Honoring James Edward Oliver

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We are honoring Professor James E. Oliver this evening for his active support of the woman suffrage movement in Ithaca. While most suffragists, of course, were women, the support of men was always important. Some background: In the early nineteenth century, Ithaca was a small rural community, even more "centrally isolated" than now. It wasn't near the Erie Canal nor any other major transportation line. It didn't have a long tradition of reform movements, and no real local leadership for them. We could find no response in Ithaca newspapers to the 1848 women's rights conference in Seneca Falls.

But the founding of Cornell University changed everything. From the first, Ezra Cornell and Andrew Dickson White envisioned a radical educational experiment, explicitly non-sectarian and coeducational, welcoming anyone who was academically qualified, regardless of sex, color, creed, or national origins. Suffrage leaders responded enthusiastically. Susan B. Anthony came to speak at the Cornell Public Library in 1869 and Elizabeth Cady Stanton inquired about the possibility of moving to Ithaca. A less well-known suffrage activist, Marietta Benchley, did come to Ithaca in 1870 to educate her children. In 1878, through a new organization, the Liberal League, she helped organize a petition to remove the word "male" from the New York State constitution. James Oliver was one of the founders of the League, but we don't know whether he signed the petition. The petition was presented to the Senate, assigned to committee, and never heard from again. Suffrage speakers continued to come to Ithaca through the 1880s, but there were no organized groups in town or on campus.

In 1894 New York State held a constitutional convention, and the New York State Woman Suffrage Association organized a state-wide petition drive, again demanding that the word "male" be removed from the state constitution. A new Tompkins County Political Equality League led the campaign locally. Publicly affirming their support, Professor and Mrs. Oliver were elected to the petition committee for the city of Ithaca. Interestingly, another mathematics professor, George W. Jones, also served on the committee. When the League met in March, Professor Oliver gave a "thoughtful argument in favor of granting woman the franchise," (according to the *Ithaca Journal* on March 28) and introduced Susan B. Anthony, the main speaker. Ultimately, although 600,000 petitioners supported suffrage statewide (over 4,000 in Tompkins County), the suffrage bill was defeated by the convention. Despite the setback, in November, the 26th

Annual Convention of the New York State Woman Suffrage Association was held in Ithaca; Sara Oliver (Mrs. Professor Oliver in the official report of the convention) served as one of the members of the local arrangements committee. [1]

What might have inspired James Oliver's enthusiasm? We have biographical information, we know he was 5' 4 ½ with gray eyes (from his 1889 passport) and that he was very nearsighted (from his 1863 Civil War Draft Registration), but we have no personal or family papers, no letters or diaries that might fill out the story. We do know that James Edward Oliver was born in 1829 to a Massachusetts Quaker family. The family lived in Lynn, a center of abolitionist activity, and ardently supported the cause. According to a memoir published at the time of his death, young James "even went to the length of rigorous abstinence from the use of all products of slave labor, whether food or clothing." [2] He knew and worked with many of the abolitionist leaders, almost certainly including Frederick Douglass, who lived in Lynn from 1841 to 1848. His father worked as a cashier or accountant at a bank, and he was surrounded by strong women: his mother, Olivia, and two of his sisters were teachers. His half-sister, Elizabeth married the scientist and mathematician Pliny Earle Chase, whose family, especially his sister Lucy, were also noted abolitionists and supporters of woman suffrage.

He attended the Lynn Academy and then, as would have typical for a New England boy of his background, went on to Harvard. At Harvard, Oliver became one of the favorite pupils of Benjamin Peirce, a man known as the "father of mathematics in the United States." Peirce was born in Salem, a few miles away from Lynn and was introduced to mathematics by Nathaniel Bowditch, also born in Salem. Peirce graduated from Harvard in 1829, the year Oliver was born. The remarkable list of Peirce's notable pupils includes three Harvard presidents, Thomas Hill, Charles William Eliot, and A(bbott) Lawrence Lowell; John Daniel Runkle, president of MIT; and many others.

