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# WILLIAM LIBBEY OF PRINCETON: A FORGOTTEN GEOGRAPHER

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***ABSTRACT*****:** *William Libbey was Arnold Guyot's sole advanced geography student and his successor in physical geography at Princeton University from 1883 to 1923.He was also the first American to earn a doctorate in geography in any American university. His scholarship covered the general field of "physiography" -- meteorology, solar eclipses, volcanism, oceanography and hypsometry -- no longer considered geographic fields. He was active for many years in the American Geographical Society and a charter member of the Association of American Geographers, but was never a leading figure and had no successors at Princeton. His diffuse scholarly interests, commitments to Princeton's town life and Princeton University, and his commitments to military and patriotic organizations distracted him from consistent, focused scholarship. While he lectured on topics of interest to some scientists in related fields, after 1900 he quickly became a "forgotten figure" as changing currents in American geography passed him by. (Yet his life typifies the broad dimensions of a late 19th century geographer, in exploration, fieldwork, and the diversity of "physiography."*

***Keywords****: Arnold Guyot, history of geography, William Libbey, 19th century physiography, Princeton University*

## INTRODUCTION

Geography was taught increasingly in 19th century America, both in schools and in institutions that prepared teachers for them. Geography as an organized discipline emerged in the later 19th century largely in those private colleges and universities that were beginning to develop research methods and to offer graduate degrees in what was becoming a professional field .These programs were generally offered under the aegis of geologists, such as Nathaniel Southgate Shaler and William Morris Davis of Harvard, Ralph Tarr of Cornell, William Bullock Clark at Johns Hopkins, and Rollin D Salisbury at the University of Chicago. Collectively, their programs emphasized "physiography," a now obsolete term fora comprehensive study of the earth's environment (Martin 2015, Chap. 3).

Arnold Guyot, a Swiss émigré who had earned a doctorate under Karl Ritter at the University of Berlin, had found a position as Professor of Physical Geography and Geology at the College of New Jersey (now Princeton University) in 1854, at first taught only undergraduates. Only nearly a quarter of a century later could he began to mentor advanced students in geology and one in geography, William Libbey. This paper, then, is a study of Libbey as a "physiographer" in the late 19th century

## WILLIAM LIBBEY: PRINCETON STUDENT

At the time Libbey was a student at the College of New Jersey, President James McCosh was expanding its range in the sciences, and also supporting the development of graduate programs. McCosh had persuaded a donor, John C. Green, to donate funds to create a School of Science. This would provide for advanced work for those students who wished to remain in Princeton, as an alternative to going elsewhere for advanced degrees. There were two tracks for such students, beginning in 1877-78. Students prepared in Latin and Greek in the College, could advance to master of arts, and some to doctor of philosophy (PhD) degrees. Students in the John C. Green School of Science were required to have taken Latin as undergraduates for admission, and were given master of science and doctor of science (DSc) degrees. Otherwise, the degrees had similar requirements. The degree of Doctor of Science, which remained on the books until 1904, required two years of graduate study, passing "rigid examinations on the subject studied," and completing "a thesis containing the results of original research" The Sc.D. was therefore an advanced research degree, comparable to the PhD requirement, except that it was granted through the School of Science. (Thorp *et al*, 2000).

William Libbey, Jr., the son of a wealthy entrepreneur and Trustee at the College of New Jersey, entered the college in 1873 and graduated A.B. in 1877, two years ahead of Woodrow Wilson, whom he continued in later life to call by his college nickname, "Tommy." A student of Arnold Guyot and a close friend of other students interested in science, Libbey planned to study medicine. But the attraction of Guyot and the out-of-doors led him to change his

mind. Between his Junior and Senior years, he worked for his professor, who was then working on his map of the Catskills. Libbey began serious work in physical geography under Guyot's direction, becoming his mentor's first student to earn a doctorate, in 1879 (Osborn 1927; Darton 1928) (Figure 1).

