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OF

EDWARD SYLVESTER MORSE

1838–1925

BY

L. O. HOWARD

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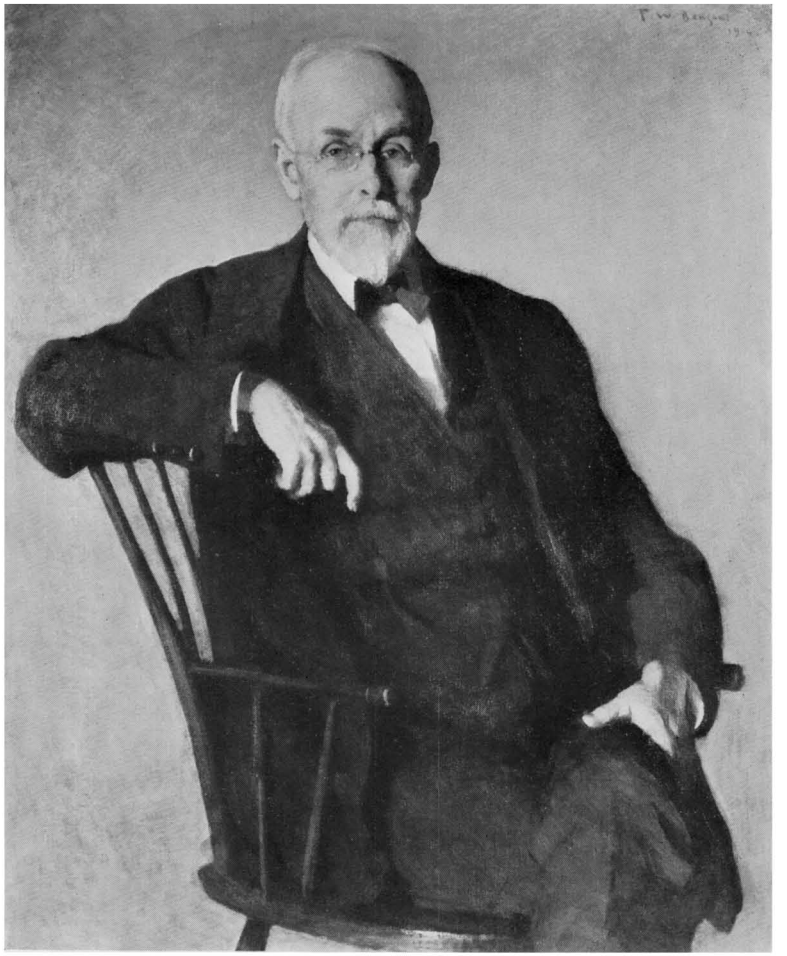

Edward S. Morse

EDWARD SYLVESTER MORSE

1838–1925

A Biographical Sketch

(With Some Account of His Scientific Activities)

BY L. O. HOWARD

To those who read this, I owe an apology and an explanation. They will be disappointed. There should be a book about Morse. One will be written some day. But I am limited by the rules of the Academy to six thousand words and I am not competent to do justice to the latter part of his career. I must confine myself largely to his scientific life and doings. A man who was elected to the National Academy of Sciences at thirty-eight, and president of the American Association for the Advancement of Science at forty-eight, must have been a force in American science, and therefore it is that part of his life that a Biographical Memoir for the National Academy of Science must deal with especially. The rest of his useful and remarkable life has been, or will doubtless be, dealt with much more competently by others.

Edward Sylvester Morse was the son of Jonathan Kimball and Jane Seymour (Beckett) Morse, and was born at Portland, Maine, June 18, 1838. He married June 18, 1863, Ellen Elizabeth Owen (1837-1911) of Cape Elizabeth, a little town across the harbor from Portland. Two children were born; Edith (Mrs. Russell Robb of Concord, Mass.) and John G., now of Ripley Hill Road, Concord, Mass. Professor Morse's father was a business man of Portland, and was descended from Anthony Morse who came from England soon after Plymouth and Salem were settled.[1] There is no evidence apparently of

