

A BIOGRAPHICAL SKETCH OF SAMUEL WALTON GARMAN

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Samuel Garman is best known as the first official curator of fishes, amphibians and reptiles at the Museum of Comparative Zoology at Harvard. His most significant claim to immortality lies in the several comprehensive monographs on fishes that he produced while there, including *The Plagiostomia*. Garman has fascinated modern ichthyologists by virtue of the rumors and facts of his eccentricity. In many ways he epitomizes our notion of a 19th century museum-based systematist: anti-social, obsessed with trivia, slightly tyrannical and extremely productive, if not imaginative, in his pursuit of scientific truth. In this brief biography Garman is revealed to be less eccentric, though every bit as tyrannical, as his legend. He was not given to personal correspondence and the first-hand records of his early life are scarce and perhaps misleading. The most illuminating references are in the letters and recollections of his contemporaries.

Early Years

Samuel Walton Garman was born on June 5th, 1846 in Indiana County, Pennsylvania to Benjamin and Sarah Garman. The Garmans were a Quaker family living in a part of Pennsylvania dominated by the Society of Friends. While there is no record of where he spent the years between birth and college, his family seems to have moved from western Pennsylvania before 1860. Garman started college at the Illinois Normal School in 1865 or 1866 and graduated in 1869 at the age of 23. His first job was as the principal of the Mississippi Normal School. He stayed there only one year, moving to a zoology post at the Ferry Hall Seminary in Illinois. His next paying job was at the Museum of Comparative Zoology and there he finished his days. This brief synopsis does not capture the personality of Garman, nor does it explain why Louis Agassiz, the founder of the Museum of Comparative Zoology, would have been interested in a plain Friend from the mid-west.

The key to Agassiz' initial attraction to Garman may lie in the atmosphere of competition for fossils fostered by Othniel C. Marsh and Edward D. Cope. The 1870's and 80's were a time of frenzied collecting in the recently

opened Trans-Mississippi West. In 1872, when Agassiz met Garman on board the *Hassler* in San Francisco harbor, the MCZ could not compete with the Philadelphia Academy (Cope) or the Peabody Museum at Yale (Marsh) as far as fossils were concerned. Garman came to the meeting with the distinction of having fossil hunted with Cope during that summer. He was a confident young man, and no doubt the perpetually enthusiastic Agassiz saw an opportunity to expand the MCZ's purview to include American fossils. Agassiz himself had worked with the great European fossil collections, having visited every significant public and private holding in order to complete his monumental *Poissons fossiles* in 1843.

Garman was at home in the rugged and primitive conditions of the fossil fields largely because of experiences gained as an undergraduate. While at the Normal School he came in contact with a fellow who left an indelible impression on many adventurous young men. Major General John Wesley Powell made a name for himself in the Civil War, where he lost an arm. His scientific leanings were toward geology and ethnology, and he recognized that the ultimate playing field for both disciplines was the still wild, western United States.

Although several important expeditions had traveled in the western regions during the first half of the nineteenth century, systematic exploration beyond the hundredth meridian had begun in earnest in the 1850's with the government sponsored railroad surveys. The monumental government publications covering geology and natural history that came out of these surveys fired the imagination of many budding naturalists. John Wesley Powell was one of them. Powell, who would later become the Chief of the U.S. Geological Survey and Head of the Bureau of Ethnology, returned from the Civil war to accept a professorship in geology at Illinois Wesleyan University in Bloomington, just down the road from the Normal School. Powell must have been a charismatic teacher and lecturer, and he convinced his fellow professors and local legislators to support his idea of an exploring expedition to the Rocky Mountains. His first expedition, ending in the fall of 1867, was such a success that upon his return he immediately set about organizing another. It was this dynamic man that young Sam Garman met, perhaps at a lecture or at a meeting of the local Natural

History Society. Almost certainly, Garman took Powell's geology course, probably in the winter of 1867-1868, after Powell returned from his first expedition. In any event, he volunteered to accompany General and Mrs. Powell and nineteen other men on the Colorado Exploratory Expedition as the junior entomologist. This venture was to last from June of 1868 until June of 1869.

