To Lay a Single Stone: A Preliminary Investigation of James E. Talmage as a Scientist and Museum Professional

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“In caves of the earth is written record of the handiwork of God. He has decorated it to induce us to read.” -James E Talmage

James E. Talmage is remembered by the Latter Day Saint community today almost exclusively for his role as an Apostle in the Church and as the author of the book Jesus the Christ. He served as an Apostle for twenty-two years, from 1911 to his death in 1933, and he often published materials and spoke to the public about his church’s doctrine. His lesser known history is full of dedication to scientific and academic pursuits. This aspect of his life has been largely ignored, and even the basic biography of his life has gone untouched by scholars. James’ son John wrote the only book about James Talmage, titled “The Talmage Story” and published in 1972. Other than a few sparse articles and references to his theological texts, basically nothing scholarly has been written about Talmage’s life, and literally nothing scholarly has been written about his scientific pursuits. In fact, most Latter Day Saints would likely be surprised to find out that Talmage attended Johns Hopkins University, ran a museum for over twenty years, and participated in several scientific academies outside of Utah. Talmage’s willingness to step

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1 MSS 229; James E. Talmage Collection, 1876-1933; 19th Century Western and Mormon Americana; L. Tom Perry Special Collections, Harold B. Lee Library, Brigham Young University. The phrase “to lay a single stone” comes from Talmage’s journal. 17 June 1882 he wrote: “I have for some time past felt an intense desire to become familiar with the walks in science for the sciences have to be redeemed from their present position of infidelity and skepticism...and to lay a single stone in such a work is perhaps my mission in life.”

2 MSS 229; James E. Talmage Collection, 1876-1933; 19th Century Western and Mormon Americana; L. Tom Perry Special Collections, Harold B. Lee Library, Brigham Young University. Box 9 folder 5, Page 286.

3 John R. Talmage, The Talmage Story (Salt Lake City: Bookcraft, 1972), 177.
outside of Utah, a bold move for a late nineteenth century Mormon, had a major influence on his life and education, and the education of his LDS community. In addition, Talmage’s commitment to museum work is an unexplored theme in his life, and his interest in museums runs far deeper than previously noted.

A native of England, James’ parents converted to the church when he was a young child. After converting, the family immigrated to America, and James arrived with his family in Provo on 14 June 1876, at the age of thirteen. He enrolled at Brigham Young Academy almost immediately, and received what would now be considered a high school diploma at the age of sixteen. The Academy was extremely small at the time, having been established only nine months before the Talmage family arrived in Provo. Approximately 300 students were enrolled in 1875, 100 of which were under the age of twelve. Before its transition to a University, BYA functioned as an elementary, high, and semi-collegiate level school. The school was located in a single building, the Lewis Building, located on what is now Center Street in Provo.

James excelled as a student, and began teaching classes at the academy as soon as he received his diploma in 1879. He continued his own natural science education while he taught at the school. He did not specifically list the classes that he was teaching during his first year in

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10 MSS 229, LTPSC. Box 1, journal entry 21 August 1879.
his journal, but it is known that during his third year teaching he taught physiology, philosophy, botany, chemistry, astronomy, phonography, and academic grammar and penmanship. James, the ripe age of 17 when he began teaching at the academy, felt some insecurities about being such a young teacher. Although he felt himself to be qualified to teach, he sensed that some fellow faculty members and students did not agree, and this encouraged him to continue his education. He noted in his journal, “My Diploma will certainly confer on me greater authority and evoke a feeling of such among the students.” In 1881, he was the first student to ever receive a collegiate degree from Brigham Young Academy, and the first student to graduate from the Scientific Department.

During the years in which he was teaching, leading up to receiving his college diploma, James was asked by President Maeser to be the secretary of the faculty, a job that he did obediently but without pleasure. After a failed attempt to resign from the position, he wrote in his journal, “I endeavor as truly as possible to give my mind to my scientific studies, and though but inextensive, the labor pertaining to this position is contrary to the general bent of my mind.” Even at a young age, Talmage was dedicated to his decision to pursue science. In addition, the young Talmage often made sacrifices for the benefit of the school, as he noted in his journal that if his aim was to make money, “I should have never entered the B.Y. Academy. I have, however the conscientious feeling that I have been in the place where I should be.” In all things, Talmage’s commitment to his people guided his actions.

12 MSS 229, LTPSC. Box 1, journal entry 10 June 1881, page 51-52.
14 MSS 229, LTPSC. Box 1, journal entry 22 January 1882, page 108.
15 MSS 229, LTPSC. Box 1, journal entry 10 June 1881, page 54.
Other responsibilities that were piled on James during this time (1879 – 1881) were more to his liking. He accepted the post as Curator of the Brigham Young Academy Museum and Laboratory in August of 1879. The early BYA Museum is still somewhat of a mystery, as it has been repeatedly scattered and neglected during its more than one hundred years of existence. Four museums now exist on Brigham Young Campus, and they all have their origins in the one original Brigham Young Academy Museum.\footnote{The references in James’ journals about the Academy Museum are the earliest record the now Brigham Young University has regarding early collections. This is extremely important, as previous to this discovery, the earliest mention of a functioning museum was dated to 1892.} The references in James’ journals about the Academy Museum are the earliest record the now Brigham Young University has regarding early collections. This is extremely important, as previous to this discovery, the earliest mention of a functioning museum was dated to 1892.\footnote{Rebekah Monahan, “Development of Archaeological and Museum Collecting at BYU: 1875-1975” (BYU Student honors thesis, 2010), 11.} Once thought to be a small stagnant collection, it would appear that the museum was something more during Talmage’s administration.

