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WILLIAM JAMES AND THE NATIONAL ACADEMY OF SCIENCES

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ABSTRACT

Williams 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.² 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.³ 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.⁴ 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.⁵ Those who nominated Cattell for membership emphasized this accomplishment,⁶ and psychologists – including James – and their allies cheered such recognition for their science.⁷ 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.⁸ 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.⁹ 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.¹⁰

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.¹¹

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.¹² 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.”¹³ 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.¹⁴

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 1894.¹⁵ As an eminent student of psychical phenomena, he became president of the British-based Society for Psychical Research in 1896.¹⁶ In 1902, he was elected an Honorary Member of the New York Academy of Sciences¹⁷ 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."¹⁸) And in 1903, American psychologists unanimously chose him as the most eminent practitioner of their science.¹⁹

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.²⁰ (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.)²¹ In the meantime, Peirce -- by then practicing philosophy independently in Milford, Pennsylvania -- informed James's wife Alice of his extensive behind-the-scenes activity.²² 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."²³ 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."²⁴

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.²⁵ 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.”²⁶

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.²⁷ No wonder few recent biographies of James even mention his Academy membership.²⁸ 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.²⁹ 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.³⁰ 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.”³¹ 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.³² 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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² 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.

³ [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.

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

⁵ 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.

⁶ 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.

⁷ 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.

⁸ Sokal, "Science and James McKeen Cattell," *Science*, n.s., 209 (4 July 1980): 43-52.

⁹ 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).

¹⁰ 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.

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

¹² "Scientific Notes and News," *Science*, n.s., 6 (17 April 1897): 442.

¹³ Cattell, "The Organization of Scientific Men," *The Scientific Monthly* 14 (1922): 567-577; quotation on p. 574.

¹⁴ 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.

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

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

¹⁷ 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.

¹⁸ 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.

¹⁹ 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.

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

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

²² 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.”

²³ *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.

²⁴ 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.

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

²⁶ 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.

²⁷ 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.

²⁸ 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.

²⁹ James to Cattell, 5 January 1906, *CWJ*, vol. 11, p. 138.

³⁰ 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.

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

³² Dupree, *Science in the Federal Government*, pp. 305-315.

JAMESIAN FREE WILL, THE TWO-STAGE MODEL OF WILLIAM JAMES

BOB DOYLE

ABSTRACT

Research into two-stage models of “free will” – first “free” random generation of alternative possibilities, followed by “willed” adequately determined decisions consistent with character, values, and desires – suggests that William James was in 1884 the first of a dozen philosophers and scientists to propose such a two-stage model for free will. We review the later work to establish James’s priority.

By limiting chance to the generation of alternative possibilities, James was the first to overcome the standard two-part argument against free will, i.e., that the will is either determined or random. James gave it elements of both, to establish freedom but preserve responsibility. We show that James was influenced by Darwin’s model of natural selection, as were most recent thinkers with a two-stage model.

In view of James’s famous decision to make his first act of freedom a choice to believe that his will is free, it is most fitting to celebrate James’s priority in the free will debates by naming the two-stage model – first chance, then choice - “Jamesian” free will.

THE DECLINE OF DETERMINISM

In the nineteenth century, according to historians of science¹ and philosopher Ian Hacking², there was a “rise in statistical thinking” and an “erosion of determinism.” The strict physical determinism implied by Isaac Newton’s classical mechanics was giving way to the statistical mechanics of physicists James Clerk Maxwell and Ludwig Boltzmann, who assumed that gases were composed of atoms and molecules moving at random and following statistical laws.

In the United States, William James's colleague Charles Sanders Peirce followed these developments. Peirce was a superb logician and mathematician who mastered probability and statistics. He gave us the name "normal distribution" for the law of errors in scientific measurements. He knew that that inevitable errors in physical measurements meant that that the deterministic laws of nature could never be proved logically *necessary*.³

Peirce developed the idea of randomness as a key element of his philosophy. He called it "Tychism" (after *tyche*, the Greek word for chance).

The ancient Greek philosopher Epicurus had suggested⁴ that random swerves in the otherwise deterministic motions of the atoms provided room for human freedom. But Epicurus' notion of chance as an explanation for free will was ridiculed by the Stoics, the leading philosophers of his time. If determinism deprives us of freedom, indeterminism or chance as the source of action denies us responsibility for our actions.

With so much talk of probability in the nineteenth century, it was becoming more respectable to discuss the possibility of absolute chance. Charles Darwin's theory of evolution included chance variations that could be inherited by an organism's offspring to allow the natural selection of new species. Genuine novelty in the universe needs chance to generate those new possibilities. Otherwise, the existing species would be the predetermined consequence of laws of nature and events in the distant past.

James and Peirce followed the Darwinian arguments closely. Peirce was undoubtedly more familiar than James with the statistical arguments of the physicists. Peirce's main attack was on the idea of logical and necessary truths about the physical world. Peirce was the strongest philosophical voice for absolute chance since Epicurus. He argued that chance liberated the will from determinism, but he gave no definite model, and in the end he compromised and wanted to manage and control the chance with a form of rationality that he called "synechism" or continuity. He dreamed of "evolutionary love" and a God who kept the creative element of chance in check.

Peirce was inspired by Hegel's notion of logic and arranged his arguments in triads, often with Hegel's thesis-antithesis-synthesis structure.⁵ Thus, Peirce's idea of evolution has three levels, the Darwinian (Tychism - random and indeterminate), the Spencerian (Necessity - mechanical and determinate), and Peirce's own (Synechism - union of the two first levels).⁶

Peirce was morally ambiguous about unbridled chance. Although he was the champion of chance, he thought it purposeless. He called Darwinian evolution “greedy.”

Although Peirce is famous for promoting the reality of chance with his Tychism, his overall opinion of chance was negative. We shall see that it is William James who in the end found a measured and constructive role for chance in his attempt to defend freedom of the will. Where Peirce saw chance as a negative force, James, like Darwin, saw it as a creative one.

VIEWS ON FREE WILL BEFORE JAMES

Before James, most philosophers, especially those with theological training, held a dualist view of free will, in which freedom was God’s gift to humanity, a gift that operated in a mind outside the physical universe, for example in Immanuel Kant’s noumenal world beyond the deterministic phenomenal world.

But ever since the seventeenth-century secular arguments of Thomas Hobbes, a significant number of materialist philosophers denied such a libertarian free will. They became “compatibilists” who argued that “voluntary” actions are compatible with strict logical and physical determinism. Hobbes said “the cause of the will is not the will itself, but something else not in his own disposing.” He said “voluntary actions have all of them necessary causes and therefore are necessitated.”⁷ For Hobbes, talk of free agents was nonsense - if free means uncaused and random.

I hold that ordinary definition of a free agent, namely that a free agent is that which, when all things are present which are needful to produce the effect, can nevertheless not produce it, implies a contradiction and is nonsense.⁸

The “voluntarism” of Hobbes and David Hume identified freedom as the absence of external coercive causes. It was *freedom of action*, not freedom of the will. Though the will be determined, as long as the will is one of the causes in the great causal chain, that would be enough freedom for them. They found “free will” to be compatible even with a complete *predeterminism* since the beginning of time.

For Hume, the necessity of causality was found in the human mind,

there is but one kind of necessity, as there is but one kind of cause... 'Tis the constant conjunction of objects, along with the determination of the mind, which constitutes a physical necessity: And the removal of these is the same thing with chance. As objects must either be conjoin'd or not, and as the mind must either be determin'd or not to pass from one object to another, 'tis impossible to admit of any medium betwixt chance and an absolute necessity.⁹

WILLIAM JAMES'S ATTACK ON HOBBS-HUME COMPATIBILISM

In his 1884 address to Harvard Divinity Students in Lowell Lecture Hall,¹⁰ James famously coined the terms "*hard determinism*" and "*soft determinism*," by which he meant the compatibilism of Hobbes and Hume. Hard determinists simply deny the existence of free will altogether.