[1] Anthony Morse of Wiltshire, England, came to America in 1635 and settled in Newbury, Mass. He died in 1678. His son, Anthony, born 1662. His son Stephen [son of Anthony] was born 1695. His son Thomas was born 1721. His son Thomas [son of Thomas] born 1749. His son Thomas lived in Haverhill, N. H., but the date of his birth is not known. His son, John [Jonathan] Kimball, was born in 1802 and Edward Sylvester, born 1838, was his son. [Data supplied by John G. Morse.]

scientific tastes or accomplishment on the father's side, although there is a strong artistic trend. E. S. Morse's brother, George Frederick Morse, although not a professional, painted landscapes all his life, and left hundreds of canvasses, all of much merit, although they were painted simply for diversion. Samuel F. B. Morse of telegraph fame, said to be a distant relative, of the same ancestral stock, was, as is well known, a painter by profession, as also was his son, Edward Lind Morse. But very likely the famous inventor's great invention indicates a happy and unusual mixture of artistic and scientific tastes. Surely E. S. Morse had this combination for he was one of our first zoologists, drew all of his own illustrations, illustrated his many public lectures with wonderfully clever blackboard drawings, became an authority on a branch of Japanese art, and for nearly half of his life ranked as a leading authority on that subject. But on Morse's mother's side, it was different. She claimed to have descended from Thomas A'Becket, Archbishop of Canterbury. She had decidedly scientific tastes. She had relatives who were well known literary people, and John G. Morse writes me that she was "interested in all branches of science. She lived until 1896 and was thus able to witness her son's success."

Laying aside however, all questions of inheritance, Morse was a born naturalist. W. H. Dall (*Science,* Feb. 5, 1926) states that at the age of 13, he had amassed "a notable collection of shells." His early training was in the common schools of Portland, but he also attended the Bethel Academy at Bethel, Maine, and the Bridgeton Academy at Bridgeton, Maine. After his father's death in 1860, his mother moved the family to Gorham, Maine, about nine miles southwest of Portland. He continued to live there until after he was married. Dr. T. S. Palmer has called my attention to a very interesting obituary notice in the *Maine Naturalist,* Vol. 4, pages 155 to 158. With it is a portrait of Morse at the age of 16, reproduced "from copy in library, Portland Society of Natural History." It appears from this article that he joined the Society at the age of seventeen, and that a year later he was made one of its board of managers. In 1866, the Society removed its quarters and Morse was engaged to install and renovate the collection. While he was engaged in

this work, the great Portland fire occurred and destroyed the building. Morse always was proud of the fact that he himself saved the portrait of Humboldt, painted by Wright and given to the Society by Longfellow.

Morse had joined the Society after leaving Bethel and Bridgeton Academies and, at about the same time, he was engaged as draftsman in the locomotive shops of the Maine Central Railroad. Apparently the most careful study that has been made of this formative period of Morse's career by a competent naturalist, is summed up by J. S. Kingsley in a very excellent article on pages 549 to 555 of the *Proceedings of the Academy of Arts and Sciences* LXI (May 1925-1926). I have already referred to the very excellent account by W. H. Dall, but that is shorter and says less of his very early days. And those must have been great days. The boy was earning his living, and more than that, he was saving his money to be used for a broader education soon. He was a draftsman and a good one, and that would help greatly in his future career as a naturalist. And he belonged to the Portland Society of Natural History, then in full swing. Here he came in contact with Dr. William Wood, Charles Fuller, and the Reverend Edwin C. Bolles, all enthusiastic naturalists, and encouraged by them, he began the study of land shells of the state. These studies soon brought him into correspondence with the leading conchologists of the time—Drs. Michaels, A. A. Gould, Amos Binney and his son William G., as well as others. In his spare hours, he visited the woods of the region and the islands of Casco Bay, and found there several new species of land snails, descriptions of which were published in scattered papers. The substance of all of these was brought together and published a number of years later in a well illustrated paper, issued in the first volume of the *Journal of the Portland Society* in 1864 (Kingsley).

