Science in the Federal Government*, pp. 118-119; John D. Holmfeld, “From Amateurs to Professionals in American Science: The Controversy over the Proceedings of an 1853 Scientific Meeting,” *Proceedings of the American Philosophical Society* 114 (1970): 22-36.

<sup>11</sup> Dupree, *Science in the Federal Government*, pp. 141-148; Nathan Reingold, *Science: American Style* (New Brunswick, NJ: Rutgers University Press, 1991).

<sup>12</sup> “Scientific Notes and News,” *Science*, n.s., 6 (17 April 1897): 442.

<sup>13</sup> Cattell, “The Organization of Scientific Men,” *The Scientific Monthly* 14 (1922): 567-577; quotation on p. 574.

<sup>14</sup> James, “The Sense of Dizziness in Deaf Mutes,” *American Journal of Otology* 4 (1882): 239-254; James, “Remarks on Spencer’s Definition of Mind as Correspondence,” *Journal of Speculative Philosophy* 12 (1878): 1-18; James, “What Is an Emotion?,” *Mind* 9

(1884): 188-205; James, "On the Function of Cognition," *Mind* 10 (1885): 27-44; James, "The Perception of Space," *Mind* 12 (1887): 321-353; James, *The Principles of Psychology*, 2 vols. (New York: Henry Holt, 1890). See Rand B. Evans, "Introduction: The Historical Context," in *The Works of William James: The Principles of Psychology*, edited by Frederick Burkhardt and Fredson Bowers (Cambridge, MA: Harvard University Press, 1981), vol. 1, pp. xlx-lxviii, and William R. Woodward, "Introduction," in *The Works of William James: Essays in Psychology*, edited by Burkhardt and Bowers (Cambridge, MA: Harvard University Press, 1983), pp. xi-xxxix.

<sup>15</sup> Sokal, "Origins and Early Years of the American Psychological Association," *American Psychologist* 47 (1992): 111-122.

<sup>16</sup> James, "Address of the President before the Society for Psychical Research," *Proceedings of the Society for Psychical Research* 12 (1896): 2-10.

<sup>17</sup> James to Cattell, 15 January 1902, *CWJ*, vol. 10, pp. 1-2; Sokal, "James McKeen Cattell, the New York Academy of Sciences, and the American Psychological Association, 1891-1902," in *Aspects of the History of Psychology in America: 1892-1992*, edited by Helmut E. Adler and Robert W. Rieber (*Annals of the New York Academy of Sciences*, vol. 727, 1994), pp. 13-35.

<sup>18</sup> R. W. B. Lewis, *The Jameses: A Family Narrative* (New York: Farrar, Straus, Giroux, 1991), p. 548. Cf. Gerald E. Myers, *William James: His Life and Thought* (New Haven, CT: Yale University Press, 1986), pp. 26-27, which uses the quoted phrase.

<sup>19</sup> Cattell, "Statistics of American Psychologists," *American Journal of Psychology* 14 (1903): 310-328; Cattell, "Psychology in America," *Science*, n.s., 70 (11 October 1929): 335-347; Sokal, "Stargazing: James McKeen Cattell, *American Men of Science*, and the Reward Structure of the American Scientific Community, 1906-1944," in *Psychology, Science, and Human Affairs: Essays in Honor of William Bevan*, edited by Frank Kessel (Boulder, CO: Westview Press, 1995), pp. 64-86.

<sup>20</sup> "The Progress of Science," *Popular Science Monthly* 57 (1900): 220, even referred to Academy membership as "quasi hereditary."

<sup>21</sup> James, "Louis Agassiz," *Science*, n.s., 5 (19 February 1897): 285-289; James to Peirce, 2 May 1902, *CWJ*, vol. 10, pp. 37-38.

<sup>22</sup> Peirce to Alice Gibbens James, 12 April 1902, Houghton Library, Cambridge, MA. See also Perry, *Thought and Character*, vol. 2, p. 422. *CWJ* (vol. 10, p. 38) reports that “Peirce’s letter to A[lice] G[ibbens] J[ames] is unknown.”

<sup>23</sup> *CWJ* (vol. 10, p. 38) reports an undated and apparently unsent draft of a letter to James in which Peirce explained his prior support for Cattell in similar terms.

<sup>24</sup> James to Cattell, 15 January 1902, 21 January 1902, 31 January 1902, Cattell papers, *CWJ*, vol. 10, pp. 1-2, 6. *CWJ* (vol. 10, p. 2) speculates that Cattell sought this information to secure James’s election as an Honorary Member of the New York Academy of Sciences. A year earlier, however, those who nominated Cattell for National Academy membership sought exactly the same information from their candidate; see note 6.

<sup>25</sup> “Extra Business Meeting of the Academy, Washington, April 17, 1902,” Minute Book of National Academy of Sciences, National Academy Archives.

<sup>26</sup> William Lowe Bryan to Cattell, 5 December 1935, Cattell to Bryan, n.d. [1935], Cattell papers. Cf. “Business Meeting of the Academy, Washington, April 23, 1903,” Minute Book of National Academy of Sciences, National Academy Archives.

<sup>27</sup> James to Peirce, 11 November 1906, 23 November 1906, *CWJ*, vol. 11, p. 598; James to Billings, 7 November 1908, *CWJ*, vol. 12, p. 597.

<sup>28</sup> But see Daniel W. Bjork, *The Compromised Scientist: William James in the Development of American Psychology* (New York: Columbia University Press, 1983), p. 129, which discusses James’s resignation, and Myers, *William James: His Life and Thought*, p. 2, which lists James’s membership almost as an aside.

<sup>29</sup> James to Cattell, 5 January 1906, *CWJ*, vol. 11, p. 138.

<sup>30</sup> James to Billings, 19 December 1908, *CWJ*, vol. 12, p. 136 (which includes the quoted phrase); James to Peirce, 22 March 1910, *CWJ*, vol. 12, pp. 456-457.

<sup>31</sup> James to Arnold Hague, 21 March 1909, National Academy Archives; *CWJ*, vol. 12, p. 607.

<sup>32</sup> Dupree, *Science in the Federal Government*, pp. 305-315.