The Boring Dinosaur: The Struggle for Establishing Paleontology at the Field Museum

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In October 1997, Sue the *T. Rex* was sold to the Field Museum of Natural History for $8.3 million. This was the highest price that any museum had paid for a fossil in history and cemented the role of the Field Museum, which also had many large sauropod displays, as not only one of the best museums for paleontology in the United States but one of the best in the world. Today, with a team of two fossil preparators and over twenty volunteers, along with one of the largest fossil collections in the world, the Field Museum is an epicenter for research and progress in paleontology. The Field Museum has made itself synonymous with dinosaurs. One cannot simply bring up the Field in conversation without someone else bringing up Sue the *T. Rex*, Maximo the *Titanosaur*, or the *Brachiosaurs*, which, in an effort from the Field Museum to increase its presence in Chicago, now lives at Chicago's O'Hare airport.[1]

However, this was not always the case for the Field Museum. Originally, the Field Colombian Museum did not push very hard, if at all, for a paleontology program, and instead "Anthropology and Zoology were the dominant fields in the hierarchy of the Museum."[2] The role of paleontology in the museum eventually did change as the Field now takes an opposite stance on dinosaurs. A dominant reason behind this move was the Field's first paleontology curator, Elmer Riggs. Riggs made amazing discoveries, such as the Brachiosaurus holotype, but his early career was full of struggle. Ultimately, he did triumph as he fought to establish the paleontology department.

The creation of the Field Museum closely connected to the World's Colombian Exposition held in Chicago, Illinois in the summer and fall of 1893. At the end of the fair, the philanthropic sponsors of the

[1] Steve Fifer, *Tyrannosaurus Sue: The Extraordinary Saga of the Largest, Most Fought Over T. Rex Ever Found* (New York: W. H. Freeman and Company, 2000), 210-212; William Simpson, Personal Communication January 17, 2023.

[2] Paul D. Brinkman, *The Second Jurassic Dinosaur Rush: Museums and Paleontology in America at the Turn of the Twentieth Century* (Chicago: University of Chicago Press, 2010), 174.

museum did not necessarily want their exhibits back; instead, they were donated to the Museum.[3] There were sponsors in the dozens, including the Studebaker family from South Bend, Indiana. A newspaper clipping from the Field Museum archives shows that the Studebakers donated 500 shares of their stock to the museum. In total, the museum received over $15 million in funds for this new endeavor. Before even finding a permanent home or opening its doors to the public, the Field Museum was already on its way to becoming one of the premier museums in the world.[4]

The donor that made the largest contribution was Marshall Field. A product of the Gilded Age, Field made his fortune from his Chicago-based department store, Marshall Field and Company. As described by historian Lukas Rieppel -- whose father worked as a curator in the Field Museum -- in the Long-Gilded Age, coming out of the Civil War up until World War I, magnates and entrepreneurs accumulated great wealth. From the California gold rush to annexing Texas, the country was rapidly industrializing. This growth opened opportunities for businesses that ended up becoming worth trillions of dollars in today. The land across the continent, railroads to reach that land, and gold found in that land resulted in fortunes for a wealthy class like none since the age of monarchs. Among these men were J.P. Morgan, Andrew Carnegie, and Marshall Field.

The fortunes these men amassed were larger than the gross domestic product of a small country. They had acquired more money than one could ever dream of spending. Instead of buying Costa Rica for themselves, they started to feel that they had a responsibility to the public to create a new type of museum.[5] This museum was different from the old scientific museums, relegated to only the intellectual elite in an ivory tower. Instead, this new museum would be open to the public and allow a benefactor to show their

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[3] Paul D. Brinkman, "Establishing Vertebrae Paleontology at Chicago's Field Colombian Museum, 1893-1898," *Archives of Natural History* 27, no. 1 (2000): 81-114.

[4] The Field Museum of Natural History Photo Archives, GN90884d_Page028.

[5] The Field Museum of Natural History Photo Archives, GN90884d_Page049.

"Civic Liberality."[6] These philanthropic museums were created for the betterment of humanity and to improve the image of the donor.