Figure 1. William Libbey. Photographer: George Grantham Bain. Source: Prints and Photographs Division, U.S. Library of Congress.

Libbey's ScD in physical geography was the first American geography doctorate. His dissertation, published as *Topographic, Hypsometric, and Meteorologic Report*, was approved and published in 1879. It was based on a scientific expedition he organized to the mountains of Colorado and Wyoming, funded by his wealthy father. It was to be the first of a long series of Western expeditions which Princeton geosciences students continue to the present day. On July 17, 1877 Libbey became the first scientific student to climb Mt. Princeton in Colorado, whose peak stands at 14, 420 feet in height. He organized the next such expedition the following year, but did not participate in it.

After completing his dissertation, Libbey spent a year in Europe, first studying at the University of Berlin in terrestrial magnetism under Hermann von Helmholtz and the geography of Europe under Heinrich Kiepert, a former student of Karl Ritter. He then moved on to the College de France, studying the same subjects and adding anthropology. While in Europe Libbey received an invitation to return to Princeton as Guyot's assistant in natural history, beginning in the fall of 1880. At first he taught meteorology, terrestrial magnetism, and also taught histology until 1898. During Guyot's last illness in 1884, he assumed the Professorship of Physical Geography, which he held for forty years (Osborn, ed., 1927b, 212). This was the first American professorship solely in the field of geography, and predates William Morris Davis' similar position at Harvard by six years.

## PROFESSOR WILLIAM LIBBEY

Libbey continued to work on a number of problems on what was then called "physiography," during that time a much broader field than its lineal successor, geomorphology, later became. Owing to Guyot's illness, Libbey took over the responsibility of completing the fourth edition of Guyot's *Physical and Meteorological Tables*, published in 1884, the year of Guyot's death. He also published an important memoir of his mentor, "The Life and Scientific

Work of Arnold Guyot," his first publication in the *Bulletin of the American Geographical Society* (Libbey 1884a, 1884b). The following year, he became a longtime member of the Society's Board of Directors, and was its Foreign Corresponding Secretary until his death in 1927 (Wright 1952, 114-115).

In 1886 Libbey joined the *New York Times* expedition to the Mt. St. Elias region in Alaska. Although the party was unable to reach the summit of the mountain itself, Libbey made a number of observations that were published as "Some of the Geographical Features of Southern Alaska" in the *Bulletin of the American Geographical Society.* He named the two largest glaciers after Louis Agassiz and Guyot, and a later explorer named a third after Libbey (Libbey 1886; Osborn 1927a).

In 1887 he travelled to Moscow as part of an American expedition headed by his former astronomy professor, Charles Young, to photograph an eclipse of the sun. Libbey had previously assisted Young in correcting instrumental errors for Princeton's new astronomical observatory, and photographed a solar eclipse near Denver in July 1878. On his return he published a semi-popular article, "Moscow the Magnificent," in the *Bulletin of the American Geographical Society*. On their way home from Moscow, Young and Libbey attended a meeting of the British Association for the Advancement of Science.

Libbey traveled to Hawaii in 1893 on another expedition, this one sponsored by the Philadelphia Academy of Sciences. Here he spent ten days studying the crater of Mt. Kilauea, which was then erupting. His spectroscopic analysis, made from the risky rim of the caldera, disclosed the presence of hydrogen in the gas the volcano emitted, the first identification of that gas in any volcanic eruption (Libbey 1894; Osborn 1927a, 128-129; Osborn 1927b, 213). Here again he was following the work of Professor Young, who had first discovered hydrogen in eruptions of the sun. In the summer of 1894 he was appointed Geographer to Robert E. Peary's expedition to Greenland. Because of the conditions of the ice, the geographical work was "almost fruitless," though Libbey was able to help the expedition's geologist, Thomas C. Chamberlain, with his glacial studies. Chamberlain praised Libbey's photographic skills, however, for his "many choice views of glaciers" (Bryant 1895, 162; Chamberlin 1894, 663). (Libbey returned to Greenland in 1899 as leader of a second expedition, this one funded by Princeton).