Old-fashioned determinism was what we may call hard determinism. It did not shrink from such words as fatality, bondage of the will, necessitation, and the like. Nowadays, we have a soft determinism which abhors harsh words, and, repudiating fatality, necessity, and even predetermination, says that its real name is freedom; for freedom is only necessity understood, and bondage to the highest is identical with true freedom.¹¹

James called "soft determinism" a "quagmire of evasion."¹² Immanuel Kant had called it a "wretched subterfuge" and "word jugglery."¹³ And whether it is "hard" or it is "soft," James said that determinism

professes that those parts of the universe already laid down absolutely appoint and decree what the other parts shall be. The future has no ambiguous possibilities hidden in its womb; the part we call the present is compatible with only one totality. Any other future complement than the one fixed from eternity is impossible. The whole is in each and every part, and welds it with the rest into an

absolute unity, an iron block, in which there can be no equivocation or shadow of turning.¹⁴

He argued instead for "*indeterminism*."

Indeterminism, on the contrary, says that the parts have a certain amount of loose play on one another, so that the laying down of one of them does not necessarily determine what the others shall be. It admits that possibilities may be in excess of actualities, and that things not yet revealed to our knowledge may really in themselves be ambiguous. Of two alternative futures which we conceive, both may now be really possible; and the one becomes impossible only at the very moment when the other excludes it by becoming real itself.¹⁵

The stronghold of the determinist argument is the antipathy to the idea of chance...This notion of alternative possibility, this admission that any one of several things may come to pass is, after all, only a roundabout name for chance.¹⁶

THE ANTIPATHY TO CHANCE

How strong is this antipathy to chance among determinists?

The Stoic Chrysippus said that a single uncaused cause could destroy the universe (cosmos),

Everything that happens is followed by something else which depends on it by causal necessity. Likewise, everything that happens is preceded by something with which it is causally connected. For nothing exists or has come into being in the cosmos without a cause. The universe will be disrupted and disintegrate into pieces and cease to be a unity functioning as a single system, if any uncaused movement is introduced into it.¹⁷

John Fiske, a contemporary of James, described the absurd decisions that would be made if chance were real,

If volitions arise without cause, it necessarily follows that we cannot infer from them the character of the antecedent states of feeling. . . . The mother may strangle her first-born child, the miser may cast his long-treasured gold into the sea, the sculptor may break in pieces his lately-finished statue, in the presence of no other feelings than those which before led them to cherish, to hoard, and to create.¹⁸

Some twentieth-century philosophers hold an equally negative view of chance.

The fallacy of [incompatibilism] has often been exposed and the clearest proof that it is mistaken or at least muddled lies in showing that I could not be free to choose what I do unless determinism is correct. For the simplest actions could not be performed in an indeterministic universe. If I decide, say, to eat a piece of fish, I cannot do so if the fish is liable to turn into a stone or to disintegrate in mid-air or to behave in any other utterly unpredictable manner.¹⁹

THE TWO-STAGE MODEL OF WILLIAM JAMES

The genius of the Jamesian picture of free will is that indeterministic chance is the source for what James calls “ambiguous possibilities” and “alternative futures.” The chance generation of such alternative possibilities for action does not in any way limit his choice to one of them. *Chance is not the direct cause of actions.* James makes it clear that it is *his choice* that “grants consent” to one of them.

In his 1884 lecture *The Dilemma of Determinism*,²⁰ James asked some Harvard Divinity School students to consider his choice for walking home after his talk.

What is meant by saying that my choice of which way to walk home after the lecture is ambiguous and matter of chance?...It means that both Divinity Avenue

and Oxford Street are called but only one, and that one *either* one, shall be chosen.²¹

This notion of alternative possibility, this admission that any one of several things may come to pass is, after all, only a roundabout name for chance.²²

With this simple example, James was to my knowledge the first thinker to enunciate clearly a two-stage decision process, with *chance* in a *present* time of random alternatives, leading to a *choice* which grants consent to one possibility and transforms an equivocal ambiguous *future* into an unalterable and simple *past*. He describes a temporal sequence of undetermined alternative possibilities followed by an adequately determined choice where chance is no longer a factor.

James also asked the students to imagine his actions repeated in *exactly the same circumstances*, a condition which is regarded today as one of the great challenges to libertarian free will. In the following passage, James anticipates much of modern philosophical modal reasoning and physical theories of multiple universes.

Imagine that I first walk through Divinity Avenue, and then imagine that the powers governing the universe annihilate ten minutes of time with all that it contained, and set me back at the door of this hall just as I was before the choice was made. Imagine then that, everything else being the same, I now make a different choice and traverse Oxford Street. You, as passive spectators, look on and see the two alternative universes,--one of them with me walking through Divinity Avenue in it, the other with the same me walking through Oxford Street. Now, if you are determinists you believe one of these universes to have been from eternity impossible: you believe it to have been impossible because of the intrinsic irrationality or accidentality somewhere involved in it. But looking outwardly at these universes, can you say which is the impossible and accidental one, and

which the rational and necessary one? I doubt if the most ironclad determinist among you could have the slightest glimmer of light on this point.²³

James's two-stage model effectively separates chance (the indeterministic free element) from choice (an arguably determinate decision that follows causally from one's character, values, and especially feelings and desires at the moment of decision).

Note that compatibilists (James's "soft determinists") should be pleased that the second stage of the model is completely consistent with the compatibilist view that determination is required for free will and inconceivable without it.²⁴

In *The Principles of Psychology*, James asked where the alternative possibilities for action come from? From past experiences, he says, initially involuntary and random. From observing the experiences of others, also the results of chance, we build up a stock of possibilities in our memory.

We learn all our possibilities by the way of experience. When a particular movement, having once occurred in a random, reflex, or involuntary way, has left an image of itself in the memory, then the movement can be desired again, proposed as an end, and deliberately willed.²⁵

*A supply of ideas of the various movements that are possible left in the memory by experiences of their involuntary performance is thus the first prerequisite of the voluntary life.*²⁶ [emphasis in original]

In 1880 James had suggested a strong similarity between genetic evolution and the evolution of ideas.

A remarkable parallel, which I think has never been noticed, obtains between the facts of social evolution on the one hand, and of zoölogical evolution as expounded by Mr. Darwin on the other.²⁷

[In mental evolution], if anywhere, it would seem at first sight as if that school must be right which makes the mind passively plastic, and the environment

actively productive of the form and order of its conceptions...It might, accordingly, seem as if there were no room for any agency other than this...as if, in a word, the parallel with Darwinism might no longer obtain...

But, in spite of all these facts, I have no hesitation whatever in holding firm to the Darwinian distinction even here. I maintain that the facts in question are all drawn from the lower strata of the mind, so to speak.

And I can easily show...that as a matter of fact the new conceptions, emotions, and active tendencies which evolve are originally produced in the shape of random images, fancies, accidental out-births of spontaneous variation in the functional activity of the excessively instable human brain.”²⁸

Thus James sees the origin of new thoughts and actions in the “accidental and spontaneous variations” which put “random images” in the memory, where in a second stage they can be “proposed as an end, and deliberately willed.” Robert J. Richards thinks Darwin himself would not have approved of James’s use of his theory to defend free will. Richards says Darwin “was fully persuaded that human mental behavior was completely determined.”²⁹ Although James could not have known Darwin’s view, since they only appeared in his notebooks.³⁰

THE TEMPORARY ECLIPSE OF WILLIAM JAMES PSYCHOLOGY

Shortly after his death in 1910, the rise of behaviorism in America put most of the work in James’s *Principles of Psychology* off limits. Consciousness, will, feelings, motives, desires, purposes, and plans were all deemed unobservable by the objective, third-party, standards of modern science. Where once introspection was seen as a powerful tool (and it was perhaps James’s most powerful tool), it was now attacked as unverifiable “introspectionism.” The proper study of psychology was now based entirely on external observations of visible behavior. The

mind was now a black box. Consciousness and free will became taboo topics in academic departments.