The early museum that Talmage ran was most certainly not what we would imagine a museum to be now. For one, it was almost always referenced in conjunction with the school laboratory, suggesting that specimens were not only housed but tested and experimented on. The museum does not appear to have had its own room, and most certainly was not housed in its own building. In addition, James sometimes referred to the museum as the “cabinet.” In 1890, museums, especially in rural communities like that of Provo Utah, were a somewhat recent novelty, and a great number of museums were still what we would now consider “cabinets of curiosity” – cases full of jumbled and unlabeled objects.\footnote{Kenneth Hudson, \textit{Museums of Influence}, (Cambridge: Cambridge University Press,1987), 74.} It is also important to understand that

\\[\text{16}\] The lack of early documentation is still causing problems for the campus museums, especially the archaeology and paleontology museums. Personal communication with Paul Stavast, BYU Museum of Peoples and Cultures Director, p_stavast@byu.edu, 29 November 2011.

the field of natural science was not as divided as it now is; the old museum housed what would now be considered geologic, plant, animal, and archaeological specimens.

James mentions collecting “specimens” throughout his BYA year journals, but it is sometimes hard to understand what he means by the term. When he and Dr. Maeser took a tour of surrounding Utah schools, he frequently noted that individuals they meet along the way donated small collections to him.\textsuperscript{19} In addition, he spent a respectable amount of free time out collecting specimens of his own. In April of 1881, James traveled to Payson to meet with Professor J.S. Townsend, a respected taxidermist. He went with the express purpose of learning the skill, and wrote, “My object in this movement is to enable me to preserve my own specimens for study. I am endeavoring to study ‘Nature,’ and I would desire to gain enough insight into any branch to enable me to classify common specimens of interest to the naturalist.”\textsuperscript{20} From this, it is safe to assume that the museum housed some animal collections.

In addition to his taxidermy endeavors, James often collected rock samples. He was sure to visit nearby mines when he had the chance.\textsuperscript{21} Rocks were not the only things he dug out of the ground. From 1879 to 1881 he noted three separate occasions during which he went searching for human remains, apparently of Ute origin. He was successful on two attempts. He noted that he found the first skeleton by “the River”, perhaps referring to the nearby Provo River.\textsuperscript{22} He specifically noted his desire to acquire at least one of the skeletons for the Academy Collection and was successful in doing so.\textsuperscript{23} It was previously thought that, if the museum

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\textsuperscript{19}MSS 229, LTPSC. Journal entry, 19 June 1881, page 56.
\textsuperscript{20}MSS 229, LTPSC, Journal entry, 1 April 1881.
\textsuperscript{21}MSS 229, LTPSC. Journal entry, 10 June 1881, 54.
\textsuperscript{22}MSS 229, LTPSC. Journal entry, November 1881, page 93-94.
\textsuperscript{23}MSS 229, LTPSC. Journal entry, 7 August 1882, page 143.
\end{flushright}
existed at all in the early years of the academy, it only would have consisted of a few stagnant cases that lacked real direction or care. It is now obvious that the museum was much more than originally thought. In addition, it is unlikely that James would have let his “cabinet” go unlabeled or unorganized. One illuminating entry, written after a trip to southern Utah, reads, “The specimens I have collected are valuable. Spent the day in resting and labeling and classifying my specimens.”

James noted several other days that he “labeled” and “classified” his specimens, and he referenced the keeping of a lab book, a very promising sign that he was diligent in recording museum collections.

At the very least, Talmage was more actively involved in the museum than it was previously believed that any individual was during this time period. The fact that he actually used the term Curator is itself a revelation. A few months after taking the position, Talmage traveled to Salt Lake City to visit the Deseret Museum and meet with the curator, Professor Barfoot. Talmage wrote in his journal, “I was warmly received by the Professor who promised to assist me in any point wherein I needed help in classifying and arranging the specimens in the B.Y.A Cabinet.” This is significant for several reasons. It means that at a very early date, James was concerned with understanding how to classify and arrange specimens. It also means that the Deseret Museum and the BYA Museum were in dialogue with each other basically from the very beginning. Little did James know that he was to become the curator of the Deseret Museum ten years later.

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24 MSS 229, LTPSC. Journal entry, 23 June 1881, Page 57.

25 MSS 229, LTPSC. Several journal entries make note of this. See for examples, entry for 8 February 1881, 1 April 1881, 23 June 1881, 31 August 1883.

26 MSS 229, LTPSC. Journal entry, 8 February 1881
“My observation, though limited, has gone to show that students in general care for science but little.”