I have little doubt that while working away at his draftsman's duties, and even more enthusiastically with his land shells and other things, at the Society, Morse had his eyes fixed on the Lawrence Scientific School at Harvard University, and its professor of natural history, Louis Agassiz, who held that position from the foundation of the school in 1848. At last in 1859, at the age

of twenty-one, he had saved enough money and went to Cambridge, arriving there at about the time of the laying of the corner stone of the Museum of Comparative Zoology, long known as "The Agassiz Museum." It is true that Mrs. Agassiz does not mention Morse in her two volume work on her husband, but he worked enthusiastically in the school from 1859 to 1862. Then he was made an assistant in the Museum of Comparative Zoology. Among his fellow students were Alpheus Hyatt, A. S. Packard, Jr., F. W. Putnam, S. H. Scudder, and A. E. Verrill, all to become more or less intimate friends and colleagues, and all to become famous men of science. Interesting lights are thrown on those early days at Cambridge in the published addresses by Morse and Packard at the Memorial Meeting of the Boston Society of Natural History on the death of Hyatt. They will be found in the Proceedings of the Boston Society, Vol. 30, pages 415 to 425.

F. W. Putnam was a resident of Salem, and was greatly interested in the so-called Essex Institute of that city. The Institute had founded a museum that contained large collections in natural history brought home through the years by the famous Salem ships. Putnam induced his fellow students, Hyatt, Packard, Verrill, and Morse to work at these collections, Morse on the shells, Packard on the articulates, Hyatt on the sponges and on geology, and Putnam on the vertebrates and ethnology. Whether they went to Salem to live a year or so earlier or later, makes little difference, but, when George Peabody gave the Institute $140,000 and the well known Peabody Museum was founded in 1867, all of them but Verrill (who had gone to Yale), were placed in definite charge of these subjects in the Museum.

In the early 1860's there was evidently trouble and some dissatisfaction, especially among the young assistants in the Museum at Cambridge. They were paid very little and were given no credit for their individual work during Museum hours. The Civil War was on and the whole country was greatly disturbed. Packard, for example, entered the northern army as an assistant surgeon in 1864 and saw service in Virginia. Burt Wilder also entered the northern army as an assistant surgeon. Morse went back to Gorham, nine miles southwest of Portland and on his

birthday, June 18, 1863, he was married. I am told by his son, John G. Morse, that he tried to enlist in the army of the north but was rejected on account of his teeth. Evidently they were not fitted for the biting of the cartridges so necessary at that time. He stayed in Gorham from 1863 to 1866, working hard on his shells, and at the Portland Society of Natural History doing much drawing on wood blocks for engraving and thus supporting his family. This information is sent me by John G. Morse, but Mr. L. W. Jenkins of Salem writes me that Morse was an assistant at the Cambridge Museum from 1862 to 1866.

At all events we find the group of ardent young naturalists all working enthusiastically in the Peabody Museum at Salem in 1867. And how they must have worked, and with what enthusiasm! The first edition of Packard's great "Guide to the Study of Insects" was published in 1869. Then also the four of them, a year earlier (1868) founded *"The American Naturalist"* which for ten years was published at Salem.

The founding of the *"American Naturalist"* was an important event in Morse's life and it was a high light in the progress of American natural history. The articles were sound, written by the best men in America, and they were understandably written; its policy was broad and its founders and editors were full of enthusiasm. It was well illustrated for that time, thanks largely to Morse's skill as a draftsman. Nothing of the kind, for example, has ever been better done than his full-page plate in black and white illustrating Packard's "Home of the Bees" in Vol. I (facing page 378). There is no doubt that this admirable magazine inspired and, in fact, made many young naturalists, some of whom were to become famous.

It was during this time that Morse entered the lecture field. It was the day of the lecture lyceums. He was a charming speaker, full of humor, of very broad knowledge, and he illustrated his lectures by extraordinary blackboard sketches. He drew admirably and rapidly and he drew with both hands at once—a bit of chalk in each hand. No other scientific lecturer had his facility in this way, and his talks were very popular. Evolution was becoming a greatly discussed subject at that time and Morse, like nearly all of Agassiz's best students, was an

ardent evolutionist, in spite of his great teacher's strongly expressed opinions.

