

REPORT OF THE COUNCIL.

SINCE the last meeting of the Society it has sustained the loss by death of two distinguished members: Benjamin A. Gould and Francis A. Walker. The memorials which follow have been prepared by their respective intimate friends, Andrew McF. Davis and Henry W. Haynes.

The Council will present, at a later day, a report of their action in connection with other societies, which has resulted in the return of the Governor Bradford Manuscript from its former resting-place in the library of the Lord Bishop of London to the custody of the Commonwealth of Massachusetts.

Benjamin Apthorp Gould, Ph.D., LL.D., was born in Boston, September 27, 1824. His father, for many years a teacher there, is remembered to this day in consequence of his faithful work, as well as through literary contributions of a professional character. Hannah Flagg Gould, the well-known poetess, was his father's sister. Of the poems of his aunt, Dr. Gould said: "They are characterized by a cheerful, frolicsome spirit, and earnest piety." These words, true of the poems, are also strikingly appropriate in descriptive application to the Gould of his later years, whom many of us knew; incomplete and merely suggestive as a description, it is true, sufficient however in themselves to call to our minds the brilliant conversationalist, who was ever ready to enliven his talk with a merry jest, but whose profound religious convictions could not fail to impress themselves upon all whom he met.

Would we add to the features of the *companion* thus disclosed, the elements which made the *man*, we can turn again to his own writings and from the pages devoted to a sketch of his friend Rutherford, quote the chief mental characteristics which impressed the eulogist. They were, "clearness of comprehension, independence of judgment, and unselfishness of purpose." What Gould specially admired in Rutherford was eminently characteristic of himself.

Dr. Gould entered Harvard College, and was graduated there in 1844. We have the assurance of one of his classmates that he did not in the earlier part of his collegiate course display any especial predilection for mathematics. On the other hand, he was not only fond of the study of the languages, but would, upon occasion, recite page after page from the writings of favorite classical authors. His earliest college part was a Greek version, the subject being Pericles the Athenian. While his fondness for the classics at that period of his career may be freely admitted, of which there was indeed abundant evidence in his conversation in later years, yet the fact must not be overlooked that he pursued the course of pure mathematics throughout his four years at Cambridge. From this, the true bent of his mind may fairly be inferred. At any rate, by the time that he became a Senior, the selection was determined in his mind, and during the last year of his connection with the College, he devoted himself almost exclusively to the studies which were to form the basis for his work in after life. After graduation he held for a short time the position of head-master of the Roxbury Latin School.

In July, 1845, Gould sailed for Europe for the purpose of pursuing the study of astronomy under the guidance of the recognized authorities of the world. The boldness of this step can only be measured by recalling the condition of scientific study in this country at that date. If it be true, as has been asserted, that up to that time the instance of a man devoting himself to a life of purely scien-

tific research, without assurance of a professor's chair, and not as a means of livelihood, was in this country unknown, then we can appreciate the earnestness of purpose and the love of science which dictated this hitherto unparalleled course of action.

His life in Europe, for the next three years, was divided between Berlin, Göttingen, Altona, Gotha, Greenwich and Paris, a year each being spent at the two first-named places and shorter periods at the others. He contracted friendships at that time which associate his name with a distinguished set of men who were then passing off the stage, and the orderly arranged set of letter-books which he left behind him contains treasures from the pens of these great men, available for whomsoever shall edit his correspondence. Among these distinguished men was Alexander von Humboldt, then seventy-six years of age; and it appears from contemporary correspondence, that it was due to the friendship then established between the veteran scholar and the young student, that the latter was received as an inmate in the household of the great master of modern astronomy, Gauss, who was then in his seventieth year. Passing from observatory to observatory, Dr. Gould carried on his studies under the supervision of the leading astronomers of the day, and the friendships then established were cemented by community of interest, and endured throughout life. The young, talented American, who thus became associated with this coterie of learned men, was thenceforth to maintain familiar and friendly intercourse with all European students who could claim distinction in his chosen field of work, as they successively established their claims for recognition. In 1848, he returned to this country, intellectually prepared for his work, and stored with a rich freight of friendships, adequate, it would seem, to console a man in times of despondency, and to enable him to bear with patience delays in the development of his plans for the future if they should not fructify as quickly as he had hoped. Affairs,