James wrote this in his journal during his time as a teacher at the BYA. His interest in science did cause some tension in his small Mormon community. He was extremely loyal to his people, despite the tension that he felt because of his love of science and his love of religion. For him as an individual, however, there was no conflict. He thought of religious ideas in scientific terms, as succinctly manifest by an experience he related in his journal. At a public gathering one of the sisters present began speaking in tongues. It was the first time that James had ever seen anyone do so, and he noted that it had different levels of effect on those present. He continued, “Just as the strength of a voltage depends upon the number and size of the cells…so will the effects of any manifestation of any gift on different individuals depend on the strength of the spirit each one possesses.” This was a unique view for an early Mormon, and in many ways Talmage was an intellectual pioneer in his small community.

Talmage, as previously noted, was the first of the students at BYA to receive a post-high school degree from the Academy, and the first to graduate from the Scientific Department. As far as can be gathered at this point, Talmage was also the first Utah Mormon to leave the state for an eastern education. He confided in his journal his desire to go to another school in order to get a better scientific education before he dared to bring the subject up to any person. He spent an entire page hedging in his desire, writing “I may be counseled however to remain among my own people and as I hold myself as on neutral ground willing to follow council implicitly in this important step, I can only refer to such as a vague idea.”

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27 MSS 229, LTPSC. Journal entry, 14 November 1881, page 97.

28 MSS 229, LTPSC. Journal entry 31 March 1882 page 119
months after his first journal entry on the subject that he had with Professor Maeser, then principal of the academy, encouraged James to continue on in his pursuits. Professor Maeser dealt very little in the sciences, preferring the subjects of “geography, history, languages and music…[Maeser] made little attempt to keep abreast of current developments, consciously shunning such areas as organic evolution and psychology – which he called ‘chimera.'” With this in mind, it is interesting to note that the Professor apparently was confident enough to give James his blessing after their first meeting on the subject.

With Professor Maeser’s blessing, James applied to Yale College, Harvard University, Cornell University, and Lehigh University. Before Talmage accepted any offers from the schools he applied to, he first met with President John Taylor, then President of the LDS Church. In his journal Talmage noted that the interview with the president was long, but that President Taylor gave his whole hearted support of Talmage’s plan to study science. On the very same day, after the interview had concluded, Talmage gave his notice of withdrawal to the academy.

The implications of these meetings are important. James, then age 19, was not expected, and did not expect himself, to make his own decisions about his education. He likely met with Professor Maeser of his own choice, as he had grown close to the professor as a student and then as a faculty member. Meeting with the President of the church, however, reveals more about LDS society during Talmage’s life. If Talmage was to leave Utah, he was not to do it without the President’s blessing. It is important to keep in mind that Talmage was living in pre-statehood and pre-Manifesto Utah. Polygamy was still being widely practiced with the support of the LDS

Church, and the “Utah Question” – about whether or not to admit Utah as state, and what was to be done about polygamy, was being hotly debated. Many residents of Utah felt a definite sense of otherness, sometimes bordering on bitterness, towards the rest of the United States of America. The martyrdom of the Prophet Joseph Smith less than forty years previous was still fresh in the people’s minds. Mormonism was nowhere near being a mainstream religion, and pioneers that had escaped to Utah for sanctuary were still living as a reminder of the realities of persecution. These feelings led to a preference for isolation and an extreme dedication to Utah as a homeland and a sanctuary. These details clarify why it was such a monumental step for Talmage to desire to leave for reasons other than for proselyting missionary service. They also highlight the importance of both Professor Maeser’s and President Tayor’s approval of Talmage’s plan.

Why did Talmage gain the support of Professor Maeser and President Taylor so successfully? One reason, at first subtly and then blatantly stated in his journal, was that Talmage’s trip, even before it was made, was actually considered by the two men to be a mission in many ways. The first time that Talmage discussed the idea of going to an Eastern school with Professor Maeser, Maeser said that he “expected the project to be given [James] as a mission.” After James received approval from President Taylor and was preparing to leave, he was set apart and given an elder’s certificate. On more than one occasion James described that he was to be “like a bee out from the hive, [that] I may add to the store of useful knowledge in our Mountain Home.” This is important. Although James certainly benefited personally from his Eastern education, the purpose of his education was not necessarily for his benefit, but rather for

34 26 August 1882 journal entry page 149.
35 9 September 1882, page 167.
the benefit of his people. As the first graduate from the Scientific Department, there was no longer anyone at Brigham Young Academy with more scientific knowledge than James. Seeing this lack, Professor Maeser and President Taylor agreed to have James go out to gather information and return to his home to spread the knowledge he gained among his Mormon community.

Although James had the support of his superiors, it is very likely that he faced some hesitancy from his community. Upon resigning from his position as a teacher at BYA, James noted in his journal that Professor Maeser kept the whole affair very quiet, giving no public notice of James’ intentions. James wrote, “The Principal informed me that such were his instructions, but declined to give me his reasons.” He wrote that he had been encouraged by several of his friends, including his father, to seek a medical degree instead of a scientific degree on his trip east. “Science,” as James noted in his journal, “is to many people a revolting name.” Professor Maeser was likely aware of the negative reactions that James might receive in reaction to his chosen course, and therefore decided to keep the plan quiet for as long as possible. His friends’ and family’s suggestion to pursue a medical degree, a more practical and straightforwardly useful degree, illustrates the general feeling of the community towards science in general. James was not pleased with the suggestion to pursue a medical degree, but he did not dismiss the suggestions without thought. He instead brought the question to his stake president, who told him that he should continue his proposed plan of action, which James happily did.