It was probably because of the group of enthusiastic young workers living at Salem, that the 1869 meeting of the American Association for the Advancement of Science was held there. All of these men were on the local committee. In the absence of Joseph Lovering, Putnam acted as permanent secretary, and as we well know, four years later he was made permanent secretary, and held the office for nearly a quarter of a century. All of the group were always prominent in the great national association, but Morse was the first to reach the presidency. He was elected to that office in 1886 and read his address as retiring president at the New York meeting of 1887. It comprised an astonishing summary of the work of American naturalists on the doctrine of evolution.

And there soon came another striking event in the development of American biological science (or, call it, the study of natural history, if you like) and that was the summer school at Pennikese in 1873. There is no reason why we should spend many words here upon that wonderful summer. It was the first of the summer schools for naturalists ever held in this country and it has been written about and lauded in hundreds of journals. It was a marvelously fine and successful experiment. The young men and women who went there (they were limited to fifty) became, most of them, the great teachers and workers of the next thirty or more years. Of all that has been written about that wonderful summer of 1873, nothing that I have read is so good, so satisfactory, as David Starr Jordan's article in the *Popular Science Monthly* for April, 1922, entitled "Agassiz at Pennikese." Jordan himself was there—the youngest of the students. Morse was there as one of the teachers. What an inspiration for many years the memory of that summer must have been. The men of my generation have always envied them, and will continue to do so as long as any of us live. Agassiz died the following December and the Pennikese people gradually scattered. A very interesting article by Morse himself entitled "Agassiz and the School at Pennikese," will be found in *Science* of October 12, 1923, pages 273 to 275.

We might as well give here the record of the especial group of six we have been considering with reference to the National Academy of Sciences. Verrill and Packard were elected in 1872, Hyatt in 1875, Morse in 1876, Scudder in 1877, and Putnam in 1885. It is well known what all of them accomplished. Morse continued to work at Salem. He became a truly great museum man. In 1870 he was lecturer on zoology at the Maine State College at Orono, and from 1871 to 1874 he was professor of comparative anatomy and zoology at Bowdoin College. Bowdoin, by the way, gave him an honorary doctorate in philosophy in 1871, and many honors came to him rather rapidly. I have not space to list them here; they were very numerous. But they are given in some detail in "Who's Who in America," vol. 13 (1924-1925), and in "American Men of Science," 3rd edition (1921).

In 1875 the Appleton Company of New York published Morse's "First Book on Zoology." It was not a large book (190 pages), but it contains 158 numbered illustrations and some of these are reprinted in the final chapter "On Classes and Subkingdoms." All of the illustrations are from line drawings done by Morse himself. It was a book for young students and it was admirable. I wish that I might have had it at that time, for I was then in the middle of my course at Cornell. I am sure that it would have helped me greatly, but I never saw it until years later, although Burt Wilder, my teacher in zoology, was a fellow student with Morse at the time of the outbreak of the Civil War. The book was widely read and very flatteringly reviewed. It is perhaps an interesting sidelight on Morse's artistic tastes and reading that a quotation printed on the title page is from one of Hogarth's letters to Ellis.

This will be a good place to summarize Morse's Salem connections and positions. I owe the following exact statement to Mr. L. W. Jenkins, assistant director of the Peabody Museum:

"He joined the Essex Institute in 1864. He was: curator of Radiata in 1867; curator of the natural history department 1869-1872; curator of zoology 1876-1888; member of the council 1888-1893; vice-president 1894 until death; curator of science 1900 until death.

"He came to the Peabody Academy of Science (now the Peabody Museum) as assistant in 1867. He was curator of Radiata and Mollusca 1868 to 1870, director 1880 to 1916; director emeritus 1916 until death."

Now we must consider briefly just what Morse had accomplished scientifically down to the period when he was soon to go to Japan and shortly thereafter begin a line of work that led him far from natural history and absorbed in large measure the rest of his remarkable life. Dr. Dall in his all too short article in *Science,* to which we have already referred, says after mentioning his first paper on Brachiopods, 1862 ("a subject on which he later made notable contributions"). "His first paper to attract particular attention was devoted to some very minute land shells of Maine, illustrated by his own drawings, and proposing new generic names for several of them, based on anatomical characters. This paper, published in 1864, was the precursor of a long series of studies by Bland, W. G. Binney and Pillsbry which have revolutionized the study of the land shells."