however, did not move fast enough for one so young, and as he was not able to see his way clear to the realization of his hopes, he became discouraged. It was at this time that an event occurred which his pupil and friend, Seth C. Chandler, declares to have been not merely an episode in his career, but an epoch in American Astronomy. While he was thus lying on his oars, waiting for the opportunity to present itself for which he had been preparing for years, he was tendered by his old teacher, the great astronomer Gauss, the chair of Professor of Astronomy and Director of the Observatory at Göttingen. There can be but little doubt that this was the first instance of so great a compliment being paid to an American. His friends Peirce and Agassiz strongly urged him to accept, and it is easy to conceive that under the adverse circumstances which seemed to impede his progress at that time, the opportunity thus offered must have been full of temptation. He made up his mind, after mature consideration, not to accept the position. So earnest however was Gauss in his determination to secure Gould at Göttingen, that the offer was renewed after it had been declined. It is difficult for us who know him only as an American, full of intense patriotism, affiliated with numerous patriotic societies, and dwelling with pride upon his New England ancestry, to conceive of him as one of the staff of a German University, contributing his work to enlarge the record of a foreign land. Yet that was what came very near taking place. The second offer came at a time when he was despondent and in a state of physical weakness. He had outlined for himself an astronomical career, and hoped to be able to devote his time exclusively to the pursuit of this science in America. He had already begun his work in that direction by establishing in 1849, the *Astronomical Journal*, a periodical devoted to original investigations, which he was then publishing at his own expense. No place in this country seemed to be open for him, while that offered him at Göttingen was

ideal. The honor of being called to a chair in that University was great. The only thing wanting to make the offer complete and satisfactory was that it should have been in America. Fortunately for us, although at one time he had actually made up his mind to go to Göttingen, he ultimately determined to abide by his first decision. In 1852, he was appointed to take charge of the longitude determinations of the Coast Survey. He retained his connection with this department of government service until 1867. Bache and Walker had begun the application of the electric telegraph in these calculations, and this method he extended and developed until he had fixed the longitude of a number of places in the United States with almost absolute precision.

In 1855, the management of the Dudley Observatory at Albany, was committed to a council composed of men distinguished for their scientific attainments. Gould was appointed Director of the Observatory, a position to which no remuneration was attached. He remained here until 1859, during which time he became personally responsible for the expenditure of large sums, in the equipment of the Observatory according to the most approved methods of the day. His retirement from this position was attended with a controversy characterized by the use of much intemperate language. In this contest he achieved the reputation of being one who could defend his rights with vigor, and although technically unable to carry the point for which he contended, his scientific friends bestowed their sympathy upon him, and he retained their confidence to the end. It must have been a satisfaction to him to know that his successors profited by the battle which he fought.

He began a series of publications about this time, technical in character, and of no interest to the general public, but which were pronounced by competent judges to have been the most important contributions to the literature of Astronomy as yet produced in America.

In 1861, he was married to Mary Apthorp Quincy, a daughter of Hon. Josiah Quincy, by whom he had five children, three of whom survived him. This union was based upon mutual esteem and affection, and the softening influence of this gentle, gifted woman upon his life, can be traced through his career thereafter.

In 1862, he was appointed to reduce and compute the astronomical observations made at the Washington Observatory, and he was active both that year and the next in promoting the establishment of the National Academy of Sciences, of which he was an original member. He was also at this time engaged in the reduction of D'Agelet's observations, the publication of which in 1866, redounded greatly to his credit, and augmented his already-established European reputation.

In consequence of the outbreak of the war, he was compelled in 1861, to stop the publication of the *Astronomical Journal*. In making the announcement of the suspension of this periodical, he said: "No American is able to investigate or study now with the calmness which success requires. The energies of every citizen deserving of freedom are needed by his country, and those who may not fight against armed treason may at least assume the burden of those who do.

"There is but one mode of laboring for cisatlantic science today, namely, by struggling for the maintenance of civilization against barbarism in the Western Hemisphere, and this leaves little opportunity for astronomical research."