On June 29, 1868 the party set out on the twenty-four hour trip by carriage to Chicago. There they boarded the Chicago and Northwestern Railroad bound for Nebraska. In Omaha, they transferred to the Union Pacific Railroad and headed west for Cheyenne, Wyoming. In Cheyenne, the party outfitted themselves for the expedition, drawing on government rations. They made the mistake of buying wild ponies, none of which had been bridled or backed. To a man they were thrown attempting to tame the broncs. The horses were then shod and the real expedition got under way. One of the goals of the trip was to climb Long's Peak. No one on record had climbed this 14,255 foot peak. The party arrived at the foot of the mountain in the middle of August. After an aborted first attempt, seven members of the party started up the mountain on the 23rd of August, including General Powell, William N. Byers, the editor of the *Rocky Mountain News*, the expedition guide Jack Sumner, and the students Keplinger, Farrell and Garman.

The party left the base camp at six in the morning and after traversing a great rockslide of loose boulders and climbing the precipitous face of a huge granite block, "life depending often upon a grasp of the fingers in a crevice that would hardly admit them", they topped the summit by 10 o'clock. For three hours the party remained on the summit swept by a fierce wind but reveling in the view of Pike's Peak, the Sahwatch Ranges to the southwest, the Gore Range and Elkhorn Mountains to the west, and the Medicine Bow and Sweetwater Ranges to the north. They could see thirty alpine lakes, Denver and the vast expanses of plains to the east. Garman spent his time collecting specimens and writing his journal. Finally, a monument of small stones was erected while Keplinger and Farrell made barometric and temperature readings. Everyone signed a sheet of paper which was placed in a tin baking soda can along with the readings. Powell then made a short speech emphasizing the scientific

importance of reaching the summit and commending the men for their achievement. Someone had brought along a bottle of dixie wine. The monument was duly christened, and the remainder of the wine was had by the party, everyone except Garman and Keplinger, who refused to imbibe. This incidence of abstinence was characteristic both of Quakers in general and Garman in particular. He was quick to point out in a letter to his friend Gertrude Lewis back in Bloomington that "2 of us withstanding all entreaties did not drink on Long's peak, whatever the papers may say to the contrary."

Perhaps because of their serious nature, Keplinger and Garman were next assigned the duty of making barometric readings above timberline on Mount Henry, the first mountain west of Long's Peak. For eight days they took hourly readings of the barometer, as well as wet and dry bulb temperature readings. Keplinger recorded measurements from midnight until noon; Garman did so from noon to midnight. One of them would go down to timberline every day to do the cooking while the other remained a quarter mile above. They endured the summer thunderstorms and heavy snow, managing to record the most complete series of high-altitude barometric observations to date.

After the assault on Long's Peak and a productive fall spent collecting, Garman began to feel stifled by the demands of the large group. He decided to go his own way in January of 1869, though he evidently bore Powell no ill will. He writes "The Major and myself had no difference except that he found I could do almost any work he had to do and that appeared to be excuse enough for setting me at it, no matter what became of the work I came to do; besides Mrs. Powell thought me too independent and tried to make me understand that herself and the major commanded the expedition and members." From this parting it is clear that Garman was a competent fellow in the field who bridled at any distractions from his natural history studies. He continued to travel with the Powell group into April but maintained an independence from it. As the spring turned to summer, Garman split off from his companions to explore Wyoming. He did some survey work for the railroads, which kept him in supplies and horses. His final goal before returning to Bloomington was to meet

Brigham Young: "If Brigham Young don't receive a visit from a real live Quaker this summer it will be because something's up."

With his taste for the natural history of the west thoroughly whetted, Garman decided to spend the summer of 1872 working the fossil beds. He had met Edward Drinker Cope in Indianapolis in 1871 and corresponded with him, mostly asking Cope for information on various scientific subjects. At this time, Cope was planning to join Ferdinand Vandever Hayden and the Geological Survey of the Territories on their return to the Yellowstone country during the coming summer. Cope thought Garman to be "well informed and especially interested in scientific affairs" and decided to invite him to join the expedition. Garman leapt at the offer. As for what Cope had in mind, he wrote to his father that "He [Garman] goes as a student for himself and an aid to me. He has been through part of the region before and will be as good as a trained scout for my purpose." Apparently the agreement was that Garman was essentially a volunteer, would be paid for expenses on special expeditions and would be able to keep some specimens.