One of Libbey's major interests was oceanography. He had asked to join United States Fish Commission's studies of marine life in the North Atlantic for several summers in the 1890s and provided a major study for them in 1889, his *Report Upon a Physical Investigation of the Waters off the Southern Coast of New England.* In 1890 Charles Otis Whitman, then Director of the new Marine Biological Laboratory at Wood's Holl (as it was then; now Woods Hole, MA), and first head of Biology at the newly opened Clark University, invited Libbey to give a public lecture on his work. His lecture, "The Study of Ocean Temperatures and Currents," stressed the importance of the physical conditions surrounding marine life and their complexity, citing Alexander von Humboldt's warning on the complexity of ocean currents. It was published in the first volume of the MBL's important *Biological Lectures* series (Libbey 1891a; Libbey 1891b, 231-250; Koelsch 1987, 27-29).

In July 1895, he was one of three delegates from the American Geographical Society to the London meeting of the Fifth International Geographical Congress. He also was named a Vice-President of the conference, and chaired a session on oceanography and limnology. Libbey gave a paper on "The Relations of the Gulf Stream to the Labrador Current," the result of his work with the United States Fish Commission in 1889 and 1890. By tracking the migrations of the Tile fish, a valuable food fish, over the three summers, Libbey was able to show the causal effect of shifting ocean currents and thus to predict the return of the fish to waters of Nantucket Island. Sir John Murray, in his well-known map of the oceans, named one of the Atlantic coastal deeps the "Libbey Deep" in honor of this discovery. Many years later, Oxford physical geographer Robert Beckinsale called it "a remarkably fine lecture," and it is probably Libbey's most well-known article (Libbey 1896, 461-474; Beckinsale 1981, 117). At the turn of the century, Libbey also provided some notes on that subject in the *Bulletin of the American Geographical Society* (Libbey 1899; Wright 1952, 119).

Libbey also had a strong interest in earthquake phenomena. He attended the Belfast meeting of the British Association for the Advancement of Science in 1902, where he presented papers in the Geography section on the Jordan Valley, Petra, and on his experiences in Greenland. (British Association Report, 1903, 680-682, 687). But he also attended a symposium on earthquake phenomena there. Here he informally presented data for every quake of the previous ten years, establishing a transverse fault at right angles to the Pacific Ocean fracture, separating the southern and northern continents. Guyot had previously noted that 5/6ths of the world's active volcanoes were located in this region, but Libbey was the first to note that the majority of the world's earthquakes were also located in this part of the world. John Milne, then the leading authority on seismology, subsequently named the transverse zone the "Libbey Circle," after Libbey (*Monthly Weather Review*, 1905, 253; Osborn 1927a, 128; Osborn, ed. 1927b, 212).

Although Libbey did not give a paper in 1904 at the first International Geographical Congress to be held in the United States, as a member of William Morris Davis' Committee on Scientific Programs, he had been active in the planning. He also chaired Section D, Oceanography, which met on September 13th at the then new headquarters

of the American Geographical Society on West 81st Street, New York. At the President's business meetings, he presented a number of resolutions, almost all of which were adopted. One of these was to request the President to appoint a committee of eight members to organize a union of the world's leading geographical societies "for the exchange of courtesies." This was done, and the President appointed Libbey chairman (Eighth International Geographical Congress, 1905).