36 MSS 229, LTPSC. Journal entry, 16 June 1882, page 133.


38 MSS 229, LTPSC. Journal entry, 17 June 1882, page 133.
Before leaving, James was required to write up the list of classes that he had taught in the previous two years and select a book list to keep the science classes running at B.Y.A in his absence. The science classes were split up among various faculty members.\textsuperscript{39} This illustrates how dependent the Scientific Department at BYU really was on the young student, as well as the fact that he was really the most qualified of the teachers to teach the sciences. Without him, the Academy did not know how to teach science. Previous to his leaving he also “spent the whole day overhauling the B.Y.A laboratory, and closing the record of the same, preparatory to handing over the same.”\textsuperscript{40} This is an important transition for the BYA Museum. Talmage never mentioned the names of any of the individuals that he handed his responsibility over to. In addition, he noted four days later that he spent the day packing up his specimens, chemicals, and books for “safety and economy of room during my absence.” It is obvious that Talmage had a collection of his own, but it is not obvious whether he considered the specimens he collected for the museum to be his own property or to be the property of the Academy. Did he leave the human remains, animal specimens, and rocks he had collected with the Academy, or did he box them and take them home? As of yet, this question remains unanswered.\textsuperscript{41}

James Talmage left Provo for Lehigh University, located in Bethlehem Pennsylvania, in August of 1882.\textsuperscript{42} Before he arrived, he noted several conversations about the “Utah Question” that he engaged in with fellow train passengers. There are numerous mentions of conversations

\textsuperscript{39} MSS 229, LTPSC. Journal entry, 20-23 June 1882, page 136-7.
\textsuperscript{40} MSS 229, LTPSC. Journal entry 20 August 1882, page 143.
\textsuperscript{41} MSS 229, LTPS, Journal entry 24 August 1882, page 144.
\textsuperscript{42} MSS 229, LTPSC. Journal entry, 26 August 1882, page 149.
on this topic throughout his University days.\textsuperscript{43} Talmage was the only Mormon to have attended Lehigh University, and his presence was noted obliquely in the school yearbook. “Oh reader, gentle or ungentle, benevolent or malevolent, Mormon, Gentile, or Pagan…”\textsuperscript{44} He apparently made a good impression on the faculty at the school, as he was taken on as a special student in biology\textsuperscript{45} and completed all of his course work in just one year. While at the school, Talmage joined the Chemical and Natural History Society. His role in the society’s museum, if he had one, is unknown. A pamphlet for the Society was found in his personal papers at BYU’s Special Collections, and reads in part, “It shall be the duty of the curator to take charge of the scientific collections of the society, to keep an accurate record of the same, and to make a monthly report of the additions to them.”\textsuperscript{46} It is obvious from this quote that the University had an actively growing scientific collection.

James always kept in mind that he was not to stay in the East, and he even seemed opposed to making serious friends while at school. He noted in his journal that he did not want to live in student housing because as wrote, “it is my wish to keep myself somewhat reserved.”\textsuperscript{47} The desire to live apart from other students, likely based on his fear of being corrupted, brought James to the house of H.W. Werner. Mr. Werner happened to be outside when James was walking by, and after inquiry indicated that he and his wife had just been talking about the desire to take in a boarder, even though they had never done so before. By some bizarre chance, it turned out that Mr. Werner was actually a taxidermist and collector for the Lehigh University

\textsuperscript{43}MSS 229, LTPSC. Several journal entries make note of this. See for examples, journal entry 29 August 1882, 31 August 1882, 2 September 1882.

\textsuperscript{44}MSS 229, LTPSC. Box 11 Folder 4, Criptome.

\textsuperscript{45}HBLL Special Collections “James E. Talmage” MSS 229 Box 12 folder 5.

\textsuperscript{46}HBLL Special Collections “James E. Talmage” MSS 229 Box 12 Folder 5.

\textsuperscript{47}MSS 229, LTPSC. Journal entry 2 September 1882, page 158.
Talmage was very happy to live with the Werners, and spent many evenings discussing science with Mr. Werner. Mr. Werner also had a private collection, and it is likely that the two discussed James’ previous interest in museums. Two days after he moved in with the Werners, he and Mr. Werner went to visit the University Museum together. Although James was only to live at the Werners for a short time due to complicated family matters, he kept in touch with Mr. Werner during his entire stay at Lehigh University, and upon leaving, Mr. Werner gave James a botanical specimen from his own collection, which James happily accepted.

Seeing such a large campus for the first time was a new experience for the young Talmage. He described the Lehigh University campus buildings as “luxurious” and “elegant”, and after visiting the University Museum he couldn’t help but draw comparisons to BYA. He wrote after visiting the museum that, “my own hard earned little collection of ores and rocks at home seems to be worthless before this display.” Attending an Eastern University was, as he had hoped, an eye opening experience. Most impressive to him were the laboratories on campus. After having struggled to get even basic equipment at the BYA laboratory, he felt having a well-equipped laboratory was a great blessing. During his first semester he signed up for chemical philosophy, metallurgy, crystallography, and physiology. All of his classes were over by 11:30, so he decided to work in the laboratory from 11:30 – 5:00 (closing time) Monday through Friday. He wrote, “I desire to apply as much time as possible in the laboratory, since that is my