Even in the 1960's, when cognitive science replaced behaviorism, the new materialist and physicalist models of mind had no place for metaphysical discussions of the mind-body problem. The concept of consciousness was thought too confused to be of any help in models of the mind as a computer.

But the last few decades has seen a resurgence of interest in the thoughts of William James. Bernard Baars, the theoretical neurobiologist and author of the leading textbook on Consciousness³¹ says:

By wide consent the foremost work on human mental processes, even today, is William James's *Principles of Psychology*, which appeared in 1890. The *Principles* offers thirteen hundred pages of inspired dialogue on the major topics of psychology. Building on fifty years of European studies, it has given us classic descriptions of selective attention, mental imagery, hypnosis, habit and effortful concentration, the stream of consciousness, the basic arguments for and against unconscious processes, a theory of voluntary control and impulsiveness, the crucial distinction between self-as-subject and self-as-object, and much more. On many of these topics James's thinking is fully up to date, and it is embarrassing but true that much of the time he is still ahead of the scientific curve. Entire research domains have been inspired by single passages in the *Principles*.³²

Although James discusses free will only briefly in the *Principles*, (pp.569-79), he directed readers to "the grounds of his opinion" in his 1884 lecture on the Dilemma of Determinism referenced above. We hope to show that in that work James was "well ahead of the curve" in providing a limited indeterminism as the source of creative alternative possibilities leading to ambiguous futures.

JOHN LOCKE'S SEPARATION OF FREE FROM WILL

First, we must note that, centuries earlier, John Locke had made a strong case for *separating* the idea of freedom from the determinate will. For Locke and his contemporaries, notions of freedom and liberty were often associated with randomness and libertine chance.

In his *Essay Concerning Human Understanding*, Locke calls the question of Freedom of the Will *unintelligible*. But for Locke, it is only because the adjective "free" applies more properly to the agent, not to the will, which is determined by the mind, and determines the action.

In Book II, Chapter XXI, On Power, section 14, Locke argues,

I leave it to be considered, whether it may not help to put an end to that long agitated, and, I think, unreasonable, because unintelligible question, viz. *Whether man's will be free or no?* For if I mistake not, it follows from what I have said, that the question itself is altogether improper; and it is as insignificant to ask whether man's *will* be free, as to ask whether his sleep be swift, or his virtue square: liberty being as little applicable to the will, as swiftness of motion is to sleep, or squareness to virtue. Every one would laugh at the absurdity of such a question...and when any one well considers it, I think he will as plainly perceive that liberty, which is but a power, belongs only to agents, and cannot be an attribute or modification of the will, which is also but a power.³³

In sections 16 and 18, he elaborates

It is plain then that the will is nothing but one power or ability, and freedom another power or ability - so that, to ask, whether the will has freedom, is to ask whether one power has another power, one ability another ability; a question at first sight too grossly absurd to make a dispute, or need an answer.³⁴

This way of talking, nevertheless, has prevailed, and, as I guess, produced great confusion.³⁵

Locke's warning of confusion in this "way of talking," a popular phrase with analytic language philosophers from Ludwig Wittgenstein to Richard Rorty, might have alerted language philosophers to the proper "dis-solution" of the "pseudo-problem" of free will.³⁶ Simply separate the "free" from the "will!" It's the agent that is free - as a consequence of genuine alternative possibilities to choose from.

In section 21, Locke concludes,

I think the question is not proper, *whether the will be free*, but *whether a man be free*. Thus, I think,

First, that so far as any one can, by the direction or choice of his mind, preferring the existence of any action to the non-existence of that action, and *vice versa*, make it to exist or not exist, so far *he* is free. For if I can, by a thought directing the motion of my finger, make it move when it was at rest, or *vice versa*, it is evident, that in respect of that I am free...and as far as this power reaches, of acting or not acting, by the determination of his own thought preferring either, so far is a man free. For how can we think any one freer, than to have the power to do what he will?... So that in respect of actions within the reach of such a power in him, a man seems as free as it is possible for freedom to make him.³⁷

The two-stage model of James, which also separates "free" from "will," might have pleased Locke, excepting that Locke might not accept chance as the source of possibilities.

THE STANDARD ARGUMENT AGAINST FREE WILL

Perhaps the most important insight in the Jamesian model is that *chance is not the direct cause of action*, that chance does not make the will itself indeterminate. There is in the will adequate determinism, though that does not mean predeterminism. The causal chain of events stops at James generation of ambiguous futures.

The classical argument against free will is to describe the problem logically as the horns of a dilemma, on one side determinism (really predeterminism), on the other side chance, both of which imperil moral responsibility.

Given the stark choice between these exclusive options, it is plain why most philosophers are compatibilists and opt for determinism. Some determinism is necessary for the determination of our actions by our reasons. The idea that our actions are random is patently absurd. James's contemporary John Fiske wrote, "Volitions are either caused or they are not. If they are not caused, an inexorable logic brings us to the absurdities just mentioned. If they are caused, the free-will doctrine is annihilated."³⁸

By limiting chance to the generation of alternative possibilities, James was the first to overcome the standard argument against libertarian free will found in the writings of many of the recent participants in the free will debates.³⁹ Instead of a stark choice between chance and determinism, Jamesian two-stage models involve *both* some chance *and* some limited determinism. Some chance is needed to break the causal chain of strict logical and physical predeterminism. But some determination is also needed to protect the will from the charge that our decisions are random. Decisions must be adequately determined by a process that considers reasons, motives, and feelings when evaluating the alternative possibilities that have been generated in part by chance.

James accomplishes this by using chance simply to create genuinely new and unpredictable alternative possibilities for action, following which a choice can be made by a will that is consistent with character, values, and especially with one's desires and feelings, which James considered an essential part of the will.

THE STRANGE CASE OF R. E. HOBART

R. E. Hobart is the pseudonym of Dickinson S. Miller, a student of William James who was later one of his closest personal friends and for some years a colleague in the Harvard philosophy department. Miller criticized the core idea of *The Will to Believe*, namely that it was

acceptable to hold religious faith in the absence of evidence for or against that faith. James referred to Miller as "my most penetrating critic and intimate enemy."⁴⁰

Nearly twenty-five years after James's death, under the name R. E. Hobart, Miller published a short article in *Mind*⁴¹ in 1934 that is mistakenly considered one of the definitive statements of determinism and compatibilism. Despite being widely cited as showing that free will *requires* determinism,⁴² Hobart explicitly does not endorse strict logical or physical determinism, and he explicitly does endorse the existence of alternative possibilities, which he says can depend on absolute chance. Remember that Hobart is writing about six years after the discovery of quantum indeterminacy. He says:

I am not maintaining that determinism is true...it is not here affirmed that there are no small exceptions, no slight undetermined swervings, no ingredient of absolute chance.⁴³

We say, 'I can will this or I can will that, whichever I choose.' Two courses of action present themselves to my mind. I think of their consequences, I look on this picture and on that, one of them commends itself more than the other, and I will an act that brings it about. I knew that I could choose either. That means that I had the power to choose either.⁴⁴

Note that where Hobart describes alternative possibilities as "presenting themselves" (this was also James's terminology), he attacks raw indeterminism as the direct cause of actions. Thoughts come to us freely, actions come from us willfully.