In June, 1864, he was appointed Actuary of the United States Sanitary Commission, and his attention, which had been for the time diverted from his special field of labor, was temporarily directed to the study and analysis of military and anthropological statistics. He deduced from these studies certain formulæ as to the relation between the ages of the soldiers and the distribution of the population. He examined the laws of growth in the human stature, and

the relations of height and weight, and sought to establish the typical proportions of the human body. The field of these investigations was greatly curtailed by Secretary Stanton, who withdrew the privilege of access to the statistics of the War Department, and thus prevented the continuance of certain other interesting examinations then in progress. Dr. Gould's conclusions are said to have been corroborated by subsequent observations. The results of his labors were published by the Sanitary Commission.

In 1864, he built an observatory in Cambridge, which he equipped with a transit, where he carried on a series of observations during the next three years. For the pecuniary means of carrying through this work, he acknowledged with affectionate gratitude that he was indebted to his wife. Profoundly conscious of his needs and of his aspirations, she placed at his disposal a sum adequate for his purposes.

The successful completion of the transatlantic cable furnished him an opportunity in 1866, to apply the methods of determining longitude which he had employed in the Coast Survey, to a connection of the system of this country with the European system, which extended from Valencia to the Ural mountains. For this purpose, he visited Valencia, and made a careful study of the velocity of galvanic currents in submarine cables.

He was also engaged, about this time, in the reduction of Rutherford's set of stellar photographs, in which work he is said to have been a pioneer. His quick intelligence led him to appreciate the value of photography as a means of astronomical measurement, and his careful methods produced acceptable results.

His readiness to make use of any means furnished by the progress of science in aid of his work was shown, as we have seen, by the application of the electric telegraph and the Atlantic cable to geodetic determinations as well as by his availing himself of the photograph as an

instrument for astronomical measurement. In all this there was, perhaps, a distinct indication that Gould was a typical American, unhampered by prejudice and not fettered by conservatism. Such appears to have been the view of M. Lœwy, who pronounced his eulogy before the French Academy of Sciences on the 11th of January, 1897. Treating of this point the speaker said, "*Gould a fait preuve au plus haut degré, dans toute sa carrière scientifique, de cet esprit d'initiative hardie, si prononcé et si fréquent chez les habitants de nouveau monde.*"

May 28, 1870, he left Boston for Buenos Ayres, by way of Europe, taking his family with him, with the intention of organizing an observatory in the Argentine Republic, where he could observe and map the stars of the Southern Celestial Hemisphere. This project was one which had long been dear to his heart, and so far as his original plan was concerned, was not expected to occupy his time longer than three years. When it first seemed probable that it could be accomplished, it was through the promise of assistance from a number of friends in Boston, who agreed to contribute the necessary means for the maintenance of the expedition. Fortunately, the support of Mr. Sarmiento, the Argentine Minister to this country, who was afterward President of the Republic, led to the foundation, under Gould as Director, of a National Observatory, at Cordoba. "It is impossible," says one thoroughly competent to speak, "in brief space to describe or characterize the marvellous work here undertaken, and so faultlessly pushed to completion, by Dr. Gould, during the fifteen years of self-imposed exile from his native land, with unflinching devotion and energy, in the face of difficulty and domestic bereavement."

In connection with the astronomical investigations which Dr. Gould had specially under charge, his services were secured by the Argentine Republic to organize and establish an extensive meteorological service. During the fifteen

years which were devoted to the great work with which his name is specially associated, he three times visited his native land. The first time was in 1874. His labors were interrupted in February of that year by an overwhelming domestic calamity. The loss of his two eldest children by drowning, compelled him to abandon his avocations, and with his wife to seek some distraction from the grief which prostrated him, and paralyzed his energies. A public welcome was given him, on his return to Boston, at which he described the progress of his work in South America up to that date. In 1876, he made another short trip home, and in 1883, he returned with his family to Boston. On the 23d of June, 1883, his capacity for endurance of affliction was again tested by the loss of the wife to whom he was so tenderly attached. He was always ready to admit the encouragement and support that he had received from her sympathetic appreciation of his work. In the dedication of his Catalogue of the Southern Stars he bore testimony to the sympathy, self-sacrifice and practical assistance received at her hands, through which, as he said, the work had been made possible. The tender feelings of affection which united these two, breathe through every line of this dedication and mark it as one of the most beautiful tributes to be found in our literature.