48 MSS 229, LTPSC. Journal entry, 3 September 1882, page 160.
50 MSS 229, LTPSC. Journal entry, 3 September 1883, page 239.
51 MSS 229, LTPSC. Journal entry, 9 September 1882, page 167.
52 MSS 229, LTPSC. Journal entry, 9 September 1882, page 167.
object in coming her.” He most certainly did. He skipped lunch every day, a habit that he
continued throughout his college years, in order to get the most time possible in the laboratory
and to cut down on costs.53

Talmage dedicated himself entirely to an intense program of study during his one year at
Lehigh. Even the idea of taking the required general education courses to receive a degree
seemed a waste of time to him. Receiving a degree had little appeal for him. His goal was to
gain knowledge and experience that he could not get in Utah, and nothing else. When deciding
whether or not to seek a degree at Lehigh, he wrote, “What do the A.C A.B M.A or PhD etc avail
behind ones name? I work for knowledge.”54 Although only a few more classes were required
for him to receive a degree by the time his one year at the school was over, he elected instead to
receive a certificate from the school and forego the opportunity to get a recognized degree.

Talmage was constantly debating the value of higher education and the lack of morals
that he saw among his fellow classmates. Although he had far better access to scientific
knowledge during his time in the East, he missed the feeling of being in a faith based
community. He wrote, “Science has caused many of her followers to become infidels, and I
have been warned to carefully weigh every argument and statement presented to me…now, the
last letter from Bro. Maeser warned me again, against accepting statements untried.”55 Talmage
seemed to always possess a fear during his time in the east of being corrupted. For this reason he
determined early on to never make any “lady friends” while in the East, noting humorously that
for one he did not know how to fall in love, and for the other that he was young and he did not

53 MSS 229, LTPSC. Journal entry, 16 September 1882, page 169.
54 8 September 1882, page 166.
want to take the risk.\textsuperscript{56} Despite his efforts to stay aloof from his fellow classmates, he did make a few good friends during his time at Lehigh.

John Wagner was one such friend. A classmate, the two went on several excursions together. Of note, they took a trip to nearby Philadelphia in July of 1883. James was excited to see what he considered to be such a big city, and was very impressed with his five hour visit to the European Museum in the city. He wrote about the museum, “the information to be gained is immense. I shall ever wish till I get the opportunity again.”\textsuperscript{57} In addition to their trip to Philadelphia, the two visited several nearby mines, an activity that Talmage frequently enjoyed doing in Utah, and which he continued to do throughout his life. He wrote, “Oh - this was indeed a pleasure – to find specimens of the coal plants of which I had only read till I came to ‘Lehigh,’ and then had actually seen, but now actually found them in their natural state and took them as my own.”\textsuperscript{58} This is a good example of how the young man’s knowledge was expanding during his stay in the East. Although he loved Utah and wished to return home, he did not miss the lack of scientific knowledge there. As he noted, all he could learn in Utah was what he could find in books. Going to Lehigh gave him the opportunity to “actually see” and experience first-hand, not only in the laboratory but also in the surrounding country, cities, and museums, the topics that he had always been so interested in.

In addition to his trips with Wagner, Talmage went on many little expeditions to collect natural science specimens. Among them, he collected turtle shells, fossils, bullfrogs, and various minerals from surrounding mines.\textsuperscript{59} By the time he was preparing to leave Lehigh he had

\textsuperscript{56}MSS 229, LTPSC. Journal entry, 3 September 1883, page 239.
\textsuperscript{57} MSS 229, LTPSC. Journal entry, 18 July 1883, page 218.
\textsuperscript{58}MSS 229, LTPSC. Journal entry, 31 July 1883.
gathered so many specimens that he had to box them up and send them home as they had become “too cumbersome to carry around.” This again raises the question over whether or not James had entirely resigned his duties as curator of the BYA museum. Was he collecting for the BYA Museum or for his own personal collection? How much overlap was there between the two? Did he later donate these early collections to the museum? Specimens collected thousands of miles outside of Utah would certainly be valuable to the University, but did they ever end up in the collection?

It should be noted here as well that at this point correspondence between James and a Professor Tanner of BYA had brought up the prospect of James staying in the East for another year. He had entirely run out of money, so the trip would have to be facilitated by a loan from the Academy. James’ first mention of the plan at all was written in August of 1883, when he simply stated, “Received Circulars, and a reply to a note sent to Johns Hopkins University, very favourable.” Thus, with little introduction, the plan for James to stay another year was already in development during the summer after his first year at Lehigh.

James went on one final trip with Wagner before he departed Lehigh, this time to New York City. The two visited many of the factories in the city, including but not limited to: The Asbestos Works, the Germania Ultramarine Works, Cork Works, Lester Brother’s Fertilizer Works, Union Street Glass Works, Pratt Oil Works, and the Rubber Works. In addition, they visited the Museum of Art and the Central Park Menagerie. James’ view, or at least fear of, the east, seems to have changed after his year at school. When a native of the city offered to show

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59 MSS 229, LTPSC. The majority of these expeditions are done during the summer after his first year at Lehigh. Majority of excursions can be read about between pages 215 – 239. See entries 8 August, 13 August, 15 August and 30 August 1883 for specific examples.