In proportion as an act of volition starts of itself without cause it is exactly, so far as the freedom of the individual is concerned, as if it had been thrown into his mind from without — 'suggested' to him — by a freakish demon. It is exactly like it in this respect, that in neither case does the volition arise from what the man is, cares for or feels allegiance to; it does not come out of him. In proportion as it is undetermined, it is just as if his legs should suddenly spring up and carry him off where he did not prefer to go. Far from constituting freedom, that would mean, in the exact measure in which it took place, the loss of freedom.⁴⁵

What is strange is that this clear two-stage model following William James's ideas should be so widely and mistakenly regarded as a defense of strict determinism.

LATER TWO-STAGE MODELS

As far as we know, James was the only thinker with a two-stage model for free will in the nineteenth century. While the ancient materialist Epicurus may have had something similar in mind, his writings are not preserved well enough for us to know.

In the twentieth and twenty-first centuries ten more philosophers and scientists, somewhat independent of one another, devised similar two-stage models that separate "free" from "will." Were they aware of James's pioneering view? They all could have read James's famous essay on the subject. And no doubt most were familiar with the landmark Hobart article in *Mind*. We review some of their arguments here as evidence that William James was once again "ahead of the curve" as a thinker on this most ancient of philosophical and psychological problems.

They include the French mathematician and scientist Henri Poincaré (about 1906)⁴⁶, the physicist Arthur Holly Compton (1931, 1955)⁴⁷, the biologist A.O. Gomes (1960)⁴⁸, the philosopher Karl Popper (1965, 1977)⁴⁹, the physicist and philosopher Henry Margenau (1968, 1982)⁵⁰, the philosophers Daniel Dennett (1978)⁵¹, Robert Kane (1984)⁵², John Martin Fischer (1995)⁵³, and Alfred Mele (1995)⁵⁴, the psychologist Stephen Kosslyn (2004)⁵⁵, the astrophysicist and philosopher Bob Doyle (2005)⁵⁶, and most recently, the neurogeneticist Martin Heisenberg (2009)⁵⁷, son of the physicist Werner Heisenberg.

We look briefly at some of the variations and extensions of the Jamesian model that followed the discovery in 1927 of quantum indeterminacy by Werner Heisenberg. Astrophysicist Arthur Stanley Eddington claimed in 1928 that indeterminacy marked the end of strict physical determinism. Writing up his Gifford Lectures of 1927, Eddington announced "It is a consequence of the advent of the quantum theory that *physics is no longer pledged to a scheme of deterministic law.*"⁵⁸ He went even farther and enthusiastically identified indeterminism with

freedom of the will, but Eddington had no specific model. In 1935 he said that determinism has been “expelled from present-day physics,” he declared, so that “it is no longer necessary to suppose that human actions are completely predetermined.”⁵⁹

ARTHUR HOLLY COMPTON (1892-1962)

Compton won the Nobel Prize in Physics in 1927, the year that Werner Heisenberg discovered quantum indeterminacy. In *Science* magazine in 1931, Compton endorsed the idea of human freedom based on quantum indeterminacy. In his article, Compton invented the notion of amplification of microscopic quantum events to bring chance into the macroscopic world. He imagined sticks of dynamite attached to his amplifier, anticipating the Schrodinger's Cat paradox.⁶⁰

Years later, Compton clarified the two-stage nature of his idea – first a range of possibilities then a determining choice.

A set of known physical conditions is not adequate to specify precisely what a forthcoming event will be. These conditions, insofar as they can be known, define instead a range of possible events from among which some particular event will occur. When one exercises freedom, by his act of choice he is himself adding a factor not supplied by the physical conditions and is thus himself determining what will occur. That he does so is known only to the person himself. From the outside one can see in his act only the working of physical law. It is the inner knowledge that he is in fact doing what he intends to do that tells the actor himself that he is free.⁶¹

KARL POPPER (1902-1994)

Compton's work was closely read by philosopher Karl Popper, especially when Popper was selected to give the first Arthur Holly Compton Memorial Lecture in 1965. Popper at times dismissed quantum mechanics as being no help with free will, but in his Compton lecture he describes a two-stage model that parallels Darwinian evolution, with genetic mutations being probabilistic and involving quantum indeterminacy.

Popper criticizes the standard argument that chance and determinism exhaust the possibilities for free will,

The idea that the only alternative to determinism is just sheer chance was taken over by Schlick, together with many of his views on the subject, from Hume, who asserted that 'the removal' of what he called 'physical necessity' must always result in 'the same thing with chance. As objects must either be conjoin'd or not, . . . 'tis impossible to admit of any medium betwixt chance and an absolute necessity.'

"Hume's and Schlick's ontological thesis that there cannot exist anything intermediate between chance and determinism seems to me not only highly dogmatic (not to say doctrinaire) but clearly absurd; and it is understandable only on the assumption that they believed in a complete determinism in which chance has no status except as a symptom of our ignorance."⁶²

Popper called for a combination of randomness and control to explain freedom, though not yet explicitly in two stages with random chance before the controlled decision: "freedom is not just chance but, rather, the result of a subtle interplay between something almost random or haphazard, and something like a restrictive or selective control."⁶³

In his 1977 book with John Eccles, *The Self and its Brain*, Popper finally formulates the two-stage model in a temporal sequence, and makes an explicit comparison with evolution and natural selection,

New ideas have a striking similarity to genetic mutations. Now, let us look for a moment at genetic mutations. Mutations are, it seems, brought about by quantum theoretical indeterminacy (including radiation effects). Accordingly, they are also probabilistic and not in themselves originally selected or adequate, but on them there subsequently operates natural selection which eliminates inappropriate mutations. Now we could conceive of a similar process with respect to new ideas and to free-will decisions, and similar things.

That is to say, a range of possibilities is brought about by a probabilistic and quantum mechanically characterized set of proposals, as it were - of possibilities brought forward by the brain. On these there then operates a kind of selective procedure which eliminates those proposals and those possibilities which are not acceptable to the mind.⁶⁴

In 1977 Popper gave the first Darwin Lecture, at Darwin College, Cambridge. He called it *Natural Selection and the Emergence of Mind*. In it he said he had changed his mind (a rare admission by a philosopher) about two things. First, he now thought that natural selection was not a "tautology" that made it an unfalsifiable theory. Second, he had come to accept the random variation and selection of ideas as a promising model of free will and that indeterminism could help as the source of variation.

The selection of a kind of behavior out of a randomly offered repertoire may be an act of free will. I am an indeterminist; and in discussing indeterminism I have often regretfully pointed out that quantum indeterminacy does not seem to help us; for the amplification of something like, say, radioactive disintegration processes would not lead to human action or even animal action, but only to random movements.

I have changed my mind on this issue. A choice process may be a selection process, and the selection may be from some repertoire of random events, without being random in its turn. This seems to me to offer a promising solution to one of our most vexing problems, and one by downward causation.⁶⁵

DANIEL DENNETT (1942-)

While he remains a confirmed compatibilist, in *On Giving Libertarians What They Say They Want* - Chapter 15 of his 1978 book *Brainstorms*⁶⁶ - Tufts philosopher Daniel Dennett articulated the case for a two-stage model of free will better than any libertarian. Dennett named his model of decision-making "Valerian" after the poet Paul Valery, who took part in a 1936 conference in Paris with Jacques Hadamard. The conference focused on Henri Poincaré's two-

stage approach to problem solving, in which the unconscious generates random combinations. In his book, *The Psychology of Invention in the Mathematical Mind*, Hadamard quoted Valery⁶⁷ (as did Dennett later), summarizing the conference opinion, “It takes two to invent anything. The one makes up combinations; the other one chooses, recognizes what is important to him in the mass of things which the former has imparted to him.”

Although Valery describes two persons, this is clearly William James’s temporal sequence of random chance (“free”) followed by a determining choice (“will”). For James, chance and choice are part of a single mind. For this reason and for James priority, we believe the two-stage mind model is better named “Jamesian” free will.

Dennett makes his version of a two-stage model very clear. And he defends it with six excellent reasons that are more persuasive than those of any other philosopher or scientist.