His work at Cordoba was still unfinished, and he was constrained to return alone and prosecute the same to completion. The year in which he hoped to see his labor finished was drawn out to twenty months, and it was not until April, 1885, that he finally returned to this country, bearing with him about 1,400 photographic plates of Southern stellar clusters, the measurement and reduction of which was to be the principal occupation of the remainder of his life. A public dinner was tendered him after his arrival at Boston, over which his friend Hon. Leverett Saltonstall presided, and at which Dr. Holmes, his favorite poet, read a characteristic poem, welcoming him on his

return from his "celestial wanderings back to earth."

He was enabled, in 1885, to revive the *Astronomical Journal*, one volume of which was published annually thereafter down to the time of his death. With thoughtful consideration he made provision for the future maintenance of this periodical. It was his earnest desire to see through the press the results of his labor in South America. This desire was practically granted to him, as the last volume of his great work reached Cambridge a few hours before his death.

During the latter years of his life he was much interested in the advocacy of the metric system, which he hoped to see adopted throughout the world. He was a member, for the United States, of the International Committee of Weights and Measures, and in that capacity, and as President of the American Meteorological Society, he delivered addresses upon this subject. His description of the manner in which the international prototypes were prepared, so that uniformity in the standards of the meter and the kilogram might be secured throughout the world, is extremely interesting.

The work was carried on by the committee at Paris on land which was declared by the French Government to be International Territory. Those who have not examined the question cannot comprehend what Dr. Gould termed "the refined accuracy of the results." "Problems," he said, "of high physical importance, which had previously baffled investigation, have here been solved by the Bureau itself, or at its instance by specially competent investigators." Balances were prepared of a delicacy previously deemed unattainable. Metals were obtained in greater purity than had ever been hoped for. Optical methods were devised for securing minute exactitude in linear measurement, by the interference of light waves of different length. Improvements were made in barometers and thermometers, and in apparatus for securing the maintenance

of any desired temperature. In short, to quote Dr. Gould's words, "it may fairly be asserted that there is no branch of science or the arts connected with the work of this Bureau, in which important advances have not been attained in consequence of the demands made upon it." In all this Dr. Gould took a laudable pride, and in much of it he took a hand. In some instances he had prejudices to overcome before he could carry his points, but in the end his great influence prevailed.

His health, at the time of his return to this country, had been seriously impaired. He was, however, able to derive much enjoyment from life. His social disposition prompted him to renew the associations of his youth, and his recognition of the obligations which he owed to the various societies of which he was a member, led him to attend faithfully all meetings where it was possible for him to be present. He was much interested in the subject of colonial ancestry, and was one of the founders and the first President of the Colonial Society of Massachusetts, an organization based upon colonial ancestry, whose purposes are to propagate knowledge of the deeds of these ancestors, and to cultivate good fellowship between their descendants.

On the evening of Thanksgiving day, November 26, 1896, he met with an accidental death. The life-labor that he had set for himself was practically finished. If perchance, some gap in his work should hereafter be discovered, his orderly habits were such that his manuscripts were left in perfect arrangement, so that some competent successor will have but little more difficulty than he himself would have had in supplying the deficiency.

He was elected a member of this Society in April, 1892. His head was then crowned with laurels of recognition received from both sides of the Atlantic. Nineteen lines are required in the quinquennial catalogue to recapitulate the honors conferred upon him, which were substantial enough for recognition by Harvard. To the well-earned

Doctorate of Philosophy which he had borne from Göttingen in 1848, Harvard and Columbia had each added an LL.D. The list of learned societies which had sought to include him in their membership included some of the most famous in the world. Among them were, The Royal Society, London; The Royal Astronomical Society, London; The Academy of Sciences (Institut de France); The Imperial Academy of Sciences, St. Petersburg; The Royal Academy of Sciences, Berlin; The Royal Society of Sciences, Göttingen; The Royal Academy of Sciences, Vienna; The Bureau of Longitudes, Paris; and in addition to membership in these societies he had been appointed a Knight of the Order of Merit, in Prussia. This last distinction is one that has been rarely conferred in Europe. Two fellow Americans, George Bancroft and William Dwight Whitney, share with him the honor of having been admitted to this order.