To put Peirce's influence in context:

> *Professor Coolidge pointed out that before the time of Benjamin Peirce it never occurred to anyone that "mathematical research was one of the things for which a mathematical department existed." Today it is a commonplace in all the leading universities. Peirce stood alone — a mountain peak whose absolute height might be hard to measure, but which towered above all the surrounding country.*[3]

Peirce's influence on mathematics was magnified by his constant efforts to develop the United States' scientific community. G. W. Hill noted in his *Memoir of James Edward Oliver*:

> *In the same year [Oliver's graduation, 1849] a new enterprise in astronomy was inaugurated in this country. Congress was persuaded to pass a bill creating a bureau of astronomical calculation. It was to be called the Office of the American Ephemeris and Nautical Almanac. Presumably Professor Benjamin Peirce and Admiral C. H. Davis were the prime movers in the matter. Nearly all the governments of western Europe, even that of so small a state as Portugal, published annually ephemerides of the principal heavenly bodies. It was represented that a proper regard for its dignity as a great civilized nation must lead the United States to follow this example; that our using an astronomical ephemeris published abroad was a subject of just reproach to us. By thus appealing to the national vanity of our legislators was this scheme made a success.*[4]

Following Peirce, the three most notable American mathematicians were Josiah Willard Gibbs (1839-1903), George William Hill (1838-1914), and Simon Newcomb (1835-1909), each about ten years younger than Oliver. Hill and Newcomb worked for the National Almanac Office (NAO).

Oliver did not take kindly to the work necessitated by the publication of the American Ephemeris. He found the endless repetitions of the same arithmetical processes extremely wearisome:

> *I remember his conversation at the office was plentifully interlarded with the words* quantics, invariants, covariants, discriminants, *and the like. When Oliver began to discourse eloquently on these things, I remember distinctly that the rustling of the leaves of the tables of logarithms would cease, and did not commence again until he got through. It was a very great pity that a man having this exalted enthusiasm for exploration in the higher mathematics should be condemned to waste a large portion of his energy in work which might have been performed by one of small talents. However, it speaks volumes for the patience of Oliver that he remained attached to the Office for a period which must have exceeded fifteen years....* [5]

Oliver spent some time with the Chases in Philadelphia, and having returned to Lynn at the end of 1870, in the following spring he gave a course of lectures on thermodynamics at Harvard University. It was his intention to continue these by lectures, to be given in the autumn, on physiological optics; but this plan was frustrated by his acceptance of an assistant professorship of mathematics at Cornell University.

It seems that, in Andrew Dickson White's vision, mathematics was, most importantly, a service to the sciences. There is little doubt that Peirce suggested Oliver to White for the position of Chair of Mathematics at the opening of Cornell. Oliver had just been elected to the American Academy of Arts and Sciences (1866), but White preferred his friend Evan Evans instead. In 1870, another young Harvard graduate, Lucien Wait, was hired. Finally, a year later, in 1871, Oliver was hired as assistant professor. He was elected to the National Academy of Sciences in 1872. He became full professor and Chair in 1874. It took about 100 years for the Cornell Mathematics Department to have another faculty member who belongs to both the AAAS and the NAS (Jack Kifer). Compare this to the efforts made by Daniel Coit Gilman, A. D. White's close friend, who hired James Joseph Sylvester (1814-1897) to lead the Department of Mathematics at Johns Hopkins University in 1876:

> *When Professor Sylvester was called to the chair of mathematics in the Johns Hopkins University, Professor Peirce of Harvard, being asked what he thought would be the opinion of American mathematicians respecting the new appointment, replied that no American mathematician had a right to have any opinion on the subject, except himself, and one of his old pupils, a distinguished professor of mathematics in one of our leading colleges...* [6]

James Oliver came to Ithaca in 1871. His youngest sister, Mary Ellen, who had been a teacher in Massachusetts, joined him in Ithaca. Mary Ellen Oliver graduated from Cornell in 1878 and was also an early suffrage supporter. She taught in Honduras and Nicaragua from 1879 to 1887, but, sadly, died of malaria in 1887.