The model of decision making I am proposing has the following feature: when we are faced with an important decision, a consideration-generator⁶⁸ whose output is to some degree undetermined produces a series of considerations, some of which may of course be immediately rejected as irrelevant by the agent (consciously or unconsciously). Those considerations that are selected by the agent as having a more than negligible bearing on the decision then figure in a reasoning process, and if the agent is in the main reasonable, those considerations ultimately serve as predictors and explicators of the agent's final decision.⁶⁹

Dennett then gives six excellent reasons why this is the kind of free will that libertarians say they want. They are stated more clearly and convincingly than any libertarian philosopher and it is surprising that more free will libertarians did not accept this view.

First...The intelligent selection, rejection, and weighing of the considerations that do occur to the subject is a matter of intelligence making the difference...

Second, I think it installs indeterminism in the right place for the libertarian, if there is a right place at all...

Third...from the point of view of biological engineering, it is just more efficient and in the end more rational that decision making should occur in this way...

A fourth observation in favor of the model is that it permits moral education to make a difference, without making all of the difference...

Fifth - and I think this is perhaps the most important thing to be said in favor of this model - it provides some account of our important intuition that we are the authors of our moral decisions...

Finally, the model I propose points to the multiplicity of decisions that encircle our moral decisions and suggests that in many cases our ultimate decision as to which way to act is less important phenomenologically as a contributor to our sense of free will than the prior decisions affecting our deliberation process itself: the decision, for instance, not to consider any further, to terminate deliberation; or the decision to ignore certain lines of inquiry.

These prior and subsidiary decisions contribute, I think, to our sense of ourselves as responsible free agents, roughly in the following way: I am faced with an important decision to make, and after a certain amount of deliberation, I say to myself: "That's enough. I've considered this matter enough and now I'm going to act," in the full knowledge that I could have considered further, in the full knowledge that the eventualities may prove that I decided in error, but with the acceptance of responsibility in any case.⁷⁰

We might add a seventh reason to Dennett's otherwise comprehensive list, that this kind of free will is a process that could have evolved naturally from lower animals. The most recent contributor of a two-stage model establishes that fact.

MARTIN HEISENBERG (1940-)

The most recent thinker to describe a two-stage model is Martin Heisenberg (son of physicist Werner), chair of the University of Wurzburg's BioZentrum genetics and neurobiology section. Since the indeterminacy principle was his father's work, Heisenberg's position that the physical universe is no longer determined and that nature is inherently unpredictable comes as no surprise. What is unusual is that Heisenberg finds evidence of free behavior in animals, including some very simple ones such as *Drosophila*, on which he is a world expert. Heisenberg argues for some randomness even in unicellular bacteria, followed by more lawful behaviors such as moving toward food.

Evidence of randomly generated action — action that is distinct from reaction because it does not depend upon external stimuli — can be found in unicellular organisms. Take the way the bacterium *Escherichia coli* moves. It has a flagellum that can rotate around its longitudinal axis in either direction: one way drives the bacterium forward, the other causes it to tumble at random so that it ends up facing in a new direction ready for the next phase of forward motion. This 'random walk' can be modulated by sensory receptors, enabling the bacterium to find food and the right temperature.⁷¹

In higher organisms, the brain still may include elements that do a random walk among options for action. The capability to generate new and unpredictable behaviors would have great survival value, and would likely be incorporated in higher organisms:

the activation of behavioural modules is based on the interplay between chance and lawfulness in the brain. Insufficiently equipped, insufficiently informed and short of time, animals have to find a module that is adaptive. Their brains, in a kind of random walk, continuously preactivate, discard and reconfigure their options, and evaluate their possible short-term and long-term consequences.

The physiology of how this happens has been little investigated. But there is plenty of evidence that an animal's behaviour cannot be reduced to responses. For example, my lab has demonstrated that fruit flies, in situations they have never encountered, can modify their expectations about the consequences of their actions. They can solve problems that no individual fly in the evolutionary history of the species has solved before. Our experiments show that they actively initiate behaviour.⁷²

Heisenberg's combination of some randomness followed by some "lawful" behavior is the latest version of William James's two-stage model. We now have empirical evidence for behavioral freedom in many animals. James would have been pleased.

Most importantly, Heisenberg's work shows us that human free will may have evolved naturally from the behavioral freedom of the lower animals. Free will is not a gift of God to humanity that marks humans as different from other animals. And it is not a metaphysical mystery that requires an immaterial mind distinct from the human body.⁷³

HOW BEHAVIORAL FREEDOM EVOLVED TO BECOME FREE WILL

Robert J. Richards says that the key to understanding how James applied the Darwinian perspective to the mental realm is to see it as "two different sources: spontaneous variations, which do not mirror their causes; and a selection by external circumstances."⁷⁴ James's two-stage model is clear in his description of "inner" and "outer" steps. Richards says that "James insisted that 'the variation or inner relation does not 'correspond' with its cause...the outward relation has a perfectly definite function: to take the variation once made and preserve or destroy it.'"⁷⁵ So how can James's mental selection process differ from Martin Heisenberg's lawlike selection in lower animals?

We can distinguish four evolutionary levels between the lowest and highest forms of selection. Note that the sources of spontaneous variation are the same on all four levels. They are driven by noise and errors in the biological system, some of which result from quantum indeterminacy.

1. Instinctive selection - for organisms with only genetically inherited behaviors.

2. Learned selection - for organisms that remember their past to guide their future.
3. Predictive selection - for animals with foresight who anticipate consequences.
4. Reflective and normative selection - for humans who can think twice, then think again about the thought, evaluating it in the light of personal and societal values.

In Jamesian two-stage free will, our thoughts *come to us* freely but our actions *go from us* willfully.

CONCLUSION

The great problem of free will, as William James saw it, is not to make it compatible with determinism, but to make it compatible with chance as the source of novelty⁷⁶ and alternative possibilities. James would therefore today be called an “incompabilist” on free will. But for him free will is incompatible only with *predeterminism*. It is compatible with *determination* of our actions by our reasons, motives, and feelings as made plain by James’s colleague Dickinson Miller and in later two-stage models. This determination requirement is the reason most philosophers are compatibilists today. Many of them might accept James’s free-will model. James could of course not know of quantum indeterminacy, but quantum chance is now irreducibly real. So the problem today for free will is to show that such chance leaves us with an adequate determinism. It was the fantastic accuracy of Newtonian classical physics predictions that led us in the first place to the illusion of strict causal determinism. Quantum mechanics is even more accurate than classical mechanics. Whether in planets orbiting the sun, or nerve cells firing to move our hands, quantum randomness is for the most part negligible in the macroscopic universe.

We therefore can, as did James, admit some indeterminism. We need not permit it to make our actions and decisions random events, as some determinists and compatibilists mistakenly fear. We must also limit determinism, but not eliminate it, as libertarians mistakenly think necessary. Our decisions must be adequately determined following evaluation of

alternative possibilities provided in part by chance. The Jamesian two-stage model for free will, a combination of chance and adequate determination, is the leading contender for a resolution of the ancient problem of libertarian free will.

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NOTES

¹ Porter, Theodore M. 1988. *The Rise of Statistical Thinking, 1820-1900*. Princeton University Press; Krüger, Lorenz, Lorraine J. Daston, and Michael Heidelberger. 1990. *The Probabilistic Revolution, Volume 1: Ideas in History*. The MIT Press.

² Hacking, Ian. 1990. *The Taming of Chance*. Cambridge University Press; ---. 2006. *The Emergence of Probability: A Philosophical Study of Early Ideas about Probability, Induction and Statistical Inference*. 2nd ed. Cambridge University Press - Hacking devoted the final chapter to Peirce.

³ Peirce, Charles Sanders. 1892. "The Doctrine of Necessity Examined." *The Monist*, vol. 2, pp.321-337, 1892.