Thus we have work published by a youngster still in his early twenties that sixty-one years later, with a thorough knowledge of the work and writings of the intervening period, Dall, a great master in Malacology says "revolutionized the study." This alone should establish a great reputation. But the Brachiopoda! He began to study this interesting group as early as 1860 or perhaps even earlier. Naturally being interested in shells, he first thought of them as mollusks, but later decided that on the contrary they belonged to the Vermes in spite of the shell. The old group Mollusca was being broken up and the terms conchology and conchologists were soon to be largely abandoned. Morse turned from a study and classification of shells into the study and classification of the animals that made the shells, and he was one of the foremost American workers in the field, recognized as such by all zoologists. His long paper entitled "The Systematic Position of the Brachiopoda" read before the March 19th meeting of the Boston Society of Natural History and published in volume 13 (1873) shows the depth and breadth of his knowledge of the subject and of the work of Leuckart, Gegenbauer and the

then recent European zoologists, and piles up a conclusive mass of facts and arguments.

Kingsley (Loc. cit.) has this to say about Morse's work in zoology:

"Possibly his most important papers were those relating to the Brachiopoda, a group which, when he began to study it, was all but universally regarded as Molluscan, rather closely related to the oysters and the clams. Almost immediately he saw the bearing of certain facts of structure, the significance of which had been overlooked by his predecessors. As these animals have two halves or valves to the shell, this resemblance to clams had been observed all along. Morse showed that this was not a true resemblance for the valves of the clam are right and left, while those of the Brachiopods are dorsal and ventral. Then he took up the study of the internal organs and the development of the eggs, making trips to Eastport and to North Carolina for his material. Every fact he found confirmed him in his conclusions, now universally accepted, that these animals are far more closely related to the common earthworm than to any mollusk. Less striking, but important was his study of the ankle bones of birds, in which he showed that a slight splint was in reality one of the separate bones which occurs in the whole group of reptiles."

But, as his studies of the Brachiopods proceeded, he found that he needed to study many more forms. He had been to the Bay of Fundy, to the Gulf of St. Lawrence and to Beaufort, North Carolina, and only one species was to be found at each of these places. But thirty or forty species were known to occur in Japanese waters. So he went to Japan and established a little seaside laboratory. He had been there only a few days when a professor from the Imperial University called and told him that he had heard him lecture at the University of Michigan and invited him to give the same lecture before the students at Tokio. He countered Morse's statement that he couldn't speak a word of Japanese by the statement that all of the students had to know English before they were admitted to the University. The lecture must have been a great success, for in two weeks he was offered a two years' engagement as professor of zoology. As his public lectures in the United States had been arranged for the coming

winter, he had to stipulate for a five months' leave of absence from Japan which was arranged. It is interesting to note that during that absence, he collected 2500 books and pamphlets for the Imperial University Library. And first he arranged for the University to start a seaside laboratory at Enoshima and I am interested to know that my old-time fraternity brother at Cornell, Riokichi Yatabe, then teaching botany at Tokio, accompanied him on his arrangement trip.

Coburn says "Morse opened a laboratory at Enoshima and was invited to teach zoology at the Imperial University. His tenure of professorship (1877 to 1880), witnessed the introduction among the Japanese of modern methods of collecting and classifying objects of natural history. From the train between Enoshima and the capitol, Morse's keen eye detected some shell heaps ignored by the native savants. His excavations of these kitchen middens with their prehistoric artifacts was an epoch in the annals of anthropology. While visiting Yezo and the Hokkaido, Morse first saw the Ainos and perceived their probable kinship with the brunette white races."