The Olivers lived at 309 College Avenue (then 69 Heustis Street). Later, he would live on campus at 7 Central Avenue (near where Gannett is now located) with his eldest sister, Martha, who came to Ithaca around 1880. Living so close to campus permitted Oliver to host meetings of the Mathematical Club and to invite astronomy students to meet at his home to "study the stars." [7]

In 1877 James Oliver became one of the founding members of the local branch of the National Liberal League, part of the nineteenth century Freethought movement, whose primary purpose was religious liberty and the complete separation of church and state. As he would write in a letter to the *Weekly Ithacan*, Jan. 18, 1878: "The Liberal League movement seeks nothing but equal justice for those holding all forms of religious belief and unbelief….The Liberal League of Tompkins County… meddles with no one's religious faith, either to attach it, to undermine, or to discuss it. But it does insist that the

government, supported by the taxes, by the loyalty, and, if necessary, by the lives of us all, shall be absolutely uncommitted to any views concerning religion…" [8]

Oliver supported many of the ideals of the Freethought movement, writing for *The Index*, a Boston Freethought publication of which he was also a stockholder. The Ithaca Liberal League broke with the national group and was succeeded by the Radical Club, of which Oliver served as president; Martha Oliver was also a member. Both the Liberal League and the Radical Club met at the First Unitarian Society of Ithaca, and Oliver would eventually join, probably to gain some respectability as Cornell became more conservative on religious issues. When questioned by his Quaker friends in Lynn, he wrote a letter "in which he maintained the fundamental Quaker doctrine of the supremacy of the inner light over all traditional authority… He asserted he had not swerved from the path followed by his fathers; that he had simply gone further along it..." [9] He became devoted to the Unitarian Society, but maintained his independence of thought. He taught an ethics class at the Unitarian Sunday School, largely attended by Cornell students, and at Cornell he helped found the Social Science Club and the University Ethical Association.

The *Cornell Daily Sun* reported on March 7, 1881: "On Thursday evening last, in response to an invitation from Prof. Oliver, a number of congenial mathematical spirits assembled at his rooms on Heustis street, for the purpose of organizing a mathematical society. After an informal discussion of what the aims of such a society should be, it was then duly organized, with Prof. Oliver as President and E. W. Thompson as Secretary." From the beginning, it included women. It seems to have met for about two years, before becoming inactive. [10]

At Cornell, Oliver charmed everyone and supported the many women taking mathematics. Emma Sheffield Eastman is the first woman to graduate from Cornell (Ph.B., 1873). She had studied at Vassar College and transferred to Cornell in 1871. In 1873-74, she taught science and mathematics in Portland, Maine before marrying Leroy A. Foster '72, who was also from an abolitionist and suffrage family. After Foster's death in 1882, Emma actively worked for women's suffrage for much of her life, dying in California in 1932.

Oliver soon got in trouble for his liberal ideas: "On 5 January 1881, the Executive Committee of the Board of Trustees resolved on a purge" that would involve terminating the appointments of Oliver and Jones of Mathematics, Charles B. Wing and A. A. (Abram Adams) Breneman of Chemistry and Alfred Stebbins of French. The entire department of Architecture lead by Charles Babcock would also be eliminated. Morris Bishop reports that, informed by mail while in Berlin, President White replied

that "Oliver was a great mathematician, but let him go. We could part with Jones and Stebbins, but we should keep Wing and Breneman, and we should hold on to Architecture, in the hope for better times." [11]

Oliver and Jones, of course, survived the purge. Breneman, who was already unpopular for his report on the sanitary systems in Ithaca, left in 1882 for a private practice in New York City; Alfred Stebbins also resigned in 1882, but remained in Ithaca, dying in 1887. Wing would go on to Stanford University in 1892. Fortunately, by 1886, Cornell was in a much better position as an institution and the development of research activities became a priority. Oliver immediately sensed an opportunity:

> *MATHEMATICS.*
> *To the President of Cornell University, Sir :—*
>
> *Most of the Mathematical Department's work falls under three chief heads: First, instruction in subjects prescribed to freshmen in the University's general or technical courses, together with the conducting of examinations for admission to the University.....*
>
> *We think that improvement is quite as observable this year in the higher work of the department as with the freshman and sophomore classes. It is slow building up here an interest in studies so abstract while the University offers such admirable facilities for work more immediately "practical"; yet one of our number—whose experience as a student, and as a teacher, enables him to judge—assures us that, now Professor Sylvester has gone back to England, the opportunities offered here to the average student of the higher pure mathematics are quite as good as those at any other university in the country.*
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> *Respectfully submitted, J. E. OLIVER* [12]