Funding was a challenge for the Field Museum in the early days of its existence. Although they had received millions of dollars in donations for exhibits, for a collection of this size, it was hardly enough. A lack of funding meant the collection had to be moved into The Fine Arts Palace, which was the most permanent building from the World's Fair, and the actual permanent home of the Field Museum would not be finished until 1921.[7]

In addition, the Field Museum staff struggled to get the permits they needed for their buildings. The city of Chicago did not want to disrupt the Hyde Park area with a massive construction project. Many ideas were proposed, with one newspaper from 1910 even depicting the spectacular idea of building the museum on an island off the coast of Lake Michigan. This, of course, never happened as it would have been vastly beyond the existing budget plans, as well as an engineering feat that they might not have been ready for yet. Furthermore, suspending priceless historical and geological objects over an island that was not secure seemed like a poorly conceived idea. For the first 27 years of its existence, the Field Museum was housed in an underfunded and "cramped" building.[8]

Enter paleontology. It is first important to establish the definition of paleontology and its importance. Paleontology is not the study of dinosaurs; instead, it is best described as the study of past life.[9] Paleontology is incredibly important for understanding the past, and the origins of humanity and life. Secrets about the Earth can be uncovered from the very ground where we stand. Without paleontology and the fossils, it studies, the knowledge mankind possesses about ancient life would be relegated to genetic studies and guessing.

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[6] Lukas Rieppel, *Assembling the Dinosaur: Fossil Hunters, Tycoons, and the Making of a Spectacle* (Cambridge: Harvard University Press, 2019).

[7] Simpson, *Personal Communication*.

[8] The Field Museum of Natural History Photo Archives, GN90799d_FMOIP019_1w.

[9] Simpson, *Personal Communication*.

Paleontology was not viewed in the same way at the Field Museum as it was in other notable contemporary museums such as the American Museum of Natural History, the Carnegie Museum of Natural History, and the British Museum of Natural History. The staff of these museums realized early on the captivating power that dinosaurs had on the public and spent vast amounts of their funding on acquiring these beasts so that the public would pay to see them. This spending resulted in the acquisition of even more funding due to high traffic in the museum.[10] Public interest in dinosaurs could be an entirely separate paper, but in essence, it boils down to the sheer size, terror, and awe of the idea that one of these beasts walked the Earth. Dinosaurs also interest any person no matter their background. Even creationists believe that dinosaurs were dragons and would no doubt pay to see them.[11]

The Field Museum did not embrace this philosophy. Despite the success of other natural history museums of the period due to their dinosaur displays and exhibitions, the Field Museum opted to consign paleontology to a small area under geology. They did put funding into the paleontology department, but much of it did not go toward dinosaurs. Instead, most of the funding went toward mammals.[12] This is partly because, for the evolution of humans and mammals in general, there is much more to be learned from fossil mammals than there is from dinosaurs. Another explanation was that the fossil vertebrate's curator was a mammal specialist.[13] The last major reason is that Marshall Field was the primary benefactor of the museum, and because of this, Field was displaying the specimens that interested him the most. Unfortunately, this meant that dinosaurs were relegated to the bottom of the food chain for funding, as Fields did not like dinosaurs all that much. As far as the records go, there is no evidence that he hated them, just that he considered them to be a waste in a museum that was already limited in space. This shameful neglect of dinosaurs was also in part due to the amount of work it took to prepare a specimen the size of an

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[10] Rieppel, *Assembling the Dinosaur.*

[11] Ken Ham, *The Great Dinosaur Mystery SOLVED!* (Green Forest, AR: Master Books, 1999), 33.

[12] Brinkman, "Establishing Vertebrae Paleontology," 89.

[13] Simpson, *Personal Communication*.

Apatosaurs, which includes chipping away tirelessly at a rock with a chisel, then using a pin vise (which is a tiny piece of metal) for hours on end, work that represents only the beginning of a long process. After that, the dinosaur then needs to be mounted and have a custom mount created for it, which takes a massive amount of time even if the curator is comfortable with drilling through the bone, which scientists often oppose in that it alters the fossil for display purposes. As a result of these factors, Field believed that displaying dinosaurs was a waste of time, money, energy, space, and effort. Combined with his lack of interest, it seemed to doom this project of displaying dinosaurs in the days of the early Field Museum.[14]

This lack of interest affected the way the whole corporate structure of the Field Museum was set up. Paleontology was placed directly under geology, and overall, the bulk of the funding went to zoology and anthropology. Paleontology had to fight for every dime it received because by the time the funds had trickled down that far, the other departments had already feasted on them and left the bones to paleontology.