60 MSS 229, LTPSC. Journal entry, 5 September 1883, page 241.

61 MSS 229, LTPSC. Journal entry, 28 July 1883, page 221.
them the “events” of the city, Talmage wrote, “Now, we had already seen too much wickedness in New York to be very highly impressed with the morality of the City, but instead of shrinking from the sights, in fear that such would lead us on to the same ourselves, I think we should see all.”

Taking the offer and walking around the city did shock Talmage, and seeing the moral degradation of what would be for him modern city life, he wrote, “may God ever give me as true a hatred and disgust for the hellish practices as I experience now.” However, the fact that Talmage was exposed to the sights of New York City and even of Bethlehem, both considerably larger than Provo, is important, especially when viewed in the context of his later career as a curator for the Deseret Museum.

Talmage did not receive a degree from Lehigh in 1883. Instead, he chose to forego taking any extra classes he might need for graduation and stick to the courses he was most interested in. This decision was likely influenced not only by his desire to take what he viewed as the most important classes, but also by his strained budget. The quicker he finished, the less money he would spend. He copied his certificate into his journal, and it reads:

“During Freshman Year: German, Botany, Elementary Chemistry
Sophomore Year: Qualitative Analysis, Physics, German, Chemical Preparations, Assaying, Blowpipe Analysis
Junior Year: Chemical Philosophy, Toxicology, Quantitative Analyses, Anatomy and Physiology, Crystallography, Organic Chemistry, Iron Metallurgy, Mineralogy

62MSS 229, LTPSC. Journal entry, 23 August 1883, page 236.
63MSS 229, LTPSC. Journal entry, 23 August 1883, page 236.
Senior Year: General Metallurgy, Qualitative Analysis, Chemistry applied to Arts, Medical Chemistry, Agricultural Chemistry, Historic, Dynamic, and Economic Geology”\textsuperscript{64}

Talmage completed this course work in one academic year. He earned the esteem of several teachers, and one in particular was especially encouraging. Professor Bailey, a teacher at Lehigh and a graduate of Yale University, wrote to Yale on Talmage’s behalf and encouraged Talmage to attend. Without James asking for them, the teacher wrote letters of recommendation for him and told him that he could get the normal requirements waived so that James could attend. James however, was wary of the cost of tuition and living at Yale, and he still had very little interest in earning a degree. He took a surprisingly long time to decide what University to attend for his second year of study, still mulling over which school to go to at the end of August 1883.\textsuperscript{65}

Talmage’s New York City experience must not have been too overwhelmingly negative, as he chose to go to Baltimore, a much larger city that Bethlehem, for his next year of study. James boarded a train bound for Baltimore on the 5\textsuperscript{th} of September, 1883. In leaving Bethlehem, he lamented, “I really feel on the eve of my departure from here [Lehigh University] as if about to set out from home.”\textsuperscript{66} What had appeared to him on arrival as a large and foreign town had become a new home for James, and in later years he would send his son Sterling to the same school for his University education.\textsuperscript{67}

\textsuperscript{64}MSS 229, LTPSC. Journal entry, 1883, page 212-213.

\textsuperscript{65}MSS 229, LTPSC. Journal entry, 25 August 1883, page 237.

\textsuperscript{66}MSS 229, LTPSC. Journal entry, 4 September 1883, page 239.

\textsuperscript{67}Lehigh University, \textit{Alumni and Students of Lehigh University} (South Bethlehem, Pennsylvania: Lehigh University Press, 1917), 179.
James arrived at Johns Hopkins on 6 September 1883.\textsuperscript{68} If he had felt Lehigh’s facilities to be impressive, Johns Hopkins’ were certainly more than he had imagined. On his second day at the University he visited the Peabody Library and walked around campus. He admitted in his journal to feeling lost even just in the main hall of the University.\textsuperscript{69} Before the semester started he also visited the hog slaughtering house, the city hall, and the City Museum.\textsuperscript{70} It seems from his journals that whenever he had a free moment he spent it in visiting nearby attractions, be they slaughter houses, mines, or museums. He adjusted quickly to city life, and appreciated nearby facilities like the Peabody Instituted and the Maryland Historical Society that he praised for “giving great facilities for study to the city outside the University. I am satisfied.”\textsuperscript{71}

Talmage’s chosen field of study at Johns Hopkins appears to have been chemistry, although because he did not receive a degree his studies were not focused on just one topic. He also took several courses in biology, human osteology, and a course in mineralogy.\textsuperscript{72} By November of 1883, just two months after he arrived, he was taken in as a Special Student under Dr. Remsen, professor of Chemistry. This gave him the privilege of a working desk in the fellow’s laboratory, an opportunity usually reserved for advanced students.\textsuperscript{73}

Although it was never a topic of direct study, at Johns Hopkins Talmage did spend time learning medicine more than he had at Lehigh. Perhaps in reaction to encouragement from his

\textsuperscript{68} MSS 229, LTPSC. Journal entry, 6 September 1883, page 241.

\textsuperscript{69} MSS 229, LTPSC. Journal entry, 7 September 1883, page 242.

\textsuperscript{70} MSS 229, LTPSC. Journal entry, 14 September 1883.

\textsuperscript{71} MSS 229, LTPSC. Journal entry, 7 October 1883, page 254.