In his teaching of zoology he met with the greatest success. All of us who knew him can readily understand the vivid interest he aroused in the extremely clever and ingenious Japanese students. It has been said that the world owes directly to Morse the admirable scientific careers of Mitsukuri and Ishikawa, and a long line of distinguished students followed, among whom Kingsley mentions Watase, Oka, Goto, Myabe, and Yatsu, and there was a small army of others. In the preface to his delightful "Japan Day by Day" (Houghton Mifflin and Co., 2 volumes, 777 illustrations, 1917), Morse distinctly states; "I first visited Japan solely for the purpose of studying various species of Brachiopods in the Japanese seas. While pursuing my work in a little laboratory established at Enoshima, I was invited by the educational department to take the chair of zoology at the Imperial University."

The little seaside station at Enoshima was one of the first marine biological laboratories in the world. Possibly Naples, Woods Hole, Roscoff, and Sebastopol, preceded it a bit, but the long list beginning with La Jolla came much later. It was primi-

tive and small, but the living aquatic material was superabundant. Morse bubbled over with delight at the mass of interesting specimens brought in. Mitsukuri, sent down from the University with his expenses paid, worked with him almost from the first. In "Japan Day by Day," Morse has in volume one a chapter (VII) entitled "Collecting at Enoshima." Of this chapter not more than a half dozen of the thirty-seven pages have anything to say about collecting, and yet the book is based closely on his daily diary kept through his three visits to Japan. Does that not indicate how Japan and its strange and admirable people and customs were arousing in him interest even stronger than his interest in zoology? In asking this question perhaps I do him an injustice. He may have culled from his notes only such things as he thought would make up a book interesting to most people, and there may have been loads of interesting and important zoological notes that he did not use.

But when we come to think of the matter very carefully, it is not difficult to see that, entirely aside from the great interest aroused by the absolutely novel environment—an interest especially keen in a man of Morse's overflowing enthusiasm, there were very sound, even weighty, reasons why Japan, its art, its strange culture, were allowed rapidly to absorb more and more of his deep interest and to push zoology into the background temporarily. I write this word "temporarily" with full intention. I know that Morse never lost his keen interest in zoology. It continued to the end, and, as will be seen, from the appended bibliography, he continued to write on zoological subjects, naturally less frequently than in his early manhood, but quite until the year of his death. All through his life I really think that he thought that he was (as he therefore actually was) an ardent naturalist drawn away for the time being by the art and anthropology studies that thrust themselves upon him. He could not neglect his marvelous opportunities as did many of the foreign scientific men who were brought to the Imperial University to teach in those early days. His very last paper published the year of his death, was a scientific paper having to do with shells. I am sure that he was influenced by the extreme views of his friend, Dr. William Sturgis Bigelow, on

this subject; at least it must have helped him to think of them whenever he was troubled by doubts. In fact, Morse writes in the preface to his "Japan Day by Day," that the book would never have been prepared for publication had it not been for a letter from Dr. Bigelow. Morse wrote him that he had a long leave and would finish a number of studies on Mollusks and Brachiopods and received the following reply:

"The only thing I don't like in your letter is the confession that you are still frittering away your valuable time on the lower forms of animal life, which anybody can attend to, instead of devoting it to the highest, about the manners and customs of which no one is so well qualified to speak as you. Honestly now, isn't a Japanese a higher organism than a worm? Drop your damned Brachiopods. They'll always be there and will inevitably be taken care of by somebody or other as the years go by, and remember that the Japanese organisms which you and I knew familiarly forty years ago are vanishing types, many of which have already disappeared completely from the face of the earth and that men of our age are literally the last people who have seen these organisms alive. For the next generation the Japanese we knew so well will be as extinct as Belemnites."

The point made by Dr. Bigelow appealed to Morse as "overwhelming and unanswerable," and he laid aside his plans of work on the sea animals and put together his voluminous notes on the Japanese for his charming two volume work. I think that he must have found a consolation also in the final paragraph of a letter he received from Charles Darwin which read: "Of all the wonders of the world the progress of Japan in which you have been aiding seems to me about the most wonderful." (See "Life and Letters of Charles Darwin.")