This was the very beginning of Oliver's attempt to develop the graduate program. In 1886, his first student, J. H. Messenger, earned his Ph.D.; two more students earned Ph.D.s in 1888. That year, Anna Mary Widman, who had just earned her Cornell Ph.B., became the first women to be named Fellow in mathematics. However, she declined the position and, instead, taught mathematics at Ithaca High School from 1889 to 1892. Of the twenty-nine Special Honors in Mathematics awarded between 1883 and 1900, eleven went to women while women represented only about 10% of the Cornell undergraduates during this period. Of seven mathematics doctorates awarded to graduate students at Cornell before 1900, three went to women.

In 1888 after his friends "had long set him down as a confirmed bachelor," he married Sara Theresa Van Petten, from the Oswego Normal School. In 1889, James and Sara Oliver departed for Europe where they stayed fourteen months. It seems likely that this European journey was made possible by the establishment of sabbatical leaves in the early years of President Adams administration. The Olivers started in Cambridge where James attended lectures by Cayley and Stoke. Next, they went to Göttingen. Oliver's former student Benjamin Warner Snow (Class of 1885), who later became Professor of Physics at the University of Wisconsin, had attended Felix Klein's lectures the previous year and had given Oliver a very positive report. Oliver attended Klein's lectures on Lamé functions, together with fellow Americans Henry White and Maxim Bocher. In his National Academy memoir, G. W. Hill writes: "At Göttingen he [James Oliver] found a congenial friend in Professor Klein. In a note written from there he says: 'my work here is likely to be of great service to me, including the trains of thought and plans it suggests, no very radically new plans, only as to the spirit, the aims, and the details of my Cornell work.'" [13]

Klein and his wife, Anne Hegel Klein, and Oliver and his wife Sara, became quite good friend, in part, it seems, because of their shared interested in supporting women in academia. This friendship played a very important role in the development of the graduate program at Cornell. Oliver's three last Ph.D. students were women: Ida Metcalf (1893), Annie McKinnon (1894), and Agnes Baxter (1895). He also sent his graduate students Virgil Snyder, John H. Tanner, Annie MacKinnon, and Anna Palmié to study with Klein in Göttingen.

Upon returning to Cornell, Oliver reorganized the Mathematical Club, with two sections, open to students and professors. The first meeting of the new club took place on January 24, 1891, and both sections continued to meet regularly at his home on campus. After his death, the group was named in his honor as the Oliver Mathematical Club in 1898.

In August 1893, Klein came to America to give the opening address on "The Present State of Mathematics" at the International Mathematical Congress, organized in Chicago on the occasion of the World's Columbian Exposition. Oliver and other Cornell faculty and alumni including Henry Turner Eddy (Cornell's first Ph.D. 1872, later president of the University of Cincinnati and the Rose Polytechnic Institute) and Professor James McMahon also attended the meeting. [14] Afterwards Klein visited Oliver in Ithaca as part of his tour of educational institutions in the United States. When she wanted to attend Göttingen, Annie MacKinnon wrote to Klein, reminding him of "a reception given in your honor last summer at the home of Prof. Oliver of Ithaca…" [15]

At his death in 1895 James Oliver was honored by a full front-page obituary in the *Cornell Daily Sun*: "…it is as a teacher and a man that he will be longest and most affectionally remembered.… He was always and absolutely *fair* … he had the genius which sees things as they are… He was tender as he was just, helpful as he was conscientious… His gentleness argued no want of courage… In religion he was, as he used himself to say, 'by temperament and training a mystic'…"[16] A long obituary also appeared in the *Free Thought Magazine*: "His daily life was a sermon in behalf of Free Thought, and he was allowed to remain at the University, really for the reason that no man could be found so well qualified to *fill* the position he occupied. The Ithaca Journal says of him: While his loss to the University as a profound mathematician is very great his loss as a man, as a personality, is even greater…." [17] The complete biographical *Memoir of James Edward Oliver* by the astronomer and mathematician George William Hill was read before the National Academy of Sciences and later published by the academy. James Oliver was buried in the family plot in Pine Grove Cemetery, Lynn, Massachusetts. He is memorialized on campus by a plaque in Sage Chapel: "The Trustees of this university remembering the beauty of his character and the faithfulness with which his great gifts were here devoted to the work of instruction have erected this memorial." [18]

After his death, Sara Oliver earned a degree from Cornell in 1897, and returned to teaching at Oswego. She died in Pasadena, California in 1912 at the home of two of her half-sisters, but was buried next to her husband in Massachusetts. Martha Oliver continued to live in Ithaca, but eventually moved to live with her widowed half-sister Elizabeth Chase in Philadelphia. Martha Oliver died in 1907, and is also buried in the family plot in Lynn.