\textsuperscript{72} His complete course list, courtesy of James Stimpert Johns Hopkins University Senior Reference Archivist, is as follows:
Fall 1883: General Chemistry, Chemistry Lab, Physical Chemistry & Chemical Philosophy, Mineralogy, General Biology, Osteology, Biology Lab. Spring 1884: Chemistry Lab, Chemistry of Carbon, Biology Lab, General Biology, Comparative Osteology, Phsiological psychology.

\textsuperscript{73} MSS 229, LTPSC. Journal entry 15 November 1883, page 264.
father, he attended several of the medical lectures available on campus, and he spent a good deal of time in the dissection lab. In addition to these activities, he appears to have been a member of the Field Club\textsuperscript{74}. Little can be learned about the Field Club without visiting Johns Hopkins. Minutes were kept for the club from 1880 – 1928, and may reveal more about Talmage’s involvement in the club.\textsuperscript{75} Talmage attended as many lectures as he could, including a series of lectures on “Roman Legal History” by a Professor Bryce of Oxford University, “Minds of Animals” by Dr. Martin of Johns Hopkins, and a number of other lectures.\textsuperscript{76} Talmage was obviously a man of many interests, and although he always dedicated his course work to hard sciences, he obviously absorbed more than just scientific knowledge during his time in the East.

In December of 1883, Talmage received a letter from a friend at the Academy, George Q. Coray. Coray had previously gone in on laboratory equipment with Talmage when they were both at the Academy.\textsuperscript{77} Coray wrote to tell James that he was planning on attending Cornell University, and he proposed that they both return to Utah together in one year’s time to establish a laboratory. James wrote, “my heart’s desire is to see a laboratory in Utah”\textsuperscript{78} This correspondence implies two things. One, since James’ success, the administration of BYA was willing to send another student to the east. If James was the first to do so, as it appears he was, it can be stated that he opened the door for the interaction of Brigham Young Academy with

\textsuperscript{74}MSS 229, LTPSC. Journal entry, 3 November 1883, page 257.

\textsuperscript{75} Personal communication with James Stimpert, Johns Hopkins University Senior Reference Archivist, 29 November 2011. Minutes available at Ferdinand Hamburger Archives of Johns Hopkins University, Record Group Number 15.050, Accession number 81.44.

\textsuperscript{76} MSS 229, LTPSC. Journal entries, 21 November 1883 page 266, 21 November 1883 page 266, 4 December 1883 page 268.

\textsuperscript{77} MSS 229, LTPSC. Journal entry, 1882, page 113.

\textsuperscript{78} MSS 229, LTPSC. Journal entry, 24 December 1883, page 279.
Eastern schools. In 1887, Benjamin Cluff, who would become the first President of Brigham Young University, followed by graduating from the University of Michigan.\textsuperscript{79}

Talmage continued his interest in collecting specimens at the university. While there, he collected fossils from the Locust Point Fertilizer Works.\textsuperscript{80} He also begins to frequent the dissecting room, getting at various times, human fingers, a forearm, a foreleg, and a large piece of skin.\textsuperscript{81} He apparently would bring the specimens home and dissect or prepare them in his room. He also acquired an entire monkey skeleton from the zoological gardens at Druid Hill Park.\textsuperscript{82} After gathering over two dozen fossils at a nearby phosphate plant, he wrote, “Such specimens have been regarded before by me as unobtainable trophies – to be seen only in Museums – but I have here the source of the very best fossils of those particular deposits.”\textsuperscript{83} He continued to collect specimens anywhere he could during his time in the East.

\textit{This may change all of my plans – and may cause my very early return home – for I can scarcely hope for financial aid from the institution under such a crisis.}\textsuperscript{84}

-James E. Talmage

On the morning of 30 January 1884 Talmage was informed by a fellow student that a story was printed in the local paper about some “fire in Provo City – in some Academy”, which of course caused James great alarm. He ran out and bought all of the papers he could find in the

\textsuperscript{79}Bergera, \textit{A House of Faith}, 8.

\textsuperscript{80}MSS 229, LTPSC. Journal entry 5 January 1884, page 3.

\textsuperscript{81}MSS 229, LTPSC. Journal entry, 12 January 1884, page 5.

\textsuperscript{82}MSS 229, LTPSC. Journal entry, 29 February 1884, page 18.

\textsuperscript{83}MSS 229, LTPSC. Journal entry, 26 January 1884, page 8.

\textsuperscript{84}MSS 229, LTPSC. Journal entry, 30 January 1884, page 10-11.
city and learned, to his horror, that the story was true and his home school of Brigham Young Academy had burned almost entirely to the ground. After a few anxious days of waiting for news from home, he wrote, “the laboratory instruments etc were greatly damaged…the young men who occupy my old position sleeping there as guardians were away from their post – and the fire started.”85 This ambiguous statement about the destruction of the laboratory warrants a pause. It was previously believed that if there had been an Academy Museum before the fire, it would have been completely destroyed in the fire, as there was never any mention of a rescue. Could the museum be the “etc” that he notes after laboratory instruments? From all of his previous interest in museums, and all of his diligent collecting, it is hard to believe that he would write so little about their survival or destruction. He noted before that his little collection at the Academy had been “hard earned.” What was its fate? Could it be that the museum had been boxed up and housed at his parent’s residence in Provo during his absence, as his previous journal entry seemed to imply?86