The final hurdle that the whole museum faced, and that paleontology especially faced, was the opposition of museum director Frederick J.V. Skiff. When Skiff was hired, Rieppel noted that "while Skiff showed a great deal of administrative promise, he almost immediately clashed with the new museum's research staff."[15] Rieppel then explains that these issues were because of how Skiff's focus on budget and efficiency. Skiff managed the museum's budget carefully and forced cuts in museum programming. This type of management made Skiff unpopular with the staff and often damaged morale.

Soon one scientist challenged Skiff and carved out a new role for paleontology at the Field Museum: Elmer Riggs. Elmer Riggs was raised in Indiana and acquired a well-paying job at the Field Museum after a bluff that he had an alternative job offer.[16] At one point in his early career he went over the head of his boss, geology curator Oliver Farrington, and directly to Skiff to complain about the budget. This offended Skiff beyond any reasonable measure. Skiff made sure to let Farrington know that if he ever saw

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[14] Brinkman, *The Second Jurassic Dinosaur Rush*, 253-55, 179, 224.

[15] Rieppel, *Assembling the Dinosaur,* 111.

[16] Brinkman, "Establishing Vertebrae Paleontology."

Riggs in his office uninvited again, there would be severe consequences.[17] Riggs' trajectory at the museum changed when in 1900 he unearthed a *Brachiosaurus*, up to that point, the largest dinosaur ever discovered. Its femur is longer than most adult human men. The Field Museum staff knew that Riggs had found something amazing and attributed this discovery to Riggs himself. Many paleontologists share the sentiment that finding fossils comes from a seventh sense. Paleontologist Robert Bakker notes, "There are some people who can find fossils and some people who can't."[18] Riggs was one of the special ones who could indeed find fossils, and excellent ones at that. He was worried, however, that others were going to locate the fossils before he could due to a lack of funding for paleontology.[19]

Riggs was able to excavate the entire fossil of *Apatosaurs* and thus gave the Field Museum another massive dinosaur to add to their collection. Whether the Field Museum staff wanted to display dinosaurs or not, the publicity and scientific importance of this find led the Field Museum to embrace paleontology. Due to Riggs' outburst in his office, however, Skiff canceled all fieldwork for the summer of 1903. This left Riggs in Chicago where he had to innovate in other ways. In 1903 he drew up the plans for and modified some of the first pneumatic tools for fossil preparation.[20] This innovation greatly sped up the process of preparing fossils for display. The days of only using tiny tools were over. Riggs' innovations in paleontology are still used to this day. The days of employing of old prospecting tools were numbered, although they would still be used for several decades.[21] If Riggs had not had his outburst and instead worked in the field during the summer of 1903, he may have never come up with this idea that changed the face of the field he cared so deeply about forever.

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[17] Brinkman, *The Second Jurassic Dinosaur Rush*, 177.

[18] Fifer, *Tyrannosaurus Sue*, 16.

[19] Brinkman, *The Second Jurassic Dinosaur Rush*, 115.

[20] Matthew Brown, "The Development of 'Modern' Paleontological Laboratory Methods: A Century of Progress," *Earth and Environmental Science Transactions of the Royal Society of Edinburgh* 103, no. 3-4 (2012): 205-216.

[21] The Field Museum of Natural History Photo Archives, *GEO81608* shows a photo of the prospecting tools that geologists used back in the early days of the Field Museum, Simpson, *Personal Communication*.

Riggs was relentless in moving forward the field of paleontology and in this way helping to promote the Field Museum. Now, long after Riggs has passed on from his rich full life, the Field Museum continues to be an icon to this day and is a center of Paleontology, and area of research that he helped to establish. Without Riggs and his determined problem-solving ability, the Field Museum likely would not have invested nearly as much into dinosaurs as soon as it did. Instead of having several early excavations and discoveries, it may have taken them much longer to fully realize the value of dinosaurs.[22] The Gilded Age has passed, and the original curators and sponsors are no longer with us. However, the legacy they left lives on, and Paleontology is still under the geology department to this very day.[23] The tools that Riggs developed are still used in essentially the same form he designed them in, and *Brachiosaurs* still stands tall as a testament to Riggs' life's work.

[22] Simpson, *Personal Communication*.

[23] I technically work in geology as paleontology does not have its own separate department. My badge reads "Collections Center."

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