Upon arriving at Fort Bridger in southwest Wyoming, Cope discovered from the post commander that Hayden and the Survey party had requisitioned all of the animals, bridles, and saddles promised to the expedition and had since departed for the Yellowstone, leaving the Cope party without means of transportation. Cope dispatched a letter to General Ord requesting two fully equipped teams, explaining that the "great desideratum in this kind of survey is means of transportation of the specimens obtained." The party spent three weeks at the fort before all was in order. Exactly what happened during this time is not clear, but tensions arose between Cope as the leader of the expedition and Garman as the student. According to Cope, just before leaving the fort on the start of the expedition to the rich Bridger Beds, there was a dispute as to how much a "volunteer" should be paid and Garman and two other assistants were left at Fort Bridger. Cope was furious at having lost three assistants on an important expedition and writes to his brother that "[Garman] passed himself off as a Friend but I suspect this to be false, and his whole scheme was to get up an expedition of his own. I am glad to be rid of him..." While Garman certainly was

not masquerading, and nothing indicates that he was the sort of fellow to start an adventure with subterfuge, he did learn a lot about the localities and methods of fossil hunting.

At this point in his life Garman is a portrait of a driven, dedicated naturalist enjoying life. He revels in the privations of the field, writes flowery prose to a woman friend, and seems to have direction and purpose. Though he is stubborn and committed, there is none of the reclusive misanthropy of his declining years. However, the disputes with Powell and Cope clearly presaged his tendency to aggravate colleagues in later years.

Getting Started at the MCZ

From the fossil fields Garman traveled west to San Francisco. There he met an ailing Louis Agassiz on board the survey vessel *Hassler*. Agassiz must have been quite taken with the energetic young man because Garman accompanied the founder of the MCZ back to Cambridge. Rather than being put to work right away collecting fossils, Garman's first jobs were in the fish collection. Officially he was a "special student" of Louis Agassiz, though, like many students at the museum, he operated more as a collections manager than a graduate student in the modern sense. This arrangement did not last long, because Louis Agassiz died at age 66, only one year after the *Hassler* expedition. Fortunately Garman had already established a rapport with Louis' son, Alexander Agassiz, whom he impressed as a hard worker, willing to do the menial tasks of the museum with little salary or supervision.

The eleven years after Louis Agassiz' death were a time of great expansion for the MCZ. Alexander was determined to see his father's project through, and so devoted time and his considerable personal fortune to building both the collection and the public exhibits. Garman prepared specimens for display, filled specimen jars with alcohol, and sorted specimens. The remainder of his time must have been spent writing and reading, for this quiet decade presaged a very productive period in the 1890's. Garman settled into the scientific community of the Boston area, participating in several scientific societies and publishing papers in their journals. Between 1874 and 1884 Garman wrote short articles on reptiles, amphibians and fishes for the Boston

Society of Natural History, the Essex Institute, and the American Academy for the Advancement of Science.

Garman published two papers a year from 1874 - 1884 on topics ranging from the claspers of elasmobranchs to observations on the paradoxical frog (*Pseudis paradoxa*). With the exception of his catalog of North American reptiles and amphibians, these papers are all short contributions that reflect the limited periods of free time that he could devote to any one project before being sidetracked by the maintenance of the museum. By 1883 the museum finally lived up to the promise of Louis Agassiz that there would be public exhibits, and it is worth noting that at that time there were but four paid staff members: Sam Garman, Joel Allen, Charles Hamlin and Hermann Hagen. This had been the case for several years, and so the burden of preparing the exhibits, as well as all the curatorial tasks, fell on very few shoulders indeed.

These curatorial tasks were relieved by collecting trips for the museum, which although few in number must have been quite exciting. In 1874, he accompanied Alexander Agassiz on one of the latter's yearly expeditions away from the Cambridge winters. Their destination was Lake Titicaca and the high Andes, where they expected to visit the copper mines of Peru, collect antiquities for the Peabody Museum and explore the lake. Leaving New York in November, their ship sailed to Panama, from there to Callao, eventually reaching Valparaiso. Garman left the boat at Mollendo in order to take the baggage, including the ropes, dredges, sounding lines, thermometers and collecting materials, overland the three hundred miles to the lake. When Agassiz finally arrived, he found that Garman had already been off dredging the lake in a chartered schooner, and had "done very well in way of collections." Garman had been out five weeks and had "succeeded in getting together an excellent collection of the Birds of the department found along the Lake shores...He also made an excellent collection of Reptiles, found a gigantic frog, dredged from the shores."