The fire was obvious cause for concern for Talmage, as it not only threatened the existence of the Academy, it also threatened to cut off his funding and call for an early return home. In the end, the fire turned to the benefit of the Academy, as they were in need of a new building and could now secure funds to build it. For James, it did mean a lack of funds, but he solved the problem by taking out a bank loan.87 If this was a big decision, he did not write about it like it was. However, he was painfully aware of his financial situation throughout his college career, and his concern over funds could very well have played a part in his desire to skip the

85MSS 229, LTPSC. Journal entry, 4 February 1884, page 13.
86See footnote 39.
87MSS 229, LTPSC. Journal entry, 26 Februrary 1885, page 17.
extra courses and focus only on classes he thought would be the most beneficial. Taking out a bank loan shows the level of dedication James felt about his education.

Talmage finished out his year at Johns Hopkins by successfully passing all of his examinations. He was offered, before he left, the opportunity to transfer his credits to the college of Western Maryland and stay for a year working as an assistant in chemistry and physics. The school offered to pay his way, and, if he passed the examinations, to be awarded a baccalaureate degree. James turned down the offer.\(^88\) He had at this point already decided that he did not care about receiving a degree, and he seemed ready to return home. Not to miss an opportunity, he spent his last week after classes and before he left for home visiting libraries and museums, including the Museum of the Maryland Academy of Sciences.\(^89\) He arrived in Salt Lake City on the 25\(^{th}\) of June, 1884, and by the 11\(^{th}\) of July he was busy getting the Circular ready with Professor Maeser for the upcoming school year at the Academy.\(^90\)

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\text{“Whatever we behold is Gods: all nature is his awful temple; all sciences are but the porticoes which open to it…”}\(^91\)

- John Mason Good, quoted in Talmage’s Johns Hopkins University notes

Talmage would, as previously stated, go on to be the curator of the Deseret Museum from 1891 to its close in 1919. The relationship that Talmage saw between science and religion

\(^{88}\) MSS 229, LTPSC. Journal entry, 18 April 1884, page 33-34.

\(^{89}\) MSS 229, LTPSC. Journal entry, 12 June 1884.

\(^{90}\) MSS 229, LTPSC. Journal entries of same dates.

\(^{91}\) HBLL Special Collections MSS 229 Box 12 folder 9.
should not be ignored, and he saw spirituality in his museum work as well. As an introduction to a publication on The Deseret Museum he wrote, “By derivation, the word ‘Museum’ means a home or temple of the Muses, hence a place for study and contemplation. The educational value of museums is now very generally recognized…museums vie with libraries as factors of public education.”

Talmage’s comparison between museums and temples, his obvious appreciation for museums as educational tools as well as places for public learning, and his exposure to more advanced museums in the East are all significant themes that have been undervalued in discussions about his life. Talmage’s college years are significant because they formed the groundwork for his future career as a museum professional, and his experience in gaining an Eastern education brought him into conversation with the world outside of Utah.

This research project was focused on understanding Talmage’s development as a student and scientist, and his involvement in the BYA museum. Further research should be directed at exploring Talmage’s involvement in the Deseret Museum. Two years after he took the position of curator, Dr. Talmage took a trip to Europe. The notes that he took during this trip are held in his personal file at BYU’s Special Collections. The notebooks have notes on museum set up, case sizes, and artifact arrangement and description.

According to the biography by Dr. Talmage’s son, he went to European museums with the hopes of exchanging selenite specimens from the Deseret Museum for other artifacts held at prominent European museums. “Presentations of the mineral, accompanied by photographs of the geode in its original state, were made to the Royal Society of Edinburgh, the South Kensington Natural History Museum (a branch of the British Museum), the museums of Cambridge and Oxford Universities, the

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93 MSS 229, LTPSC. Box 22.
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Museum of Practical Geology in London, the international Museum Association, and the Institute of France, in Paris." Dr. Talmage was actively cultivating relationships between the Deseret Museum and several prominent museums, and he apparently hoped to be able to obtain membership in the Museum Association for the Deseret Museum. Further research about his later life would do well to utilize the notes in the HBLL’s Special Collections.

In addition, the Church History Library at Salt Lake houses several manuscripts of interest. A previously unknown Deseret Museum Catalog, handwritten by Talmage, was recently located. In addition, two notebooks written during Talmage’s administration of the Museum are housed at the Church History Library and have not yet been researched.

Research can and should also be done in the archives of Lehigh University and Johns Hopkins University, as it would appear that he was involved in their early museums as well. According to Lehigh University’s Special Collections, an exhibit in 2005 included some of James E. Talmage’s material. Researching meeting minutes of the various scientific academies that he was a member of would also be beneficial. A better understanding of James Talmage’s role as a museum professional will bring context to the history of the Deseret Museum as an institution as well as to James E. Talmage’s life and influence on his Utah community. In addition, researching contemporary museums could bring Talmage’s story into the larger context of the development of 19th and 20th century museum theory and practice.

96 Church History Library and Archive, MS 6038. Viewed by the author on 18 November 2011.
97 Personal communication with Ilhan Citak of Lehigh University Special Collections, 17 November 2011.
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Unprocessed MS 6038.