Beside being a member of this Society, and the President of the Colonial Society of Massachusetts, he was at the time of his death a Vice-President of the Academy in whose hall we hold this meeting. He was also a member of the New England Historic Genealogical Society, and had served several years as a member of the Council of that Society. His connections with local scientific societies in this country and in Europe, as an honorary or associate member, were too numerous even for mention.

In 1854, he became interested in the study of his own ancestry. When he went to South America in 1870, he deposited the manuscripts which he had accumulated upon the subject of the Gould genealogy in the Essex Institute. They were published in instalments during his absence. Of the character and results of this work he himself said: "During these sixteen years the town, church and county records of New England have been laboriously and extensively scrutinized, and such opportunities as have been found for obtaining information from special family records have been improved, until the results of this investigation,

which at the beginning was prompted by personal curiosity alone, have attained a magnitude that confers upon them an interest of much wider range." This work, originally prosecuted at a time when he was absorbed in his special pursuits, was taken up again on his return to America, and "The Family of Zaccheus Gould of Topsfield" was issued under his personal supervision in 1894. This book bears the marks of the painstaking, conscientious work which he threw into all his undertakings.

It was natural that the Society of which he was practically the founder, and of which he was at the time of his death the President, should take especial notice of this last event. A memorial meeting was held, and there were present as speakers, three of his classmates. Perhaps the most conspicuous feature of this melancholy occasion was the affectionate character of the reminiscences of his friends and the manner in which they dwelt upon the constancy with which he adhered to the friendships of his early years. One of the speakers, who described himself as the pupil, assistant, associate, and friend of thirty-four years, who, from the exalted station that he holds in the field of astronomical labor, may be regarded as an authority, said with reference to the rank which would be assigned to Dr. Gould by posterity, "With a due sense of responsibility for a calm judgment of the place which Gould will take in astronomical history, I am willing to say that it is scarcely possible to place this too high." Other speakers dwelt upon his personal characteristics and accomplishments; his familiarity with modern languages, which comprehended a capacity to speak and write easily in German, Spanish and French, beside a slighter knowledge of two or three other languages; his cordiality of manner; his brilliant wit and his readiness to avail himself of any opportunity to enliven the occasion by some light and happy turn of the conversation.

The resolutions adopted on that occasion refer to the

honors which had been showered upon him, in the following language: "Happily born and bred, he counted always among his friends and intimates some of the ablest men of his time, and he was sought after, as a member, by learned societies in many countries. Such distinctions were the more honorable to him as coming to a man of an unusually outspoken and even aggressive independence of character and thought, never afraid to speak his mind and never to be attacked with impunity." They refer in another paragraph, to the fact that he "had suffered grievously in his early life from calumny and injustice, and afterward from the saddest bereavements in his home," and still farther on sum up the effect upon him by his various trials in the following words: "The experiences of his life had not embittered him; they seemed, rather, to have softened him, and to have added to his old, engaging qualities of wit, hospitality of thought, and hearty sympathy, a still wider range of appreciation and kindly charitable judgment."

These extracts seem to me fitly to portray the Dr. Gould whom the members of this Society knew. He had still the same sharply defined opinions of right and wrong as when he entered the lists in the controversy connected with the Dudley Observatory; he had still the same independence of character which led him to throw aside personal considerations in the determination of his opinions; he was still positive in his likes and equally positive in his dislikes, and was still unable to forgive one who had deceived him or whom he thought to have told him that which was not true, but he was no longer anxious or even willing to champion abstract questions of right, or to attempt to enforce reforms, at the expense of his peace of mind and to the detriment of the work upon which he was engaged. His ambition was satisfied, and no position at the hands of the government, or of any college or university, could add to his fame. There was, however, one place that in the interests of Science, he would even then have taken—that of Superintend-

ent of the Observatory at Washington, and that only with the stipulation that he should be relieved of the responsibilities of the office in a short time, so that he might return to the peaceful life which had become dear to him.