It was on this Andean expedition that Garman collected an Andean Condor. While collecting birds, he had climbed a steep rock face. At the top, collecting bag full but ammunition pouch empty, he sat to eat his lunch. A

soaring condor rode thermals back and forth along the edge of the cliff, so close that he could almost touch the bird. He improvised ammunition for the muzzle loader from a suspender button and collected the bird on its next pass by.

Despite the growing economic woes of the museum, in the summer of 1882 Garman finally headed west to collect fossils. He collected in the Dakota Territory and found himself in competition for material with a group of collectors from Princeton. In his letters to Alexander Agassiz from the field, he crows over his greater productivity. Sadly, museum records do not distinguish which fossils Garman sent back, though at the very least it was several hundred cases of rock.

The second trip with Alexander Agassiz certainly stimulated Sam's interest in fishes. In December of 1887 he was aboard the steamer *Blake* heading to Havana to pick up Alex. The *Blake* spent the next three months collecting by dredge and trawl at depths up to 1920 fathoms to the north and west of Cuba, the Yucatan Bank and areas around Key West and the Dry Tortugas, finally ending up at New Orleans. Garman published an account of the selachians captured on the trip that included descriptions of three new species: *Raja ackleyi*, *Raja plutonia*, and *Narcine brasiliensis*.

The next fall found Garman accompanying Agassiz once again on the *Blake*, this time for a tour of the deep Caribbean waters. The cruise made over 230 hauls at depths between 100 and 2400 fathoms off Jamaica, around the Windward Islands and Barbados. This was Garman's last cruise with Alex. He did not join any of the many expeditions to the Pacific either because their focus emphasized invertebrates or because the press of curation duties kept him home.

The Productive Years

The ten years from 1884 to 1894 were perhaps the most difficult in the history of the museum, and yet they were the most scientifically exciting years for Garman. While the depression of 1883 crippled the museum financially, there was enough funding to warrant paying his salary, and that was all it took to keep him working. For several years, he had been working on an elasmobranch that he found quite remarkable. The long and eel-like frilled shark, *Chlamydoselachus anguineus*, seemed to be amazingly similar to fossil cladodont sharks. This was a rare opportunity to examine the soft tissue of what

appeared to be a living fossil. While many disparaging comments have been made about Garman as a systematist, no one would find fault with his anatomical skills. Dissection is the art of revealing anatomy and requires both the removal of obscuring structure and the preservation of context. Garman was an unparalleled master of both skills. His preparations remain among the wonders of the Fish Department of the MCZ, and were prescient in focus and detail. He had a gift for revealing the smallest neuroanatomical features, and many of the other structures to which he applied his skills have since proved to be of significant systematic import. He turned his knife on the frilled shark with great success. After his initial description of the species, he published seven other papers on the anatomy of this odd creature; eventually dissecting the type specimen nearly into oblivion.

The papers on fishes, amphibians and reptiles continued at a very respectable level right through the first decade of the 20th century. In 1892 he published the first monograph that was to typify his most significant contributions. *The Discoboli. Cyclopteridae, Liparopsidae, and Liparidae* was in principal a simple catalog of Recent species of the three families in the title. The anatomical descriptions were accurate and clear and the plates were meticulously prepared. In this paper he described new species as well as known species and included a useful bibliography. As with the other three significant ichthyological monographs, his track record is impressive: 80% or more of the species he recognized are still valid today. Garman had an eye for species that has born the test of time. Most of his mistakes are those of a splitter rather than a lumper. In 1895, he published a volume on the cyprinodontids that is remarkable, chiefly in that it used plates from an unfinished volume of Louis Agassiz' *Fauna of North America*. Often the plates for a project were prepared long before the text was finished. This was certainly the case with Garman's *Plagiostomia*, as the plates and most of the text were well in hand in 1905, a full eight years before the volume appeared.