Libbey's last major expedition was to the Jordan Rift Valley, undertaken in 1902 with fellow Princeton graduate Franklin Hoskins, a clergyman who for the previous twenty years had served the Presbyterian-financed Syrian Mission in Beirut (Figure 2). The Valley was the site of Petra, famously described by John William Burgon (who had never seen it) as the legendary "rose-red city half as old as time" (Burgon [1845], 1846). Petra was the ancient city of the Nabataeans, vacated when other Arab tribes conquered the area in 663. Since that time, it had been visited by only a few Western travelers, beginning with the Swiss Johann Ludwig Burkhardt in 1812, and later by the authors of two classic books on the geography of Palestine, the American Edward Robinson, in 1838, and the British Arthur Penryn Stanley, in 1852. It took Libbey, Hoskins and their entourage forty days (600 miles on horseback) to explore the world's largest rift valley.

Figure 2. William Libbey at Petra, 1902. Source: Libbey Slide Collection, Clark University.

Libbey and Hoskins published a two-volume illustrated account of their expedition, Libbey's last major geography-related publication. The structure of the book is that of an extended travelogue, into which Libbey and Hoskins insert segments on their particular interests and expertise. Hoskins is clearly the author of the segments of Biblical references and comparisons. Libbey describes the geology and makes precise hypsometric observations using barometric measurements, both reflecting the legacy of his teacher, Guyot. His descriptions of the landscape are clear and accurate, and illustrated with copious photographs that Libbey later turned into lantern slides. Libbey honored his Berlin geography professor, Heinrich Kiepert, by inserting Kiepert's map of the ruins of Gerasa (Jerash). There are several references to George Adam Smith's *Historical Geography of the Holy Land*, described as "one of the most helpful and fascinating books ever written about any land." The book devotes several chapters to Petra, perhaps its most lasting value (Libbey and Hoskins, 1905).

Libbey brought back a number of rocks and fossils for Princeton's museum of geology and archaeology, which he directed for forty years. His book received a favorable review in the *Bulletin of the American Geographical Society*, especially for its treatment of geology and of the peoples in the area. The anonymous reviewer also praised Libbey's photography as the best he'd done yet and "a very remarkable feature of this book." The combination of text and photographs, he continued, had made "a splendid addition to all that has been written and pictured" concerning this strange and beautiful country (Anonymous, 1905, 574-575).

## LIBBEY'S EXTERNAL COMMITMENTS

When his Princeton near-classmate, colleague and university President Woodrow Wilson became Governor of New Jersey, he appointed Libbey to the State Geological Survey, the Morris and Essex Canal Commission, and the Washington's Crossing Commission. Libbey was a member and sometimes an officer of a number of patriotic societies, including the Sons of the Revolution, for which he was national President. Near the end of his life he and his wife Mary donated a substantial sum of money to help purchase land for the Princeton Revolutionary War battlefield park (Osborn 1927b, 206; Darton 1928, 35).

Libbey's geography research virtually stopped around 1905, when he was fifty. Although he was a member of the organizing committee for the Association of American Geographers in 1904, he was not influential in the organization. He was a founding member, and served as Vice-President in 1906. This was often a position, as Visher has noted, for "older men who had contributed notably to geography or to the Association" but who were judged "as less worthy of the high honor of the presidency…" (Visher 1950, 44; James and Ehrenberg, 1975). Libbey presented an illustrated paper at the second meeting of the Association, held in New York City in 1905, on "Physical Geography of the Jordan Valley" (Libbey 1906). These, and his few later proposed topics for AAG meetings, were largely informal lectures illustrated by his lantern slides, which were probably of little interest to the more serious scholar. Ellen Wilson, who attended Libbey lecture on Cuba, "went fast asleep" during the event. She wrote her husband that she had gone primarily got the pictures, but found them "dull, and the lecture, - nothing" (Wilson [1897] 1971).

Libbey was a Vice-President of the Geographical Society of Philadelphia, and continued his responsibilities with the American Geographical Society, serving as the Committee on Presentation of Medals and as a member of the committee to organize the Society's public lecture programs. He was a member of a number of foreign geographical societies, as well as the American Meteorological Society, the Geological Society of America, and other American scientific societies (Osborn, ed. 1927b, 214). But he was no longer active in research and publication in his chosen field.