Morse often spoke of his "three trips to Japan." As a matter of fact his first engagement with the Imperial University covered two of these trips since he first went over in 1877. He returned to the United States in 1878 for five months to fulfill his lecture engagements, returned to Japan in the same year and returned to his own country in 1880. And his mind was full of Japan. He gave many lectures (including a course

before the Lowell Institute in 1881) about the country, its people, and its arts, and apparently he did little with his formerly beloved Mollusks and Brachiopods although he published several broad scientific papers. Japan was constantly in his mind and in 1882-1883 he was able to return there. It was largely to this third journey that we owe his delightful book "Japanese Homes and Their Surroundings" (Boston 1888), the preface to which he wrote in Salem in 1885. This book is the result of a wonderful and very intimate study of the Japanese home of that time, illustrated by more than three hundred of his remarkable line drawings and carrying an elaborate glossary and index. It must have permanent and very high value as an extremely close and enlightened study of certain important aspects of the "Kultur" of a rapidly changing race.

Soon after his first arrival in Japan, Morse became interested in everything bearing on the ancient culture of the people. This was shown in the epoch making discovery and excavation of the Omori kitchen midden. Implements and pottery were found there. In 1878 he wrote that he was starting a collection of pottery. This is what F. S. Kershaw, Keeper in the Department of Chinese and Japanese Art in the Boston Museum of Fine Arts wrote in the *Bulletin* of the Museum for February 1926:

". . . the sequel proved him a 'natural born collector,' whose ardor for the kinds of pottery he wanted never diminished. The kinds he wanted are those bearing potters'-marks and specimens from every kiln and for every kind of use, all in the tradition of that old Japan of which he so keenly lamented the passing. His means were modest, but his acumen in searching the records, his persistence in following clues, his extraordinary tactual and visual memory and his capacity for making friends stood him in good stead. Within nine years it could be said of his collection with truth that it surpassed any other in number of specimens and that it was by far the most widely representative of the potters of Japan, of their kilns, the forms of pottery they made, and the provinces in which they lived."

In 1890 this great collection was deposited with the Boston Art Museum and two years later the Museum bought it, Morse

being made Keeper of Japanese Pottery and holding the office for the rest of his life. At the time of this appointment he was Director of the Peabody Museum at Salem and of course retained that position. As Kershaw has pointed out ". . . he was thus enabled to use his wide knowledge of Japan, ethnological and artistic, to the advantage of both institutions." In Salem he brought together a department in the Museum illustrative of the manners and customs of the Japanese. In Boston he was working on the preparation of his monumental "catalogue of Japanese pottery."

But during these years, he was also doing many other things. He was one of the most active men alive. In 1902, he published a book entitled "Glimpses of China and Chinese Homes" and in 1906, another called "Mars and Its Mystery." That he should have written the first of these seems natural enough after the success of his volume on "Japanese Homes and Their Surroundings" published sixteen years earlier. The same characteristics made the book on China most interesting. It was illustrated by very many of Morse's charming pen and ink sketches, reproduced directly as he states, from his note books. There are sixty-six of these sketches all drawn with that unusual combination of artistic appreciation and scientific accuracy so characteristic of the man. In his introduction he points out that most of the material appeared first in a series of articles in the *American Architect* under the title "Journal Sketches in China." It was largely on the basis of this work that he was elected a member of the American Institute of Architects and an honorary member of the Boston Society of Architects.

The volume on "The Mystery of Mars" was acknowledgedly written "for the general reader." Morse's attention to the subject was attracted by the controversies then rife with regard to the strange markings on Mars and largely by the announced discovery and interpretation concerning Mars originating from Mr. Percival Lowell and his personally founded observatory at Flagstaff, Arizona. Morse had known Lowell for many years. They had both lived in Japan and had written about that country and its customs. Moreover, Morse had visited the Lowell Observatory and every night for thirty-four consecutive

nights, he was in the observer's chair, several times each evening, making his own observations of Mars and his own sketches of what he saw. We never thought of calling him an astronomer, but he was a scientific man and a student, and he made a deep study of everything that had been written on the subject and brought it all together in a very readable book of about two hundred pages. The book was taken seriously and was read not only by very many intelligent people, but by astronomers all over the world, and that he was elected to honorary memberships in the astronomical societies of France and Belgium was due solely to this book.