Few of us who were admitted to share his social instincts in his comfortable home in Cambridge but bear away some reminiscences of the light and happy way in which he constantly enlivened the conversation and maintained his reputation as host. Professor Thayer tells of an application that he made to Dr. Gould for an exact translation of a Spanish sentence. This was promptly furnished, and in reply to a question as to his familiarity with the language, he said, "Oh yes; for fifteen years I talked in Spanish, and all I wrote was in Spanish. Spanish," he gravely added, "and Arabic." Mr. Thayer having expressed some surprise at this unexpected familiarity with an unusual language, Dr. Gould pointed to a book shelf and said, "I published several quarto volumes almost wholly in Arabic. Look at them." The volumes proved to be filled with tables of Arabic numerals.

His widely diversified experiences of life, and his extensive travels, furnished his memory with an abundant store of incidents of interest which had occurred in his presence, and events, some of them of historical importance, which he had witnessed, and from this store he was wont to draw when in the mood for the entertainment of his friends. I well remember how much I was interested in the story which he told me of his travels in Europe, in 1848, as he moved about, from revolution to revolution, finding himself by chance in contact with nearly all the important incidents of that eventful year.

The foregoing has not served its purpose if it has not conveyed the impression that Dr. Gould was liberal almost to a fault. The publication of the *Astronomical Journal*, the expenditures in behalf of the observatory at Albany, the maintenance of his own observatory at Cambridge,

furnish evidence enough upon this point. His benefactions were mainly bestowed in support of the science to which he devoted his life, and in addition to those already enumerated, there were others in the same general direction which were of a personal character. There are students now living, in whom he saw promise, and with whose tastes he sympathized, whose way through Harvard College was made easier through his generosity. He could not bear the thought that diligent American students in his favorite science should fail to profit to the utmost extent through their connection with the German Universities, and when it came to his knowledge that any such were prevented by lack of means from joining societies, the affiliation with which was of importance to them, he caused the accomplishment of this desire to be placed within their reach, without knowledge on their part of the source from which the aid had come.

Notwithstanding the fact that Dr. Gould contributed many volumes to astronomical literature, written in several languages, I have avoided mention of them even by title, owing to my inability to express any opinion as to their merits, based upon original knowledge. In what I have said concerning his work, which may seem of a technical character, I have been guided by the opinions of others in whom I have trust, and I desire in this connection to acknowledge my obligation to Mr. Seth C. Chandler, whose kind assistance has greatly aided me.

Dr. Gould's career at the time of his death was fully rounded out. The work that he had set for himself was completed. But for the unfortunate accident which terminated his career, he might have been spared to us for many years. To his friends this would have been a blessing, but notwithstanding the fact that his capacity for work was still great, it is hard to conceive what greater fame could have been in store for him. The story of his life was already written.

A. MCF. D.

Francis Amasa Walker died suddenly, in Boston, by an apoplectic stroke, in the early morning of January 5, 1897. He was born in Boston, July 2, 1840; the youngest of the three children of Amasa and Hannah (Ambrose) Walker. His father, although prominent in business affairs in this State, and for awhile a member of Congress, will be best remembered for his studies in political economy, and especially for his treatise upon "The Science of Wealth," which is highly esteemed, as well in Europe as in this country.

After graduating from Amherst College in 1860, he began the study of law, at Worcester, in the office of Judge Charles Devens and Senator George F. Hoar, then in partnership; but on the breaking out of the civil war he enlisted in the regiment raised by General Devens (Massachusetts Fifteenth), August 1, 1861, and was made sergeant-major. On taking the field, he was promoted captain, September 14th, and was appointed assistant adjutant-general on the staff of General Couch, then attached to the Fourth Army Corps. Under him he made the Peninsular and Antietam campaigns and was promoted major, August 11, 1862. With Couch he passed to the Second Corps, and continued to serve as his adjutant-general, having been promoted lieutenant-colonel January 1, 1863. During the remainder of his military career, he was identified with the Second Corps, serving under Hancock and its other commanders as chief of the corps staff, with the rank of assistant adjutant-general. He participated in all the great battles of the Army of the Potomac, with the exception of Gettysburg, as at that time he had not recovered from a wound in the left hand, received at the battle of Chancellorsville. At the defeat of Ream's station, August 25, 1864, he was taken prisoner, and, after a brave attempt to escape by swimming the Appomattox river, he was sent to Libby prison. After remaining there several weeks, his health became so seriously impaired that he was paroled and sent

home. Upon his exchange, he returned to the army early in January, 1865, but he was compelled to resign, January 12th, "in consequence of disabilities' incurred as prisoner of war." At this time, he received brevet commissions as colonel and brigadier-general "for gallant conduct at Chancellorsville and meritorious services during the war." By all the commanders under whom he served he was highly appreciated, and he received honorable mention in the reports of many battles, both for his work in the bureau and his valor in the field.