Garman's most significant publication of the 19th century was a volume on the deep sea fishes collected by the U.S. Fish Commission steamer *Albatross*. In 1891, Alexander Agassiz jumped at the chance to use the *Albatross* as a

collecting vessel. He sailed from Panama to the Galapagos Islands and then to Mexico and the Sea of Cortez trawling at great depths. The deep water fish collections were consigned to Garman to write up. This he did, although it took him eight years to get the job done. The resulting monograph, with color plates of many fishes, is still a useful text. He was a pioneer of sorts, in that in addition to the descriptions and plates, he wrote chapters on the variation in lateral line system, leptocephalus larvae and biogeography of the fishes. Working on this major monograph slowed his rate of publication to about one a year from 1893 to 1899, and though this includes the volume on cyprinodontids, the remainder of the papers were brief and of little impact.

The twentieth century saw a continuation and deepening of Garman's interest in the chondrichthian fishes. He published several papers on chimaeroids, and after an exhaustive and exhausting search of the literature he finally published *Plagiostomia*. The publication of the shark book was a difficult process for Garman. His inclination had been to make a revision of Müller and Henle's chondrichthian monograph in light of the specimens in the MCZ. This proved to be a far more daunting task than he had at first thought, primarily because he allowed himself to be swept deeply into the literature. Garman lived in fear that his contributions would be forgotten or misappropriated. When Goode and Bean published *Oceanic Fishes* (1909) they used a short passage from the description of *Chlamydoselachus* verbatim and without attribution. Garman pointed this out in his *Deep Sea Fishes* book and redoubled his own searches of the literature. His library was impressive, rich in Linneana and older systematic literature. Upon his death it was donated to the MCZ and forms the core of a very fine fish section in the Ernst Mayr Library. These intellectual activities would today be hailed as fine scholarship. Unfortunately his obsession with finding the oldest reference for a particular fish often led him to accept works that were later ruled to be inadmissible by virtue of their lack of consistent binomial nomenclature. The names *Plagiostomia* for the elasmobranchs and *Chismopnea* for the chimeroids reflect both his love of obscure literature and his odd sense of nomenclatural priority. He also occasionally simply made up a new name because he did not feel that the older ones fit the group in question very

well. Such was the case when he coined Hexaptranchidae for the six and seven gilled sharks. He could not bear to categorize all of them under Heptranchidae or Hexanchidae as either name would be misleading. Errors of this sort have led some authors to conclude that Garman was not much of an ichthyologist, whereas in fact he had a fine sense of species. His work has been unjustly belittled because he fell into a quagmire when it came to nomenclature.

The printing of any particular volume of the memoirs of the MCZ was dicey. The museum never had sufficient funds to press ahead with all of the desired printing. Garman does not seem to have had any difficulty in getting his long and profusely illustrated monographs published, but it must have been a near thing with *Plagiostomia*. The plates were ready long before Agassiz' death in 1910, but the text was not done until afterwards. It seems that the manuscript did not languish long, though the museum itself was entering a doldrum brought on by the management of Samuel Henshaw. The actual printing may well have been underwritten by Thomas Barbour, the wealthy and generous herpetologist who later headed the museum.

All of this productivity did not go unnoticed or unappreciated by his peers. Garman was a member of many of the important scientific societies in spite of his reluctance to leave the museum. In particular he was elected to a number of foreign societies. He was a fellow of the Royal Geographical Society, a member of La Societ  Zoologique de France, a corresponding member of the Zoological Society of London and of La Societ  Scientifique du Chili. A number of ichthyologists honored Garman by naming new species after him. These include: *Coryphaenoides garmani* Jordan & Gilbert 1903, *Halaelurus garmani* Fowler 1934, *Monomeropus garmani* Smith & Radcliffe 1913, *Notropis garmani* Jordan 1885, *Raja garmani* Whitley 1939, *Achirus garmani* Jordan 1889, *Anostomus garmani* Borodin 1931, *Barbus garmani* Fowler 1924, *Characodon garmani* Jordan & Evermann 1898, *Diaphus garmani* Gilbert 1906, *Girardinus garmani* Eigenmann 1903, *Gobius garmani* Eigenmann & Eigenmann 1888, *Heteronarce garmani* Regan 1921, *Lepomis garmani* Forbes 1885, *Leporinus garmani* Borodin 1929, *Myxine garmani* Jordan & Snyder 1901, *Narcetes garmani* Fowler 1934, *Paraliparis garmani* Burke 1912, *Plecostomus garmani* Regan 1904,