Even during his more active years, his research activity was often set aside for major commitments to non-academic activities. In the town of Princeton, he was involved in planning or supervising the water supply, the sewage plant, and the town's first telephone system. He also served on the boards of several insurance companies. He was President of one Princeton bank, and Vice-President of another. He served several terms as President of the National Rifle Association. As such, he wrote the introduction to James Moss's *How to Shoot, Including Care and Preservation of the Rifle* (Moss 1917), which was republished in 2003 and is still in print. He was a member of a rifle team that won a silver medal at the 1912 summer Olympic Games; his team was also victorious at the 1920 Olympics. During World War I he taught rifle practice at Princeton and at a number of military installations.

Within the university, as noted earlier, Libbey directed the university's museum of geology and archaeology, named for his mother and funded by his father. 1909 saw the completion of Guyot Hall, named for his mentor, for geology and biology (Conklin 1946, 56-57). He was Grand Marshal of all of Princeton's public ceremonies and undertook many other university functions. He compiled and edited the first three editions of the Princeton alumni directory, in 1888, 1892, and 1896, and translated the college catalogue from Latin into English. In 1899 he published a 128-page book on *Princeton in the Spanish-American War, 1898*. And he gave Princeton its colors, orange and black.

Two syllabi for Libbey's courses survive, one "Outline of Lectures in Physical Geography" and the other "Outline of Lectures on Earth and Man," after Guyot's book on the subject. His courses were apparently well attended. Huldah Winstead, in an article surveying courses in geography in America credited him with 160 students during the 1909-1910 academic year, and for that of 1916-1917 Ray Whitback found 155 students (Winstead 1912; Whitbeck 1919). These seem, however, not necessarily for the intellectual value of the subjects, but because they were easy. Richard Hartshorne, a mathematics major while a Princeton undergraduate, described them to John Leighly in 1939 as "physical gut," i.e.," snap-course" geography (Hartshorne 1939 in Martin 2015, 935), and described them to me in similar terms in 1978.

Why is Libbey no longer known or referenced among geographers? First is the changing nature of American geography. In Libbey's day, physical geography was linked more closely to the spectrum of natural science than it

has been for many years. Oceanography, and those aspects of astronomy that affect the earth (such as eclipses) are no longer significant research subjects for most geographers. Nor is mountaineering. The heights of mountains and depths of valleys are now a concern of geodesy, not geography. Mountain-climbing is no longer a scholarly interest of most geographers, nor is vulcanism. Meteorology split off from climatology in the 1930s, thanks to the work and advocacy of the "Bergen School", and few geographers publish in that field today (Koelsch 1996, 525-531).

Second, unlike William Morris Davis, Ralph Tarr, or Rollin Salisbury, Libbey seems to have directed no graduate students nor, indeed, anyone who later entered geography as a profession. There is no line of descent or "School" of the Guyot/Libbey style of geography. Following Libbey's retirement, Princeton was gifted with two endowed chairs specifically for geography. The Knox Taylor Professorship (1927), never occupied by a geographer, is now a professorship of geosciences. The Henry G. Bryant Professorship (1952), a gift honoring the long-time President of the Geographical Society of Philadelphia, is now assigned to the Woodrow Wilson School of Public and International Affairs. From 1973 to 2005 it was occupied by a geographer, Julian Wolpert, but had normally been assigned to a political scientist. It has now been renamed the Henry G. Bryant Professor of Sociology and Public Affairs. There has never been a geography department at Princeton, so no institutional body that might better have fulfilled the donors' original intent.