James Oliver epitomized many of Cornell's founding ideals. While he was not always a supporter, in his 1905 *Autobiography*, Andrew Dickson White honored James Oliver as "a genius in his chosen field, but always exercising a large influence by virtue of his broad, liberal, tolerant views of life which were promoted by study of the best thoughts of the best thinkers of all times." [19]

Edward G. Wyckoff (Class of 1889), an Ithaca businessman and developer of what would become Cayuga Heights, commissioned a local portrait artist Albert J. Purdy to paint a portrait of Professor Oliver for Cornell. At the unveiling, on behalf of the donor, Professor Benjamin Ide Wheeler (who later became the president of the University of California) asked that the portrait "be received, not so much as a reminder of the deceased, but to certify that a great University is built of characters and not of stones." [20] That portrait originally hung in the main Library reading room, and is now located in

the Math Library in Malott Hall, with a new plaque that we are dedicating today to further honor the memory of James Edward Oliver.

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[1] See Carol Kammen and Elaine D. Engst, *Achieving Beulah Land: The Long Struggle for Suffrage in Tompkins County, New York* (Ithaca, N.Y.: Cornell University Library, 2019), pp. 43-45.

[2] *Memoir of James Edward Oliver, 1829-1895*, by G. W. Hill. Read Before the National Academy, April 1896. pg. 61 http://www.nasonline.org/publications/biographical-memoirs/memoir-pdfs/oliver-james.pdf

[3] R. C. Archibald, "Biographical Sketch," in Benjamin Peirce,*The American Mathematical Monthly* Vol. 32, No. 1 (Jan., 1925)

[4] Ibid. pg. 64

[5] Ibid. Pg. 65

[6] Lucien Wait, in "Advanced Instruction in American Colleges," *The Harvard Register*, vol. 3, p. 127, 1880

[7] See *Cornell Daily Sun*, April 26, 1882 and May 9, 1882 https://cdsun.library.cornell.edu/

[8] Quoted in its entirety in *The Index*, *Weekly Paper Devoted to Free Religion*, Volume IX. (Boston, Mass.) February 7, 1878, pp. 64-65 https://babel.hathitrust.org/cgi/pt?id=mdp.39015012320159&view=2up&seq=73&skin=2021&size=150&q1=Ithacan

[9] *Cornell Daily Sun*, April 3, 1895

[10] Ibid, March 7, 1881

[11] Morris Bishop, *History of Cornell*. (Ithaca, N.Y.: Cornell University Press, 1962), pg. 205

[12] Annual Report of the President of Cornell University for 1886/87- Appendix, pg. 55 https://babel.hathitrust.org/cgi/pt?id=uiug.30112111494305&view=1up&seq=289

[13] *Memoir of James Edward Oliver*, p. 69

[14] See "Cornellians at the International Congress of Mathematics" https://math.cornell.edu/international-congress

[15] Quoted in Karen Hunger Parshall and David E. Rowe, *The Emergence of the American Mathematical Research Community, 1876-1900*. American Mathematical Society, London Mathematical Society, 1991, pg. 249

[16] *Cornell Daily Sun*, April 3, 1895

[17] "Professor James E. Oliver – Obituary Notice," *The Free Thought Magazine*, Volume XIII, 1895 (Chicago, Ill.), pp. 287-293 https://play.google.com/books/reader?id=9PE5AQAAMAAJ&pg=GBS.PP6&hl=en

[18] See James Edward Oliver Memorial Plaque https://digital.library.cornell.edu/catalog/ss:50530

[19] Andrew Dickson White, *Autobiography of Andrew D. White*. (New York, The Century Co., 1905). Vol. 1, pg. 365.

[20] *Cornell Daily Sun*, October 9, 1896