Salarias garmani Jordan & Seale 1906, *Serrivomer garmani* Bertin 1944, *Stolephorus garmani* Evermann & Marsh 1899, and *Diaphus garmani* Gilbert 1913,

While working at the MCZ, Garman was living in Arlington Heights, where he worked on a garden and kept bees. Astonishingly at the age of 52 he married Florence Armstrong, the daughter of a Canadian barrister and member of parliament. They had a daughter, Pauline, in 1899. The only other record of Garman's family is a brief collaboration with his brother, who was a professor of zoology at the state college of Kentucky where he worked on fresh water crustaceans. He stopped by the museum in 1894 and published a couple of papers in the *Bulletin of the Essex Society* of which Sam was a member. Samuel Garman was a deeply private man and these few personal notes are all that can be gleaned from the museum archives.

The Recluse

With Agassiz' departure from the museum in 1898, Garman's productivity took a serious downturn. He no longer had the inclination to publish notes and short contributions in herpetology or ichthyology. In spite of this slow down, Harvard awarded him an honorary B.Sc. in 1898 and an honorary A.M. in 1899. With Agassiz' death in 1910, all the wind went out of his sails. He finished the shark book, but made very little progress in anything else and stopped publishing after a last paper on the Galapagos tortoises. Though he shut down production of scientific papers Garman did not retire from the museum. As the new century dawned he continued to rule the fish department from his split level office in the basement. His reclusive ways, odd dress and curmudgeonly attitude made him a figure of fun in his declining years.

Though he wrote a lovely eulogy for Garman in *Science*, Thomas Barbour participated in the disparaging portrayal of him as an eccentric, and worse. The most obvious example of Barbour's hostility towards Garman is found in his popular book, *A Naturalist's Scrapbook*, where he comments that Garman's appointment was another example of Alexander Agassiz' poor judge of character. He goes on to put forth an account of Garman as an old man, coerced from his long-time secretary. Apparently he did this to allay criticism for his vindictive

accounts: "so that no trace of the shadow of prejudice may be laid at my door." She wrote, "He always wore, winter and summer, the same shabby long black overcoat and a black soft hat, and he looked like something which had hung over from the last century, or perhaps a human blackbird." This portrait of gloom is pushed further with an account of what they found in Garman's office when he died. "...his desk drawers were filled with an accumulation of rubbish which it is hard to believe could exist. The crusts of his daily sandwiches were for years put in an enormous glass jar, perhaps to be fed to birds, but forgotten. The address labels from a weekly paper...were carefully cut off and hundreds upon hundreds stored away in a drawer."

In this same volume he takes Garman to task for over-dissecting type specimens, miss-filing or losing types, unwarranted paranoia, book thievery and poor preparation of bird skins! No doubt some of the scorn is warranted, there certainly are a number of type specimens that have suffered mightily from Garman's attentions. Of course, at the time, types were not held in the same esteem as they are now, and many curators dissected type specimens. The reasons for Barbour's extreme dislike, which seems to have become greater with time, can perhaps be traced to his start in the museum. Garman was an autocratic fellow at the best of times, and the young undergraduate Barbour worked in the museum in both of Garman's domains: fish and reptiles. Since Barbour's main qualifications were boundless enthusiasm and a huge supply of money, it is possible that Garman was overly stern with him. In an earlier book Barbour is proud of having gained Garman's trust, to the extent that he was allowed into the office and was asked to help with curation. With the perspective of time Barbour must have come to see Garman as a tyrannical man who held him back early in his career.

Barbour bitterly complained that Garman would not allow anyone into the fish collection, that he was overly protective of his work and that to prevent others from anticipating his studies, he would hide his work, destroy specimens and stow mislabeled containers where they could not easily be found. How much of this is accurate can not be ascertained, but, Garman was secretive about his work, and protective of the collection. He no doubt felt possessive towards a

collection that he had overseen nearly from its inception. Garman probably believed that his paranoia was justified given the events surrounding the Cope-Marsh controversy. Garman had early and first hand knowledge of the long standing feud. He witnessed events which escalated the feud into an all out war during the three weeks with Cope at Fort Bridger in 1872. He was aware, as most naturalists were, that the battle had raged at meetings and in the literature for nearly twenty years. But it was a flurry of articles in the New York *Herald* early in 1890 that brought out the worst in the combatants and their supporters and critics. Aside from the personal attacks which he must have abhorred, Garman saw in plain print that Cope and Marsh accused each other of dishonesty, subterfuge, and, most important from Garman's standpoint, stealing intellectual property. Perhaps most disturbing were the accusations of depredations in the field and pilfering of important specimens during clandestine museum visits.