The publication, however, on which he spent his most serious labor, and of which he was very proud, was his great "Catalogue of Japanese Pottery" first published in 1891. It was "scholarly, discriminating, and readable" (Coburn). Later it was translated into Japanese and published by the Japanese Government.

We have now finished our necessarily short account of his main activities. But Morse was a man of very many sides. He published articles on many subjects, and was a very frequent writer to the newspapers on current and other topics. I think that the *Boston Transcript* and its readers must have missed him greatly. Coburn lists archaeology, anthropology, architecture, ceramics, ballistics, folk-lore, astronomy, music, archery, and numismatics. And his articles were never superficial or casual. It will be impossible for any man of the present generation who did not know him personally to form any idea of the extraordinary charm of his personality. To hear him lecture was to be very greatly interested and impressed, but to sit down and talk to him would make him your loved and admired friend for life. He had a very keen and very beautiful humor that was apparent to almost everyone, from those of high position down to the street laborer. I remember once at a big National Academy of Sciences dinner at New Haven, I arrived early and found ex-President W. H. Taft sitting alone in the anteroom waiting for the company. I joined him and we talked a bit on the non-exciting subject of genealogy of the Howard family (Taft's grandmother was a Howard). Then

the door opened and in came Morse. The ex-President said with great relief: "Here comes Morse! Ask him over to tell us one of his fine stories."

There is no doubt about it; Morse was one of the most interesting and remarkable Americans of his period. Dr. Dall's closing words (*loc. cit.*) may well be quoted:

"The salient characteristics of Professor Morse, apart from his devotion to science and love of the beautiful in art, was his boyish enthusiasm which captivated all who knew him. The versatility of his interest was unbounded, his love of fun overflowed at every opportunity; to meet him was to find a welcome. The world was brighter for his presence."

A. P. Morse of the Peabody Museum writes apropos the extended bibliography of E. S. Morse to which we have referred the following very apt statement: "Professor Morse's contributions to the daily press were frequent and numerous on all such subjects as would naturally be grouped under the head of civics, including art, customs, economics, education, ethics, government, politics, religion, health matters, and, especially in his later years, noise. Morse was a many sided man who found the world an extremely interesting place in which to live and who did his best with notable success to make it even more so for his fellow sojourners."

Professor Morse's closing years were spent at his home at Salem. His son writes me that he was very active up to the time he was eighty-five years of age, then they began to notice a marked change, he was becoming decidedly hard of hearing and his memory failed him in small things, although he recalled perfectly scientific facts and the important things of past years. He stayed at home and was sitting in his arm chair in his library when he had a stroke. This was on the 16th of December, 1925. Four days later he passed away. He had been unconscious during all four days.

The writer of this biographical sketch acknowledges that when he took up the task, he, as a member of the National Academy of Sciences had the idea that most of the published notices about Morse had not given enough attention to his major work as a biologist—a man of science—and that that

aspect of his life should be displayed more prominently. But now looking over his whole career, it is well that he led his life as he did. It was not a pity that he allowed himself to go off into his oriental studies. It was not a pity that he did not take them up at the start. He led two men's lives and accomplished results that could hardly be accomplished by two resourceful, ardent, magnetic and forceful individuals. So it is a very remarkable, almost unique character we have been considering.

Acknowledgments. The writer has been greatly assisted by Mr. John G. Morse of Ripley Hill Road, Concord, Mass., son of E. S. Morse. He has sent me much information, has answered many questions. Mr. L. W. Jenkins, Assistant Director of the Peabody Museum, and Mr. A. P. Morse, Curator of Natural History, have also been very helpful. I have also had information from Mrs. Mary B. Clarke, Professor Morse's sister, who lives at Gorham, Maine. Mr. F. W. Coburn, of Lowell, Mass., who wrote the admirable account of E. S. Morse in the Dictionary of American Biography, has also written me a delightful and very informative letter. And Miss Mabel Colcord, the very able librarian of the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture at Washington, has been of great assistance in bringing together for my reading, literally scores of books and publications that have been used in preparing this account. I am also indebted to Miss Emma Stephenson of the Yale University Library for several references.

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