It was several years before his health was completely restored, but in the autumn of 1865, he accepted a position as teacher in Williston Seminary, which he resigned after a couple of years to become assistant editor of the *Springfield Republican*, under Samuel Bowles. A year later, he was appointed by President Grant, Chief of the Bureau of Statistics in the Treasury Department. His excellent work in this capacity caused him to be selected in the following year (1870), as Superintendent of the Ninth United States Census. Here his remarkable faculty for organization had full scope, and he practically revolutionized the methods of doing such work, introducing many of those employed abroad with marked improvement. Ten years later (1880), he was called to be Superintendent of the Tenth Census. This was to be taken under a new law, passed in accordance with the increased demands of the great social and industrial changes that had taken place in the nation. It was accordingly planned upon a most extensive scale, which taxed to the utmost the organizing and executive capacity of its chief. More than twenty volumes were the outcome of it; and on its appearance, it established General Walker's reputation throughout the civilized world, as a statistician of the highest order.

In the interval between these two census appointments, he delivered the address at the Soldiers' Monument Dedication in North Brookfield in 1870. The following year, he

was appointed Indian Commissioner, but only held that office for a single year; the experience and knowledge, however, thus acquired resulted in a work upon "The Indian Question," published in 1874.

He resigned this position in 1872, to accept the newly-created professorship of Political Economy and History, in the Sheffield Scientific School, at Yale. This he continued to hold for eight years, undertaking during this period, also, all the organizing of the census of 1880. In the meantime, he edited, in 1872, a "Compendium of the Ninth Census," and served as Chief of the Bureau of Awards of the Centennial Exposition of 1876, editing its report in 1879, as he had previously given to the world a popular account of it under the title "The World's Fair; a critical account of the Philadelphia Exhibition."

While holding this professorship at Yale, he also served as a member of the Connecticut Board of Education, from 1877 to 1881; of the New Haven School Committee, from 1877 to 1880; and of the Connecticut Board of Railroad Commissioners in 1877. In addition to his regular courses of lectures at New Haven, he delivered for two years (1877-1879), courses at Johns Hopkins University; and subsequently, two courses at Harvard, 1882-1884.

The fruits of this college instruction were embodied in several treatises: "The Wages Question" (1876); "Money in its relations to trade and industry" (1878); "Land and its Rent" (1883); and finally in his "Political Economy," published that same year; followed in 1889, by his "First Lessons in Political Economy." General Walker's reputation as a political economist stands very high in Europe, where he is looked upon as one of the leaders in the revolt against the older system. Especially noteworthy was his attack upon the ancient "wage-fund" theory. He maintained that this ought to be estimated not by the measure of the capitalist's ability, but by the productiveness of labor itself. So in his treatment of profits as rent, he makes

the laborer "the residuary claimant in the great process of the distribution of wealth." Upon the question of "Money" his views were very pronounced, and he was recognized as one of the strongest leaders on the side of bi-metallism. One of his latest volumes, in 1896, was devoted to a study of "International Bi-metallism." To the term "money" he gave a broad scope, including in it bank-notes; but he was convinced that gold mono-metallism did not provide a sufficient basis for a supply of sound money in a time of expanding industry. At the same time, he was equally strenuous against any appearance of repudiation, or the scaling down of debts, and stoutly maintained the gold standard for the payment of government obligations. His position, however, was widely misunderstood, and he was subjected to much criticism, as having lent aid to the movement for the free coinage of silver, during the late presidential contest; while in fact he was most heartily opposed to it. General Walker represented the United States in the monetary conference at Paris in 1878; but declined a similar appointment to the international bi-metallic conference in 1890. Had he lived, he would probably have been selected for a similar service at the present moment.