In his long awaited reply to Cope's accusations, Marsh claimed that Cope had gained surreptitious access to the Peabody Museum on a Saturday when he and most of the attendants were off. While touring the Museum, Cope entered Marsh's private rooms where the results of years of work were spread out in readiness for publication. Cope apparently studied closely both the plates and the original fossil material. According to Marsh, Cope then continued through the private work rooms where the rarest fossils, all unpublished, were at various stages of preparation. To simply view the specimens without invitation would have been bad enough, but Marsh then accused Cope of actually publishing what he learned during the weekend raid. He went on to accuse Cope of similar corrupt acts in various museums, listing among others the Museum of Comparative Zoology. Garman was silent about Cope stealing from the MCZ, even when given the chance to comment. He would say only that he could not imagine that Cope "would be guilty of intentional plagiarism or any other breach of gentlemanly conduct." Garman was able to subvert any attempt at subterfuge, real or imagined, by strictly limiting access to the collections and hiding specimens. Was this paranoia, normal protocol for the time, or a mixture of

both? It's doubtful that Cope, Marsh or other contemporary curators acted differently than Garman given the rumors surrounding the fossil feud.

A single letter, dated December 27th, 1917 has had an impressive impact on the way in which Garman has been remembered and so it bears some mention. He wrote, "A life in which memories of family traditions, of grandparents and other relatives have no part, one without remembrances established and intensified for verities by hearsay and repetition, like the treasures in most of the wonderful memories of children, contains little of general interest to the public, or of special interest to the victim himself. Of early life hardly a distinct recollection of childhood or village school is left to me; all are lost or vague and dreamlike." Parts of this quote, and sections of the rest of the letter, seem to have formed the basis for many of the brief references to Garman in later literature. Oddly enough this seemingly forlorn recollection, written when he was seventy years old, is probably not at all indicative of Garman's life. The context of the letter is instructive; he was writing to a book agent who wished to include him in a compilation of biographies. An examination of other compilations shows that Garman was quite forthcoming with biographical information when it suited him. Historians have viewed the tone of the letter as that of a gruff and offended recluse. Garman had, by this time, certainly become reclusive but he was not yet the misanthrope he became. The letter rings false when the further notes of Garman are considered. He penned this note on the back of the draft. "The book agent called on the 5th, 9th, 12th. The first was directed at the vanity supposed to be in my possession. How great it would be to be written up amongst the great ones of the state? How much I deserved it? It was all written out but the vanity was not there. After dealing with men of money; those who would give anything in reach to stand in with the great, he was disappointed in me because the paltry \$300 calling for an engraving did not at once show up on the contract. Vanity out of the question. My inquiry "What do we get for the money?" called for a change of front. \$150 would bring one into the intaglio crowd. \$300 the steel plate. The 3rd visit made it clear that money not patriotism or love of state was at the bottom of the venture. Closed by my decision, "I can't afford it." My vanity was less expensive

than that of the people with whom he was accustomed to deal.” This is the crotchety response of a private and simple fellow to the insistent and monetarily motivated pestering of the book agent rather than the ramblings of a misanthrope.

Garman died on September 30th, 1927 at Plymouth, Massachusetts. There is ample evidence that Garman was not an easy man to get along with, and certainly in his later years he was quite eccentric. There is also no doubt that he produced a plentitude of ichthyological works that are even yet of use to science. His skill with a dissecting knife, his perceptive eye for species, and his tireless devotion to descriptive taxonomy earn him a place among significant ichthyologists. However, he lived in a time of giants, scientists who would write the history of American ichthyology: David Starr Jordan, Rosa Smith Eigenmann, Carl Eigenmann and Carl Hubbs. While Sam Garman was a good ichthyologist, he was not shoulder to shoulder with these greats. His natural reticence, and the many non-scientific demands on his time, prevented him from engaging in the rough and tumble dialog that is the driving force behind many great scientists. He will be long remembered for a colorful youth, great anatomical work, and useful monographs, followed by an eccentric old age.

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