During his lifetime Libbey purchased a large number of geography and related periodicals, from Vol. 1 No.1 onward. He spent a great deal of time and money amassing several thousand index cards, in a comprehensive card catalogue of references to French, German, British and American geographic periodicals before 1914. Having begun an interest in photography as an undergraduate, Libbey took hundreds of photographs which he made into lantern slides and also collected additional ones, forming a collection of some 14,000 glass lantern slides between 1860 and 1910. These were used in his own lectures at Princeton and duplicated for the use of other colleges and universities. This collection of geographical material included Arnold Guyot's library, which Libbey had purchased after his mentor's death. The whole amounting to 8000 bound volumes, 1400 pamphlets, and several hundred maps (plus a portrait of Libbey himself, recently gone missing), as well as the card catalogue and the lantern slides, was donated by his widow, Mary Libbey, to the then new Graduate School of Geography at Clark University. Mrs. Libbey later, by gift and bequest, established a William Libbey Memorial Fund to support faculty and student research in physical geography. In 1993, however, much of the collection, including a large number of valuable old books and periodicals, was discarded by a technocratic librarian.

Libbey's decision to devote so much of his time to the town of Princeton, to various historical societies, to Princeton University functions, are certainly contributions to civic life, as were his several terms as President of the National Rifle Association, his military training of your Princetonians during World War I, and his participation in two Olympic Games. However, those choices necessarily limited his time for educating the young, for mentoring future scholars, and for producing deep and continuous scholarship in his chosen profession. Though he produced no major publications in geography, he did work in a number of areas important to geographical and other scientists of the time, and at least a few of his published papers were well recognized as significant contributions to science. Though not a major figure in the modern discipline, his activity as a physical geographer (or, perhaps, "physiographer") of some visibility in his time should not be utterly forgotten.

## REFERENCES

Anonymous, 1905. Book Notices. Review of The Jordan Valley and Petra. *Bulletin of the American Geographical Society.* 37 (9): 573-574.

Beckinsale, R. P. 1981. W. M. Davis and American Geography, 1880-1934. *The Origins of Academic Geography in the United States*, ed. B. W. Blouet, pp. 107-122. Hamden, CT: Archon Books.

Bryant, H. G. 1895. The Peary Auxiliary Expedition of 1894. *Bulletin of the Geographical Club of Philadelphia.* 1 (5): 141-164.

Burgon, J. W. [c1845], 1846. *Petra, a Poem.* 2nd ed. Oxford: F. Macpherson.

Chamberlin, T. C. 1894. Glacial Studies in Greenland. *Journal of Geology.* 2 (7):649-666.

Conklin, E. G. 1946. As a Scientist Saw Him. In *Woodrow Wilson: Some Princeton Memories*, ed. W. S. Meyers, pp. 52-61. Princeton: Princeton University Press.

Darton, N. H. 1928. Memorial of William Libbey. *Bulletin of the Geological Society of America.* 39 (1): 35-40.

Eighth International Geographical Congress. 1905. *Report of the Eighth International Geographical Congress, Held in the United States, 1904.* Washington: Government Printing Office.

James, P. E. and R. Ehrenberg. The Original Members of the Association of American Geographers. *The Professional Geographer.* 27 (3): 1975, 327-335.

Koelsch, W. A. 1987. *Clark University, 1887-1987: A Narrative History*. Worcester: Clark University Press.

_____. 1996. From Geo- to Physical Science: Meteorology in the American University, 1919-1945. In *Historical Essays on Meteorology, 1919-1995: The Diamond Anniversary Volume of the American Meteorological Society*, ed. James Rodger Fleming, pp. 511-540. Boston: American Meteorological Society.

Libbey, W. 1879. *Topographic, Hypsometric, and Meteorologic Report*. New York: Charles Scribner's Sons.

_____. 1884a, ed. *Tables, Meteorological and Physical, by Arnold Guyot*, 4th ed., revised and enlarged. Edited by William Libbey. (Smithsonian Miscellaneous Collections, 28.) Washington: Smithsonian Institution.

_____. 1884b. Life and Scientific Work of Arnold Guyot. *Journal of the American Geographical Society of New York.* 16: 194-221.