⁴ Reported by Lucretius. *De Rerum Natura*, Book 2, lines 251-62, Loeb Library.

⁵ Peirce's triad may reflect the influence of Hegel's three "moments" of will. Hegel says "The will contains (α) the element of pure indeterminacy.... (β) At the same time, the ego is also the transition from undifferentiated indeterminacy to the differentiation: determination, and positing of a determinacy as a content and object.... (γ) The will is the unity of both these moments. (G.W.F.Hegel, *Philosophy of Right*, Introduction, 5-7).

⁶ *The Monist*, vol. 3, pp 176-200 (1893), See also Peirce, Charles Sanders. 1958. *Collected Papers of Charles Sanders Peirce*, vol VI, p.190.

⁷ Hobbes, Thomas, and John Bramhall. 1999. *Hobbes and Bramhall on Liberty and Necessity*. Cambridge University Press, § 30).

⁸ *Ibid.*, (§ 32).

⁹ Hume, David. 1978. *A Treatise of Human Nature*, Book I, Part I, Section XIV, p.171.

¹⁰ James, William. 1884 "The Dilemma of Determinism," *Unitarian Review*, September, 1884. Reprinted in *The Will to Believe*, Dover, 1956, p.145.

¹¹ *Ibid.*, p.149.

¹² Ibid.

¹³ Kant, Immanuel 1788 (1952). *The Critique of Practical Reason*, in Great Books of the Western World, vol. 42, Kant, Univ. of Chicago, p. 332.

¹⁴ Ibid., p.150.

¹⁵ Ibid., p.150.

¹⁶ Ibid., p.153.

¹⁷ Plutarch, *Stoic. rep.*, 34, 1050A.

¹⁸ Fiske, John, *Outline of Cosmic Philosophy*, part. H. chap. xvii, cited in James, William. 1950. *Principles of Psychology*, Vol. 2. Dover Publications, p. 577.

¹⁹ P.H. Nowell-Smith, "Freewill and Moral Responsibility," *Mind*, vol. 225, pp. 45-61, January, 1948.

²⁰ James, William. 1884. *The Dilemma of Determinism*, Unitarian Review, vol.XXII, p.193. Reprinted in *The Will to Believe*, Dover Publications, 1956, p.145.

²¹ *Dilemma of Determinism*, p.155.

²² Ibid., p.153.

²³ Ibid., p.155.

²⁴ Hobart, R. E. 1934. *Free Will as Involving Determination and Inconceivable Without It*, *Mind*, Vol XLIII, No. 169, p.2.

²⁵ Ibid., p.487.

²⁶ Ibid., p.488.

²⁷ James, William. 1880. *Great Men, Great Thoughts, and the Environment*, *Atlantic Monthly*, vol.46, p.441.

²⁸ Ibid, p.445.

²⁹ Robert J. Richards, 1989, *Darwin and the emergence of evolutionary theories of mind and behavior*. U. Chicago Press, p.428n.

³⁰ Ibid., p.435.

³¹ Baars, Bernard, and Nicole M. Gage. 2007. *Cognition, Brain, and Consciousness*. Academic Press.

³² Baars, Bernard. 1997. *In the Theater of Consciousness*. Oxford University Press. p.15.

³³ Locke, John; Fraser, Alexander Campbell. 1959. *An Essay Concerning Human Understanding Complete and Unabridged, In Two Volumes : Volume I & II*. Dover Publications. Book II, Chapter XXI, On Power, section 14.

³⁴ Ibid., section 16.

³⁵ Ibid., section 18.

³⁶ Schlick, Morris. 1962. *Problems of Ethics*, Chapter VII, “The Pseudo Problem of Free Will.” C.A. Campbell replied in his *Mind*, vol.60, no.240, 1951 essay “Is Free Will a Pseudo Problem?,” but he did not separate “free” from “will.”

³⁷ Locke. *Essay*, section 21.

³⁸ James, William. 1950. *Principles of Psychology, Vol. 2*. Dover Publications, p. 577.

³⁹ Examples include A.J. Ayer, J.J.C. Smart, P.F. Strawson, Roderick Chisholm, Richard Taylor, Robert Nozick, Peter van Inwagen, John Searle, Galen Strawson, Colin McGinn, Paul Russell, Derk Pereboom, Steven Pinker, Ishtiyaque Haji, Bernard Berofsky, Randolph Clarke, Mark Balaguer, Thomas Pink, John Martin Fischer, Joshua Greene, Kadri Vihvelin, and Robert Kane. For details see http://www.informationphilosopher.com/freedom/standard_argument.html (retrieved 1/12/10).

⁴⁰ James, Henry, ed. 1920. *The Letters of William James*, Atlantic Monthly Press, vol. II, p. 48 (cited by Loyd Easton, ed. *Philosophical Analysis and Human Welfare*, by Dickinson Miller.).

⁴¹ Hobart, R.E. 1934. *Free Will as Involving Determination and Inconceivable Without It*. *Mind*, XLIII, No.169, p.1.

⁴² Foot, Philippa, 1957, *Free Will as Involving Determinism*, *The Philosophical Review*, LXVI, p.439.

⁴³ Hobart, R.E. op.cit, p.2.

⁴⁴ Hobart, R.E. op.cit, p.8.

⁴⁵ Hobart, R.E. op.cit, p.7.

⁴⁶ Poincare, Henri. 1996. *Science and Method*. St. Augustine's Press, South Bend, IN.

⁴⁷ Compton, Arthur H. 1935. *The Freedom of Man*. Yale University Press, 1935.

⁴⁸ Eccles, John C. [Ed]. 1966. *Brain and Conscious Experience. Study Week, September 28 to October 4, 1964, of the Pontificia Academia Scientiarum*. Springer-Verlag.

⁴⁹ Popper, Karl R. 1972. *Objective Knowledge: An Evolutionary Approach*. Oxford University Press.

⁵⁰ Leshan, Lawrence, and Henry Margenau. 1983. *Einstein's Space and Van Gogh's Sky: Physical Reality and Beyond*. Macmillan.

⁵¹ Dennett, Daniel C. 1981. *Brainstorms: Philosophical Essays on Mind and Psychology*. The MIT Press.

⁵² Kane, Robert. 1986. *Free Will and Values*. State Univ of New York Press.

⁵³ Fischer, John Martin 1995. "Libertarianism and Avoidability: A Reply to Widerker," *Faith and Philosophy* 12: 122-25.

⁵⁴ Mele, Alfred R. 2001. *Autonomous Agents: From Self-Control to Autonomy*. Oxford University Press.

⁵⁵ Kosslyn, Stephen. 2004. Foreword to *Mind Time*, by Benjamin Libet, 2002, Harvard U. Press, pp.xii-xv. (Kosslyn is the John Lindsley Professor of Psychology in Memory of William James, and the Dean of Social Science at Harvard University.)

⁵⁶ Doyle, Robert O. ("Bob") 2005. *The Cogito Model*,
<http://www.informationphilosopher.com/freedom/cogito/>, (retrieved 4/20/10).

⁵⁷ Heisenberg, Martin. 2009. *Is Free Will an Illusion?* Nature, vol. 459, p.164.

⁵⁸ Eddington, Arthur Stanley 1928. *The Nature of the Physical World*, Ann Arbor (1958), p.313.

⁵⁹ Eddington, Arthur Stanley 1935. *New Pathways in Science*, Cambridge University Press, p.87

⁶⁰ Compton, Arthur Holly. 1931. *Science*, 74, 1911, August 14, 1931.

⁶¹ Compton, Arthur Holly. 1957. "Science and Man's Freedom", in *The Cosmos of Arthur Holly Compton*, 1967, Knopf, p.115.