The crowning opportunity of his life came, when, upon the retirement of Professor William B. Rogers in 1881, he was selected, at the age of forty-one, president of the Massachusetts Institute of Technology. In this field of labor his success has been most remarkable. Under his guidance, that institution has grown to be regarded as the equal of the best polytechnic schools in the world. From thirty-nine teachers and three hundred and forty-one students, it has increased to more than one hundred and fifty teachers and nearly twelve hundred students. Five new department courses and three new buildings have been added to its equipment. By the students he was equally admired and beloved; and by his faculty he was looked

up to as a most wise, intelligent and progressive administrator and friend.

While fulfilling all the obligations of this most laborious and responsible post, he was called upon to render many services to the community in various capacities, which he never declined. He was a member of the Massachusetts Board of Education, 1882-1890; of the Boston School Committee, 1885-1888; Chairman of the Massachusetts Board of World's Fair Commission, 1892-1894; member of the Boston Park Commission, 1890-1896; of the Boston Art Commission from its inception; and of the Board of Trustees of the Boston Public Library from 1896.

Not only his time but his pen was in equal demand; he was called upon in 1888, by the city of Boston, to pronounce a eulogy upon General Sheridan; and in 1891, by the Loyal Legion, to do the same service in commemoration of General Devens; while in 1890, he delivered a striking oration before the Society of the Army of the Potomac.

One of the most genial of men, fond of social life, and finding in it his chief relaxation, at the time of his death General Walker was President of the St. Botolph Club, and a member of numerous other social organizations. But none of these afforded him greater happiness than his association with old army comrades; and none of his writings are more instinct with life, evidently drawn from a full heart and mind, than are those devoted to military topics: "The History of the Second Army Corps" (1886); and the "Life of General Hancock" (1894). But he was as modest as he was brave; there is never mention of his own name save as it is absolutely necessary, and no reference can be found in his writings to his personal experiences in the service, in regard to which in general society he was always silent.

His last considerable literary work was a brief but vigorous survey of "The Making of the Nation," published in

1895. I have made mention of his more important writings, but besides those, he contributed numerous shorter articles to the periodical press, and he was in frequent request for occasional lectures and addresses. Methodical in all his habits, he kept a card-catalogue of all his writings, of which the complete bibliography would occupy too much space here, but which ought to be appended to any complete account of his life.

General Walker's eminence as a scientist and educator was widely recognized by academic and literary honors, showered upon him to as great an extent, probably, as upon any contemporary in this country. The honorary degree of Doctor of Laws was conferred upon him by Amherst and Yale in 1881; by Harvard in 1883; by Columbia in 1887; by St. Andrews in 1888; by Dublin in 1892; and by Edinburgh in 1896. From the University of Halle he received in 1894, the honorary degree of Doctor of Philosophy. He was one of the half dozen American members of the Institute of France, and an officer of the Legion of Honor. From the International Geographical Congress in 1875, he received a medal of the first class for his Statistical Atlas of the United States; and numerous foreign scientific societies numbered him upon their rolls of membership.

General Walker was married in 1865, to Exene, daughter of Timothy M. Stoughton, of Gill, Mass., who, with her five sons and two daughters, survives him.

He was elected a member of this Society in October, 1876.

For more than fifteen years I have lived as his next door neighbor, and have been honored by his friendship. I have watched his career with mingled wonder and admiration. Always cheerful and happy, he never allowed himself to be burdened by his weight of responsibility. Gifted with a vigorous physical constitution, he apprehended no trouble except from a tendency to a delicacy of

the throat; but it was not to that we owe our premature and irreparable loss. He was literally worked to death in the endeavor to do more than one man's strength could possibly accomplish, and from his never having learned to say "No" to any request for service to the community. All the day long he allowed himself scarcely a moment's leisure, and he might generally be seen at his writing-table, throwing off sheet after sheet with marvellous rapidity.

If ever a man lived who looked up longingly to "Honor's happy mansion" it was he; but no man ever more conscientiously recognized that,

"Before her gate High God doth sweat ordain,
And wakeful watches ever to abide."

H. W. H.

For the Council.

CHARLES A. CHASE.

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