_____. 1886. Some of the Geographical Features of Southeastern Alaska. *Bulletin of the American Geographical Society.* 18 (4): 279-300.

____. 1888. Moscow the Magnificent. *Bulletin of the American Geographical Society.* 20 (3): 273-294.

_____.1889. Geography and Exploration in 1886. *Annual Report of the Smithsonian Institution for the Year Ending June 30, 1887,* Pt. 1, 313-325. Washington: Government Printing Office.

_____. 1891a. Report Upon a Physical Investigation of the Waters off the Southern Coast of New England, Made During the Summer of 1889 by the U. S. Fish Commission Schooner Grampus. *Bulletin of the United States Fish Commission for 1889*, pp. 391-459. Washington: U. S. Fish Commission.

_____. 1891b. The Study of Ocean Temperatures and Currents. In B*iological Lectures Delivered at the Marine Biological Laboratory at Wood's Holl, 1890,* pp. 231-250. Boston: Ginn and Company.

_____. 1892b. The Waters of Southern New England, pp. 98-100. In George C. Hulbert, "Geographical Notes," *Journal of the American Geographical Society of New York.* 24:94-141.

_____. 1894. Gases in Kilauea. *American Journal of Science.* 147, no. 281 (May): 371-372.

_____. 1896. The Relations of the Gulf Stream and the Labrador Current. *Report of the Sixth International Geographical Congress, London, 1895,* ed. J. Scott Keltie and Hugh Robert Mill, pp. 461-474. London: John Murray.

_____. 1897. Kilauea, the Home of Pele. *Harper's New Monthly Magazine.* 95 (10) (October): 714-724.

_____. 1899-1900. Notes on Oceanography. *Bulletin of the American Geographical Society.* 31 (1): 72-74; (2): 163-170.

_____. 1903. British Association for the Advancement of Science, *Report of the Seventy-Seventh Meeting of the British Association for the Advancement of Science, Belfast, September 1902*. London: John Murray.

_____. 1906. Physical Features of the Jordan Valley (Abstract). *Bulletin of the American Geographical Society.* 38 (2): 96-97.

_____ and Franklin E. Hoskins. 1905. *The Jordan Valley and Petra*. 2 vols. New York and London: G. P. Putnam's Sons.

Martin, G. J. 2015. *American Geography and Geographers: Toward Geographical Science*. New York: Oxford University Press.

Moss, James A. 1917. *How To Shoot (Including Care and Preservation of the Rifle)*. Introduction by William Libbey. Menasha, WI: Geo. Banta Publishing Co.

Osborn, H. F. 1927a. A Thrilling Life Story: The Travels and Adventures of William Libbey '77. In *Princeton Alumni Weekly* (23 October). 23 (5): 128-129.

_____, ed. 1927b. William Libbey. In *Fifty Years of Princeton '77*, pp. 210-217. Princeton: [Princeton University Press].

Thorp, W., Myers, M., Jr., Finch, J. S., and Axtell, J. 2000. *The Princeton Graduate School: A History*, 2nd ed. Princeton: Association of Princeton Graduate Alumni.

Visher, S. S. 1950. The Presidents and Vice-Presidents of the A.A.G. (1904-1948): Where They Received Their College and Graduate Training. *The Professional Geographer.* 3: 41-46.

Whitbeck, R. H. 1919. Geography in American and European Universities. *Journal of Geography* 18 (4): 129-141.

Wilson, E. A. [1897] 1971. Letter to Woodrow Wilson, 2 March 1897. In *Papers of Woodrow Wilson*, Vol. 10, *1897-1898,* ed. A. S. Link. Princeton, NJ: Princeton University Press. (CHECK STYLE)

Winsted, H. L. 1912. Geography in American Universities. *Journal of Geography.* 10 (10): 309-316.

Wright, J. K. 1952. *Geography in the Making: The American Geographical Society, 1851-1951*. New York: The Society.