⁶² *Objective Knowledge*, "Of Clouds and Clocks," 1972, p. 227ff. The Hume quote is from *Treatise on Human Understanding*, (see note 8) Book I, Part I, Section XIV, p.171.

⁶³ *Ibid.*, p.232.

⁶⁴ Eccles, John C. and Karl Popper. 1984. *The Self and Its Brain: An Argument for Interactionism*. Routledge, p.540.

⁶⁵ Popper, Karl 1977. "Natural Selection and the Emergence of Mind", *Dialectica*, vol. 32, no. 3-4, 1978, pp. 339-355

⁶⁶ *Brainstorms*, p.293.

⁶⁷ Hadamard, Jacques. 1949. *An Essay On The Psychology Of Invention In The Mathematical Field*. Princeton Univ Press, p.30, cited by Dennett, *Brainstorms*, p.293.

⁶⁸ The idea of a "consideration generator" may have been suggested by Herbert Simon's generator-test model. Dennett cites Simon's influential book *The Sciences of the Artificial*, 1969, MIT Press, see p. 149.

⁶⁹ *Brainstorms*, p.295.

⁷⁰ *Ibid.*, pp.295-97.

⁷¹ Heisenberg, Martin. 2009. *Is Free Will an Illusion?* *Nature*, 14 May 2009, vol. 459, p.164

⁷² *Ibid.*

⁷³ Doyle, Robert O. 2009. *Free will: it's a normal biological property, not a gift or a mystery.* *Nature*, 25 June 2009, vol. 459, p.1052.

⁷⁴ Richards, *Darwin and the Emergence*, p.426; While revising this paper, the author learned of Richards's research on "spontaneity and selection" in James from James Kloppenberg, *Uncertain Victory*, 1986, Oxford Univ. Press, p.39.

⁷⁵ *Ibid.* James's quote is from "Spencer's Law of Intelligence," James Papers, 4493, Houghton Library, Harvard University, MS p.8.

⁷⁶ Perry, Ralph Barton. 1954. *The Thought and Character of William James*. George Braziller, NY, vol.2, p.242. James said in a letter to Henry Rutgers Marshall that many new conceptions are "novelties for the race... – ancestral experiences can sum themselves subconsciously into new conclusions."

THE ETHICS OF ENERGY: WILLIAM JAMES'S MORAL PHILOSOPHY IN FOCUS. By Sergio Franzese. Ontos, 2008. 237 pp. \$124.

Everybody who has had the good fortune of making friends with Sergio Franzese (1962-2010) will remember his irrepressible laughter, sense of humor, and the irony, which Sergio lavished not only on his conversation partners (one never quite knew when one was about to become a target of his stabs), but also, abundantly, on himself. A few years ago, when Sergio first told me about the disease that had hit him, he laughed his fears away. The disease, he confessed, had brought out the 'monster' in him: not only had he accomplished the unimaginable – quit smoking, at least for a while – but, stronger than ever, he was now spending hours at the gym daily, determined to take good care of his body. In that and other conversations I did not raise to the challenge – the honor, as Jankelevitch would have written – of being chosen, if only for a moment, as an interlocutor of his ironic self-talk. Instead, I allowed myself to remain half blind not only to the truth that was hiding, well discernible, beyond his “pseudologia,” but also to the nature of Sergio's feelings about himself and how life was treating him.

The Ethics of Energy. William James's Moral Philosophy in Focus, Sergio's last work on James, is the product of those tragic, yet humorous, and energetic years. It brings to completion Franzese's reinterpretation of James's work, as a “philosophical anthropology,” which Franzese began articulating in several essays and in his first book on James, *L'uomo indeterminato. Saggio su William James* (Rome: Anselmo, 2001). James's diverse philosophical and psychological work, Franzese argued, aimed to outline a philosophical “science of man.” This philosophical anthropology, as James once wrote about philosophy, would be erected on the building blocks provided by the “special sciences.” It would not only seek to answer the central question of philosophy (the question of “the place of Man in nature”), but also to provide people with intellectual and practical tools that they could deploy in order to find the meaning of human life and better act and react within their multiple environments.

The book begins by challenging the canonical reading of “The Moral Philosopher and the Moral Life,” an essay in which many interpreters, following a pattern set by R. B. Perry, have seen an attempt to outline an ethical theory. Rather than offering a watered down (and transparently unsatisfactory) form of utilitarianism (and rather than committing himself to the

principle of maximum satisfaction, which Perry depicts as the “gist of James’s moral philosophy”), according to Franzese in this essay James dismissed as fundamentally misguided both idealistic ethics and utilitarianism. (In *Principles*, as Franzese reminds his readers, James had already debunked the hedonistic theory of action, underlying utilitarianism.) More: according to Franzese, in “The Moral Philosopher and the Moral Life,” James endeavored not to provide a specific moral theory, but, instead, to examine the conditions of validity of any moral theory. Here and in other early writings of James’s Franzese traces the emergence of the idea of the impossibility for the moral philosopher “to provide a sound positive answer to genuine moral problems.” (p. 42). This impossibility opens up a “field of indeterminacy,” which questions all established rules and “leaves everybody with no clue about the right attitude to adopt ... and committed to one’s own free choice.” (p. 42). In Franzese’s interpretation, in “The Moral Philosopher and the Moral Life” James concluded that a prescriptive moral philosophy must be replaced by a “critical moral science,” one which regards “each moral ideal as an hypothesis and each moral choice as an experiment.” (p. 40). Dismissing moral philosophy, “bound to its descriptive task, and ... its casuistic question,” James turned to an “ethical perspective focused on the character of the moral agent,” and his/her emotional “emotional energy” in any given situation. (p. 45)

James’s conception of such a moral science, Franzese suggests, does not stem from any metaphysics. It derives, instead, from James’s conception of the human being as a fundamentally active, indeterminate being, uniquely situated astride the Kantian domains of nature and culture, and endowed with interests. The high number of instincts, which James ascribed to humans, in contrast to the limited number of instincts proper of animals, and the much greater complexity of the human brain enabled James to draw a clear line separating humans from animals, and allowed him to depict humans as fundamentally indeterminate. The reformulation of the reflex arc as a tripartite, rather than a bipartite, process, one always mediated by higher brain activity, completed this picture of a human being, whose responses to external stimuli are never determinate and machine-like. On this basis Franzese reinterprets what Peirce once identified as the gist of James’s “doctrine”: that is, the idea that “the end of man is action.” [p. 99] According to this idea — which Franzese labels the “principle of the primacy of action” — human action, which for James is always guided by interests, is the tool the human being uses in an attempt

both to determine itself and to “morally order the world”: “Active interest and interested action, as the core of human existence ... satisfy the “vital need for a human animal possessing no natural, instinctual, guidelines to obtain orientation and determinacy in an undetermined world of sensations.” [p. 102].

Franzese, however, goes one step further, and suggests that this ethics of “self-determination” and of the production of axiological order in the world was first and foremost an “ethics of energy.” “Ethics,” he writes, “is a vital need for the indeterminate being... That is, ethics must control and organize one’s power of action, or, what amounts to the same thing, one’s energy.” [p. 102]. In Chapter 4 Franzese details what he calls James’s “‘energetic’ turn,” a decided shift to an explicit and important use of the concept of energy, which became most discernible in *Varieties of Religious Experience*, especially in James’s famous identification of “the real self of the man” with “the centre of his energies.” (p. 146).

Franzese not only highlights the important role played by “energy” in all of James’s subsequent works, including, of course, “The Energies of Men,” but also argues that an ethics of energy (or an ethics of “power”) can be discerned much earlier in James’s thought. *Talks to Teachers* and the chapters on emotions and habit in *Principles* are exemplary in this regard. Franzese reinterprets the James-Lange theory of emotions reading it, as many of James’s contemporaries in fact did, as a practical instrument people could use both to prevent needless expenditure of energy (some emotions can be energy-draining) and to energize at a higher level. He also suggests that habit, which James famously viewed as an instrument for the fashioning of character, that is, an instrument of self-determination, was for James a formidable ergonomic tool. (This, however, as Franzese also notes, did not prevent James from realizing that the routinization of action involved in certain habits could also stifle spontaneity and creative energy, making those habits into “bad habits.”). Central to Franzese’s analysis of James’s philosophical anthropology and of James’s ethics as an ethics of self-determination and management of energy is his discussion of James’s theory of the will. His examination of James’s classification of decisions in *Principles*, in particular, will be of great interest to both historians of philosophy and of psychology.

Franzese situates James’s use of the concept of energy in the context of the sciences of energy of his day and time, when the discourse on energy spread from its original context (the

industrial revolution and the physical sciences) to a range of academic or extra-academic disciplines, such as neurology (think, e.g., of George Beard's "neurasthenia"), clinical psychology (e.g. Pierre Janet's "psychasthenia"), mind cure, mental hygiene, and experimental psychology (e.g. Mosso's measurements of the expenditure of energy by hikers during alpine climbs being the signal example), as well as to politics, as Cotkin and others have shown. Franzese pays special attention to the physical sciences. While highlighting the ways in which various natural scientists, especially James Clerk Maxwell and Wilhelm Ostwald, functioned as resources for James's "energy-talk," Franzese also unearths important differences. These differences turn out to be key for a proper understanding of James's conception of energy. Here Franzese's analysis is razor sharp. James used "energy" in two ways, he argues. In a metaphysical sense (in his late writings), he used the term "energy" to account for "the whole of the *processes of the universe*, including *God* and the *psychic agencies*," as well as for experience, that is the "the process of interaction between 'subject' and 'world' conceived according to an energetic model," which, Franzese suggests, "mirrored Maxwell's theory of the fields of energy." In the *psychological* use, which lent itself to moral applications, James deployed the concepts of nervous and spiritual energy, both of which found expression in the "effort of attention," and in all activity aimed to overcome obstacles and difficulties. (164).

How did these two different accounts of energy relate? According to Franzese, James was aware of the importance of this question. He rejected both the claim that there was a continuity between the two (that is, the view that "psychological energy is only a part of the whole energy acting in the universe"), and the "*microcosmic model*, that is the view that nervous/psychological energy is in the human microcosms what energy tout court is in the greater universe." (p. 165) The former was reductionistic and could lead to deterministic implications. The latter, instead, opened up the problem of the difference between human energy and "the 'other' energy." Franzese answers his question by observing that, in contrast to natural scientists of the time, James did not view energy as a metaphysical substance. Instead, James used "energy" in a purely nominalistic way, as a collective name "for the sensations just as they present themselves (the movement, heat, magnetic pull, or light, or whatever it may be) when they are measured in certain ways." (James, *Pragmatism*). Franzese concludes that deployed the term "energy" as a "metaphor": more precisely, as a metaphor for "activity." James used the metaphor of energy to

give an “account of what, strictly speaking, can neither be said nor illustrated, namely, life itself, or the whole of the activity of the universe” and the very fact of the existence of activity. (p. 166).

Historian of science Fernando Vidal recently raised the question of why the concept of action (and related concepts such as “activity,” “enacting,” and “performance”) became central to turn-of-the-twentieth-century philosophy, arts, and politics. This, I think, is a broad historical epistemology question, which calls for a multi-disciplinary answer. Franzese’s book, by showing that action pervaded not only James’s theory of truth, but also his entire philosophy, makes the question central also to the field of James studies. By highlighting the importance James ascribed to disciplines of the self and to philosophical, psychological, and physiological exercises for the rearrangement of energy, *The Ethics of Energy* also indicates that an answer to Vidal’s question will require an examination not only of scientific and philosophical theories, but also of scientific and philosophical practices (including, I suggest, metaphysical practices, the importance of which has been highlighted, for example, by Gary Hatfield.)

In a footnote Franzese notes that that,–while making “the formation of personality” into the condition of a good life,” James “offers no substantial or universal axiological definition of ‘good’ and ‘evil.’” James, instead, takes virtue as “dispositional,” and identified “a good life” with “a fully fashioned [a “well structured and well disposed”] personality, whatever its ends and values might be.” (pp. 129-131). In turn, he defined personality “by the amount of attentive effort it can produce, that is, by the amount of power or energy an individual can expend in the deployment of his or her own existence.” (125). As a result, Franzese concludes, “good” becomes equivalent to “the creation of a character as a completely fashioned ‘tendency to act’ in the direction of whatever a person considers worthwhile to be acted on or for. ... In other words, ‘good’ is the creation of instincts as a determination of indeterminate being. Such determination, in turn, is ‘good’ because it is ergonomically advantageous and more effective.” (130). This is “the closest James ever came to a moral theory.”

I have quoted at length from this footnote, because I think these words not only illuminate Sergio Franzese’s interpretation of James’s ethics, but also may offer some consolation to Sergio’s friends. “Regret” was no banal term for James. No “mere emotional expression of discomfort or distress about some ‘unpleasant’ event,” it involved “the whole

moral structure of the individual,” “the meaning that existence has for such an individual.” What is at stake, in regret, just as for “existential” decisions (as Franzese terms the fifth kind of decision discussed by James in *Principles*), is a whole way of being, the choice of a self, “a determination” of the kind of person one wants “to be.” (p. 123, 141) I do not think Sergio regretted his merciless tendency to tax his body and his health – a true form of philosophical asceticism, one might say--, his sleepless nights (one could call him at any time, and find him invariably awake, working on some manuscript), or even the innumerable cigarettes, which helped him increase his energy and focus it on his self-chosen life task: his passionate study of James’s work. His was a good life, a philosophical life, one worth living and worth being faithful to, no matter the consequences.

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THE HEART OF WILLIAM JAMES. ed. Robert Richardson. Cambridge: Harvard University Press, 2010. 342 pgs. \$29.95.

Commemorating the centennial of the death of William James, Harvard University Press has published a collection of seventeen pieces, edited and introduced by James biographer Robert Richardson, that represent James's most famous and significant ideas. The book serves as a digest of excerpts from Harvard's nineteen-volume *Works of William James*, which appeared from 1975 to 1988, and is considered the definitive edition of James's writings. This new book, handsomely produced, complements several other collections: *William James: Essays and Lectures*, edited by Richard Kamber and Daniel Kolak (Longman Publishers); *Pragmatism and other essays*, edited by Giles Gunn (Penguin); *The Writings of William James*, edited by John McDermott (University of Chicago); and the Library of America's two volumes of James's works.

Two of Richardson's selections rarely appear in collections: "The Ph. D. Octopus," in which James derides the privileging of a degree that he himself never earned over other measures of brilliance; and "The Philippine Tangle," his criticism of America's foreign policy that, Richardson writes, shows James "in a blind rage. . . as one of the strongest anti-imperialist voices of the time." Fulfilling the aim of the book to show James's central ideas, Richardson includes selections from *The Principles of Psychology*, *Pragmatism*, *The Varieties of Religious Experience*, and *A Pluralistic Universe*. Clearly addressed to non-specialist readers, perhaps a new generation of readers coming to James for the first time, Richardson provides an accessible overview of James's life and main ideas, and brief introductions for each selection. He presents James as an energizer and life affirmer who "stood for the individual, and he argued that each individual matters." This is the James who delivered *Talks to Teachers on Psychology; And to Students on Some of Life's Ideals*, the source of four selections. From *Essays in Religion and Morality*, Richardson chose "The Energies of Men" and "The Moral Equivalent of War," both certainly notable, but consistent in tone with James's talks to teachers and students. Besides introductions, the collection includes annotations from the Harvard volumes. While not ground

breaking, *The Heart of William James* serves as a fine introduction to James and a fitting celebration of his life's work.

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